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ORIGINAL PAPER

An Experimental Investigation of Variations in Judgments of Hypothetical Males and Females Initiating Mixed-Gender Threesomes: An Application of Sexual Script Theory

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Abstract
Although many young adults are interested in mixed-gender threesomes (MGTs), little research has assessed attitudes toward them. Yet, MGTs offer a rare context to investigate how consensually nonmonogamous sexual encounters and involvement with same-sex others influence attitudes. Thus, by adopting sexual script theory as a framework, the current study compared three dimensions of character judgments (cognitive abilities, morality, partner quality) and assumptions about the sexual history of hypothetical males and females who initiated a MGT (two females and one male; two males and one female) or mixed-sex dyadic sexual activity with a casual or committed partner. To do so, a between-subject design was adopted in which 690 U.S. adults (405 women, 285 men) evaluated a hypothetical initiator described in one of 12 vignettes. On average, participants made neutral judgments about the initiator, yet those initiating dyadic sexual behavior were judged more favorably and as having a less extensive sexual history than MGT initiators. Male initiators were judged more favorably than female initiators, particularly by men. Those initiating in the context of a committed relationship were judged as more moral and as higher-quality partners than those initiating within a casual relationship; female (but not male) initiators in the committed context were judged as having a less extensive sexual history than female initiators in the casual context. These results confirm the presence of mononormativity biases and the sexual double standard and have implications for educators and practitioners related to stigma reduction and the promotion of inclusive sexual education.

Keywords Mixed-gender threesomes · Consensual nonmonogamy · Sexual double standard · Mononormativity · Heteronormativity

Introduction

A substantial proportion of young adults from Western cultures are interested in, fantasize about, or have participated in mixed-gender threesomes (MGTs, i.e., sexual behavior involving three people where at least one member of each gender is present; Joyal, Cossette, & Lapierre, 2015; Lehmiller, 2018; Thompson & Byers, 2017). For example, Thompson and Byers found that 64% of young adults reported some level of interest and 13% as having experience with MGTs. In addition, research assessing sexual fantasies has found that mixed-gender threesomes were the third most prevalent fantasy for men and the thirteenth most prevalent for women (Joyal et al., 2015).

Although related research on consensual nonmonogamy (defined as "romantic/sexual relationship wherein all partners consent to sexual and/or romantic encounters with other consenting individuals"; Sizemore & Olmstead, 2018, p. 1423) has assessed variations in attitudes toward group sex, swinging, open relationships, and polyamory (e.g., Grunt-Mejer & Campbell, 2016; Thompson, Hart, Stefaniak, & Harvey, 2018), research assessing variations in attitudes toward threesomes is limited (particularly MGTs). It is important that researchers work to obtain a nuanced understanding on MGTs, particularly by identifying factors affecting attitudes because MGTs offer researchers a rare context in which to investigate how consensual involvement with extradyadic partners (both opposite and same-sex) influence attitudes during an era in which social norms

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related to sexuality appear to be shifting (e.g., Twenge, Sherman, & Wells, 2015, 2016). Furthermore, although threesomes can be considered a form of consensual nonmonogamy, they are a unique behavior worthy of studying independently because they are the most simplistic form of consensual nonmonogamy (they are strictly sexual and only involve one extradyadic partner). The simplistic nature of threesomes makes them easy to manipulate and study in an attempt to understand how the presence or absence of same-sex sexual behavior impact our attitudes. In fact, based on studies assessing pornography consumption, the general public does (in fact) consider threesomes to be distinct from group sex (Hald & Štulhofer, 2016). For example, threesome pornography is among the top five most viewed pornographic genres for heterosexual men, heterosexual women, sexual minority men, and sexual minority women. However, orgies and groups sex only appear in the top five for heterosexual and sexual minority women. Thus, the purpose of the current study was to examine attitudes (via the assessment of character judgments) toward hypothetical males and females who initiate MGTs in various contexts—with a committed or casual partner; and involving two males and a female [MMF] or two females and a male [FFM].

Attitudes toward Mixed-Gender Threesomes

Only two studies to date have examined attitudes toward MGTs (Jonason & Marks, 2009; Thompson & Byers, 2017). Thompson and Byers assessed attitudes toward MGTs broadly among young adults and found that they were fairly neutral. Jonason and Marks compared attitudes toward male and female targets participating in an MMF or FFM and discovered that targets described as participating in a MGT with two members of the other sex were evaluated using more favorable attributes (but not more derogatory attributes) than were those with a member of each sex. In addition, female targets were evaluated using less favorable attributes and more derogatory attributes than were male targets.

There are a number of limitations to the existing research on MGTs. First, neither study compared attitudes toward MGTs and dyadic behavior directly, thereby overlooking important information that could be obtained by including dyadic behavior as a control. Second, Thompson and Byers (2017) examined attitudes toward the behavior rather than toward the individuals engaging in an MGT. Yet, people's attitudes toward individuals who engage in specific behaviors often differ from their attitudes toward the activity in general (Kite & Whitley, 1996). Third, the favorable and derogatory scales adopted by Jonason and Marks (2009) were highly imbalanced in terms of their number of items (6 items and 35 items, respectively) and contained items reflecting gender stereotypes. It is important that researchers adopt a more nuanced assessment of attitudes, particularly one assessing judgments related to a range of constructs (i.e., cognitive abilities, morality, and partner quality) because studies reveal that individuals involved in consensually nonmonogamous relationships are judged negatively on these constructs (Grunt-Mejer & Campbell, 2016; Thompson et al., 2018). Grunt-Mejer and Campbell also argued that it is important to assess both morality and cognitive abilities because morality traits are concerned with the impact on others, which make them distinct from cognitive abilities, which are concerned with the impact on the self. Fourth, researchers have not included information about whether the target had initiated it or merely acquiesced to the MGT. Yet, research on sexual agency reveals that individuals are viewed differently (e.g., men more positively and women more negatively) based on their involvement with the initiation of sexual behaviors (Kiefer & Sanchez, 2007; Masters, Casey, Wells, & Morrison, 2013). Finally, researchers have not compared individuals who engage in MGTs involving their committed romantic partner to those who engage in MGTs with casual partners even though relationship context is important to these attitudes (Scoats, 2019; Thompson & Byers, 2017). To address these limitations, we compared three different dimensions of character judgments (cognitive abilities, morality, partner quality) as well as assumptions about the sexual history of hypothetical males and females who initiated one of three sexual behaviors (MMF/FFM/dyadic) with a casual or committed partner using a more diverse sample of U.S. adults.

Conceptual Framework: Sexual Script Theory

We adopted sexual script theory (SST; Gagnon & Simon, 1973) as a frame of reference because of its emphasis on socialization and how social and cultural exemplars shape sexual opinions, attitudes, and behaviors (Frith & Kitzinger, 2001). Sexual scripts have been described as shared beliefs about sexuality that are experienced on cultural, interpersonal, and/or intrapersonal levels (Byers, 1996; Masters et al., 2013; Simon & Gagnon, 1984). Not only do these scripts provide meaning and direction in response to sexual cues, they also depict what sexual behaviors are appropriate and under what circumstances (Simon & Gagnon, 1984; Wiederman, 2005).

Mononormativity and Heteronormativity in Sexual Scripts

Currently, the prominent and ideal sexual script in Western cultures depicts sexual behavior as occurring in dyadic, committed, and monogamous relationships involving a man and a woman (Aubrey, 2004; Jackson & Scott, 2004; MacDonald, 1995). The mononormativity bias is so prominent that it is manifested in a variety of institutional and legal mechanisms (e.g., marriage, couples counseling) and violations are met with high social disapproval (Bergstrand & Sinski, 2010; Emens, 2004). For example, consensually nonmonogamous relationships are often perceived as less satisfying and of lower quality than are monogamous relationships (Balzarini, Shumlich, Kohut, & Campbell, 2018; Conley, Moors, Matsick, & Ziegler, 2013a).

Because involvement in MGTs violates the societal expectation of monogamy, it is likely that individuals initiating a MGT are viewed less favorably than those initiating a dyadic sexual experience. Violations to the assumption of heterosexuality also are met with negative judgments (Dermer, Smith, & Barto, 2010; Herek, 2009; Herek & McLemore, 2013), reflecting the heteronormative bias. Thus, it is also likely that individuals initiating a MGT with one member of the same sex and one of the other sex (thus violating heteronormativity) are judged less favorably than those initiating a MGT with two members of the other sex.

Gender Differences Related to Sexual Agency in Sexual Scripts

The heterosexual focus of sexual scripts also prescribes specific socially constructed gendered behavior that results in opposing roles for men and women (Kim et al., 2007; Tolman, Kim, Schooler, & Sorsoli, 2007) including differences in sexual agency (i.e., "the ability to make sexual choices in line with one's preferences;" Kaestle & Evans, 2018, p. 37). That is, despite increased support for egalitarian sexual standards in recent years (Twenge et al., 2015), the predominant sexual script continues to prescribe sexual agency for men and sexual passivity for women (Kiefer & Sanchez, 2007; Masters et al., 2013; Sakaluk, Todd, Milhausen, Lachowsky, & URGiS, 2014). This creates a sexual double standard in which women are judged more harshly than men for engaging in comparable sexual behavior, termed the sexual double standard (Crawford & Popp, 2003; Papp et al., 2015; Penhollow, Young, & Nnaka, 2017).

Historically, researchers found broad evidence of the sexual double standard (Sheeran, Spears, Abraham, & Abrams, 1996; Sprecher, McKinney, & Orbuch, 1991). However, recent research has not consistently demonstrated the presence and robustness of the sexual double standard (Marks & Fraley, 2005; Penhollow et al., 2017). These inconsistencies may be due to increased gender role convergence resulting from increased sexual permissiveness in Western cultures (Bianchi, Milkie, Sayer, & Robinson, 2000; Garcia, Reiber, Massey, & Merriwether, 2012) or the tendency for routine sexual activities (e.g., sexual intercourse, sex on the first date) to no longer elicit a SDS as they did in the 1990s. In keeping with the latter view, researchers continue to find a SDS for more unconventional or stigmatized sexual acts, such as MGTs (Jonason & Marks, 2009). Because of gendered expectations related to sexual agency, it is likely that females will be judged more harshly than males for initiating a MGT (evidence of the SDS), particularly with a casual partner in comparison to a committed partner.

Gender Differences Related to Sexual Attitudes

Gender role socialization also results in gender differences with respect to sexual attitudes, interests, and experiences (Clark & Hatfield, 1989; Petersen & Hyde, 2010). For example, compared to women, men report more permissive attitudes, greater interest, and more experience with MGTs (Thompson & Byers, 2017) and are more likely to endorse a SDS (England & Bearak, 2014; Rudman, Fetterolf, & Sanchez, 2013). Thus, compared to women, men likely have more favorable attitudes toward MGT initiators and are more likely to endorse a SDS.

The Current Study

The current study addresses limitations in the existing research on attitudes toward MGTs using a diverse sample of U.S. adults. We used vignettes to depict an encounter in which a hypothetical male or female target initiated one of three different sexual scenarios (MMF, FFM, dyadic) in two relationship contexts (with a committed or casual partner). Following the vignettes, participants provided their evaluations of the hypothetical initiators using a range of judgments (cognitive abilities, morality, and partner quality).

People may view an individual more negatively globally based on a single, socially undesirable attribute, termed the devil effect (Thorndike, 1920). This is because they find it difficult to separate the role that specific features play in their evaluations of a target (Nisbett & Wilson, 1977). Once an individual has formed an impression of a target based on an initial negative trait, any following impressions will be formed with reference to the original trait. Because initiating a MGT violates the traditional sexual script (e.g., mononormativity, heteronormativity), it is likely that this single descriptive characteristic (initiating a MGT) is viewed negatively thereby resulting in the assumption that these individuals posses a number of other undesirable attributes. Therefore, the devil effect was adopted as a conceptual framework to explain why various judgments about the initiator (i.e., cognitive abilities, morality, and partner quality) would vary based on the type of MGT, the context with which it was initiated, and the initiator's sex. In keeping with this view, previous research has confirmed that the devil effect explains judgments of individuals involved in various other forms of consensual nonmonogamy (Grunt-Mejer & Campbell, 2016; Thompson et al., 2018).

Based on previous research, SST, and the devil effect, five hypotheses were formed prior to data collection for all judgments of interest (perceived cognitive abilities, morality, and partner quality):

H1 Men would judge hypothetical initiators more favorably than would women.
H2 Hypothetical female initiators would be judged less favorably than hypothetical male initiators when initiat-

ing an MGT but not when initiating dyadic behavior and this difference would be larger for men than for women.
H3 Hypothetical individuals initiating within the context of a committed relationship would be judged more favorably than those initiating within the context of a casual relationship.
H4 Hypothetical individuals initiating a MGT would be judged less favorably than those initiating dyadic sexual behavior.
H5 Males initiating FFM MGTS would be judged more favorably than males initiating MMF MGT. We also examined variations in judgments of females initiating MMF and FFM MGTs because female same-sex behavior is often eroticized but did not make a prediction (Louderback & Whitley, 1997; Yost & Thomas, 2012).

In addition, we examined assumptions about the sexual history of individuals who engage in MGTs. An individual's sexual history is not inherently valanced. Yet, having a large number of previous partners and an early sexual debut may be viewed negatively and result in greater discrimination, especially for females (Vrangalova & Bukberg, 2015; Vrangalova, Bukberg, & Rieger, 2014). Thus, it is important to determine the assumptions people make about the sexual history of individuals who engage in MGTs compared to individuals who engage in dyadic sexual behavior as well as the extent to which these assumptions are associated with negative character judgments. Therefore, we posed the following two research questions:

RQ1 To what extent are judgments (cognitive abilities, morality, partner quality) about hypothetical MGT initiators related to assumptions about their sexual history?
RQ2 Does the type of sexual activity (FFM, MMF, dyadic with a causal or committed partner) affect assumptions about the sexual history of hypothetical males and females?

Method

Participants

A total of 750 adults (446 women, 304 men, 4 other) living in the U.S. were recruited from Amazon's Mechanical Turk® (MTurk®). Of these, 60 were dropped: 12 failed to complete the study in its entirety, 44 missed at least one of three attention-check items (i.e., "to ensure you are paying attention please click the bubble that corresponds to the number 2"), and four reported a gender identity as something other than "man" or "woman" (gender diverse participants were omitted because we were interested in the effects of gender role socialization not self-reported gender identity). Thus, the final sample was comprised of 690 participants (405 women, 285 men) with a mean age of 37.32 years (SD = 11.59, range, 19–76). The majority of participants identified as White/Caucasian/European (84.8%) and as heterosexual (84.4%). A total of 200 participants (29.0%) indicated experience with sexual encounters involving two or more other people (e.g., threesomes, group sex). See Table 1 for additional demographic information.

Procedure and Measures

After obtaining ethical approval from the first author's Institutional Review Board, participants were recruited via MTurk® for a study on "people's thoughts and feelings related to a variety of romantic relationship structures." The eligibility criteria required that participants were at least 18 years of age and living in the U.S. After providing informed consent, participants were randomly assigned to receive one of 12 experimental vignettes and then asked to respond to a variety of questionnaires (all of which took approximately 10–15 min to complete). All vignettes, items, and measures can be found on our OSF website: https://osf.io/nsak6/. Participants received a $0.50 USD deposit to their MTurk® account as compensation for their time.

Experimental Vignettes

The 12 vignettes depicted either a hypothetical male or female initiating one of three sexual scenarios (MMF, FFM, or dyadic mixed-sex sexual behavior) in one of two relationship contexts (with a committed or casual sexual partner). The following is an example of the vignette involving a committed relationship, FFM, and a male initiator (John):

> Sarah and John have been in a committed relationship for 2 years and have started to discuss their future together. They both report being very emotionally and sexually satisfied with their relationship, and they agree that they would like to stay together. During their recent discussions, Sarah and John have both expressed interest in introducing something new into their sexual relationship. One evening, John suggests that he and Sarah engage in a threesome with another female, and asks Sarah if she would be interested.

The following is an example of the vignette involving a casual relationship, MMF, and a female initiator (Sarah):

> Sarah, David, and John are all friends and are hanging out one evening at Sarah's apartment, where they are listening to music and catching up with each other on recent events. Eventually, the conversation turns to relationships and sexual experiences, and Sarah mentions that she's always been interested in having a threesome. David and John respond by saying that although they've never given much thought to having a threesome, they

Table 1 Demographic characteristics of participants

	M	SD	%
Age (in years)	37.32	11.59	–
Gender			
Men	–	–	58.7
Women	–	–	41.3
Ethnicity[a]			
Caucasian/European descent	–	–	84.8
Black/African American	–	–	9.8
Asian	–	–	5.6
Other	–	–	5.5
Ideal relationship structure			
Monogamy	–	–	84.3
Consensually sexually open relationship	–	–	10.5
Consensually emotionally open relationship	–	–	0.7
Consensually sexually and emotional open relationship	–	–	4.5
Sexual identity			
Heterosexual	–	–	84.4
Gay	–	–	2.6
Lesbian	–	–	1.7
Bisexual	–	–	9.3
Other	–	–	2.0
Relationship status			
Married/in a committed relationship with one person	–	–	72.4
Not in a relationship	–	–	18.2
Dating but not committed to one person	–	–	7.4
In a committed relationship with more than one person	–	–	0.7
Other	–	–	1.3
Relationship length (in years)	8.34	8.75	–
Number of sexual partners	13.99	27.78	–
Age of first sexual experience (in years)			
Oral	17.85	3.58	
Vaginal	17.96	7.43	
Anal	22.49	6.41	
Experience multi-person sexual behavior			
Yes	–	–	14.0
No	–	–	86.0
Annual household income			
< $20,000	–	–	13.9
$20,000–$55,000	–	–	35.8
$55,000–$75,000	–	–	20.3
> $75,000–$100,000	–	–	30.0
Education			
High school	–	–	7.5
Some college/university	–	–	29.9
Completed college/university	–	–	44.2
Post graduate training/degree	–	–	18.0
Other	–	–	0.4

$N = 690$

[a]Percentages may not add to zero due to participants being able to "check all that apply"

both enjoy trying new things. Sarah suggests that the three of them engage in a threesome, and asks David and John if they would be interested.

Judgment Scale and Sexual History Scale

Participants completed the Judgment Scale (adapted from Grunt-Mejer & Campbell, 2016 and Thompson et al., 2018) after reading their assigned vignette. The original version of this scale included 13 items organized into two subscales: the cognitive abilities subscale (7 items; e.g., "Sarah/John [the initiator in the vignette] shows a presence of mind in difficult situations") and the morality subscale (6 items; e.g., "Sarah/John is trustworthy"). All items were rated on a 7-point scale ranging from (1) *the person does not possess this trait* to (7) *the person possesses this trait to a large extent*. These two subscales demonstrated excellent internal consistency in previous research (with α's ranging from 0.88 to 0.93) and in the current study (cognitive abilities $\alpha = 0.90$; morality $\alpha = 0.86$).

We developed two additional subscales for the current study, one assessing desirability as a romantic partner and the other assessing perceptions of sexual history. Items for these subscales were drawn from related measures (Conley, Ziegler, & Moors, 2013b; Thompson & O'Sullivan, 2013) and from semi-structured pilot interviews conducted by members of the primary investigator's research team. In these semi-structured interviews, 10 undergraduate students were asked to indicate "what makes someone a good romantic partner," "how would you describe an individual who has a lot of sexual partners," "what other characteristics are associated with people who have an extensive sexual history," etc. Responses to these questions were used to create five items for the desirability as a romantic partner (e.g., "Sarah/John is a good catch") and five items for the sexual history subscale (e.g., "Sarah/John is sexually inexperienced"). The items were then reviewed by a group of graduate students to establish content validity and ensure that all relevant aspects were included. To ensure that these 10 items assessed two distinct constructs and to establish discriminant validity, an exploratory factor analysis (EFA) was conducted. The results of the EFA revealed that a two-factor solution was best, accounting for 64.1% of the variance. For more information about the EFA, see our supplemental analyses on our OSF page (https://osf.io/4pej7/). Both subscales demonstrated adequate internal consistency in the current study (partner quality $\alpha = 0.92$; sexual history $\alpha = 0.83$).

Demographics Questionnaire

Participants provided basic demographic information including their age, gender (e.g., man, woman, transgender, gender nonconforming), relationship status (e.g., single, dating, married/cohabiting), sexual identity (e.g., heterosexual, bisexual, gay/lesbian, pansexual), sexual history, relationship orientation (i.e., ideal relationship structure; monogamy, emotionally open, sexually open, a combination), ethnicity, income, education, and experience with multi-person sexual behavior (via a dichotomous item asking participants "Have you ever had group sex, in which both partners simultaneously participate in sexual behavior with one another and other sexual partners?").

Results

Data Screening and Cleaning

All data were conditioned using procedures outlined by Tabachnick and Fidell (2013). Because no participants were missing more than 0.4% of their data, missing values were treated using listwise deletion. There were no significant outliers, no problematic skew, and no concerns related to multicollinearity on any of the dependent variables. Of note, we also conducted additional analyses to test for the impact of participant characteristics not included in the study design on judgments of hypothetical MGT initiators. These analyses examined the sexual identity (heterosexual vs sexual minority), relationship orientation (monogamous vs nonmonogamous), and relationship status (single vs in a relationship) of the participants and the results have been included in a supplemental analyses document uploaded to our OSF website: https://osf.io/4pej7/. The results revealed that only sexual orientation impacted judgments, with participants identifying as a sexual minority judging initiators somewhat less harshly than participants identifying as heterosexual, but only on the partner quality scale. However, this effect was small, only accounting for two percent of the variance in judgments.

Descriptive Analyses

The means from each of the judgment subscales were very close to or slightly above the mid-point of the scale, indicating that participants reported fairly neutral judgments toward the hypothetical initiators' cognitive abilities, morality, partner quality. The same was true for judgments relating to the initiator's sexual history. See Table 2 for subscale means and SDs.

Variations in Judgments of Cognitive Abilities, Morality, and Partner Quality

To examine H1 through H5, a 2 (gender of participant) × 2 (sex of initiator) × 2 (relationship context) × 3 (sexual scenario) between-subjects multivariate analysis of variance (MANOVA) was conducted with scores on the cognitive abilities, morality, and partner quality subscales as dependent variables. To ensure sufficient power to detect hypothesized

Table 2 Means and SDs on judgments of all constructs of interest

	Study variables	1	2	3	4	M (SD)
Bivariate correlations						
1	Cognitive abilities		0.84***	0.74***	−0.13***	4.89 (1.09)
2	Morality			0.76***	0.30***	5.14 (1.17)
3	Partner quality				−0.43***	4.29 (1.50)
4	Sexual history					4.42 (1.19)

$N = 690$ (405 women, 285 men). Higher scores on cognitive abilities, morality, and partner quality indicate perceiving the initiators to possess better cognitive abilities, as being more moral, and as being higher-quality partners. Higher scores on sexual history indicate perceiving the initiators to have had a more extensive sexual history

***$p < .001$

effects, a sensitivity analysis using G*Power 3.1 (Faul, Erdfelder, Lang, & Buchner, 2007) was conducted. A sensitivity analysis is typically conducted to determine the smallest effect that could be detected (based on the expected statistical power, analysis, and sample size). The anlaysis revealed that this analysis sufficiently powered (95%) to detect a small-to-medium effect ($\eta p^2 = 0.02$; $f = 0.14$) with an alpha = .05. Prior to interpretation of the multivariate effects, the assumption of homogeneity of covariance matrices was assessed. The results of Box's test indicated that this assumption had not been met (Box's $M = 225.11$, $F = 1.71$, $p < .001$). Thus, Pillai's trace test statistics were used when interpreting the results from the MANOVA (Field, 2017). The results of Levene's test of equality of error variances (used for univariate follow-up purposes) indicated the assumption of homogeneity of variance was not violated for any of the dependent measures. In addition, because of our fairly large sample size, only effects that were greater than small in magnitude ($\eta_p^2 = 0.02$; Richardson, 2011) and significant ($p < .05$) were followed-up.

The results revealed the multivariate main effects of sex of initiator (Pillai's Trace = 0.02, $F[3, 666] = 4.85$, $p = .002$, $\eta_p^2 = .02$), relationship context (Pillai's Trace = 0.03, $F[3, 666] = 7.76$, $p < .001$, $\eta_p^2 = .03$), and sexual scenario (Pillai's Trace = 0.10, $F[6, 1334] = 11.48$, $p < .001$, $\eta_p^2 = .05$) were all significant. Contrary to H1, the main effect of gender of participant was not statistically significant, indicating that men and women did not differ in their judgments. None of the two, three, or four-way multivariate interactions resulted in significance.

Sex of Initiator

Follow-up ANOVAs revealed that the effect of sex of initiator was significant for all three subscales: the cognitive abilities subscale ($F[1, 668] = 9.85$, $p = .002$, $\eta_p^2 = .02$); the morality subscale ($F[1, 668] = 11.13$, $p = .001$, $\eta_p^2 = .02$); and the partner quality subscale ($F[1, 668] = 13.83$, $p < .001$, $\eta_p^2 = .02$). Hypothesis 2 was partially supported. That is, consistent with our prediction based on the SDS, male initiators were judged more favorably than were female initiators. However, contrary to our prediction that the sex of the initiator would affect judgments of MGTs but not dyadic behavior, the SDS was found when initiating both MGTs and dyadic sexual behavior (as evidenced by the non-significant interaction). See Table 3 for all associated means and SDs.

Relationship Context

The ANOVAs following-up the multivariate main effect of relationship context indicated that it was significant for the partner quality subscale ($F[1, 668] = 11.48$, $p = .001$, $\eta_p^2 = .02$) but not the cognitive abilities or morality subscales. Consistent with our prediction that individuals initiating in a committed context would be judged more favorably than those initiating in a committed context (H3), those initiating within the context of a committed relationship were judged as higher-quality partners than those initiating within the context of a casual relationship (see Table 3).

Table 3 Means and SDs for the main effects of sex of initiator, relationship context, and sexual scenario

	Cognitive abilities *M* (SD)	Morality *M* (SD)	Partner quality *M* (SD)
Sex of initiator			
Male initiators	5.06 (1.05)^{a}	5.29 (1.13)^{b}	4.50 (1.47)^{c}
Female initiators	4.75 (1.10)^{a}	4.97 (1.18)^{b}	4.11 (1.51)^{c}
Relationship context			
Causal	4.81 (1.07)	4.92 (1.14)	3.98 (1.42)^{a}
Committed	4.96 (1.10)	5.28 (1.17)	4.54 (1.52)^{a}
Sexual scenario			
MMF MGTs	4.81 (1.05)	5.02 (1.13)^{a}	3.95 (1.52)^{c}
FFM MGTs	4.85 (1.16)	5.00 (1.21)^{b}	4.14 (1.48)^{d}
Dyadic	5.05 (1.08)	5.41 (0.81)^{ab}	4.94 (1.26)^{cd}

$N = 690$ (405 women, 285 men). With respect to each effect, columns with the same subscript differ significantly ($p < .05$ and $\eta_p^2 \leq .02$)

Sexual Scenario

ANOVAs indicated that the effect of sexual scenario was significant for the morality subscale ($F[2, 668] = 6.39$, $p = .002$, $\eta_p^2 = .02$) and the partner quality subscale ($F[2, 668] = 24.07$, $p < .001$, $\eta_p^2 = .07$). To determine the nature of these effects, multiple comparisons post hoc tests were conducted. In keeping with our prediction that individuals initiating a MGT would be judged less favorably than those initiating a dyadic sexual behavior (H4), initiators of dyadic sexual behavior were judged more favorably than were MMF and FFM initiators (all $ps < .001$). There was no difference in judgments of initiators of MMF and FFM MGTs on any of the subscales (all $ps > .05$). See Table 3 for means and SDs for the sexual scenario effect for all subscales. Of note, our prediction that males initiating FFM MGTs would be judged more favorably than males initiating MMF MGTs (H5) was not supported as indicated by the nonsignificant interaction between sex of initiator and sexual scenario. Similarly, we did not find a difference between females initiating MMF and FFM MGTs.

Variations in Assumptions about Sexual History

First, to assess whether assumptions about the initiator's sexual history were valenced (RQ1), Pearson product-moment correlation coefficients were computed between judgments of cognitive abilities, morality, partner quality, and the sexual history scales (see Table 2). All correlation coefficients were negative indicating that hypothetical initiators who were perceived as having a more extensive sexual history were judged as having lower cognitive abilities, being less moral, and lower-quality partners. A moderation analysis using the SPSS 24 statistical package with PROCESS macro (Hayes, 2013) revealed that these relationships did not vary as a function of the sex of the initiator.

To determine whether the type of sexual activity was associated with assumptions about the target's sexual history (RQ2), we conducted a 2 (gender of participant) × 2 (sex of initiator) × 2 (relationship context) × 3 (sexual scenario) between-subjects analysis of variance (ANOVA). The results revealed a significant main effect of sexual scenario, $F(1, 668) = 27.74$, $p < .001$, $\eta_p^2 = .08$. Multiple comparison post hoc tests indicated that those initiating MGTs were judged as having a more extensive sexual history ($M = 3.83$, SD = 1.09) than those initiating dyadic behaviors ($M = 4.65$, SD = 1.15) ($ps < .001$). However, the difference between judgments of those initiating MMFs ($M = 4.66$, SD = 1.16) and those initiating FFMs ($M = 4.64$, SD = 1.13) did not differ significantly ($p > .05$).

A significant main effect of relationship status also emerged, $F(1, 668) = 13.01$, $p < .001$, $\eta_p^2 = .02$. Those initiating within the casual context were judged as a having a significantly more extensive sexual history ($M = 4.69$, SD = 1.13) than those initiating within a committed context ($M = 4.19$, SD = 1.19). However, this main effect was qualified by a significant two-way interaction between the sex of the initiator and relationship status, $F(1, 668) = 9.24$, $p = .002$, $\eta_p^2 = .02$. Thus, a simple effects analysis was conducted in which the effect of sex of initiator was examined separately for the committed context in comparison to the casual context. The results indicated that the effect of sex of initiator was significant when judging those initiating within the context of a casual relationship ($F[1, 668] = 8.99$, $p = .003$, $\eta_p^2 = .01$) but not when judging those initiating within the context of a committed relationship ($F[1, 668] = 0.45$, $p = .50$, $\eta_p^2 = .00$). Among those initiating within the context of a casual relationship, female initiators were judged as having a more extensive sexual history than were male initiators.

A second simple effects analysis was conducted, in which the effect of relationship context was examined separately for female and male initiators. The results revealed that the effect of relationship context was significant for female initiators ($F[1, 688] = 34.89$, $p < .001$, $\eta p^2 = .05$) but not male initiators ($F[1, 688] = 3.66$, $p = .06$, $\eta p^2 = .00$). In particular, among female initiators, those who initiated within the context of casual relationship were judged as having a more extensive sexual history than were those initiating within the context of a committed relationship. See Fig. 1 for a visual representation of this interaction effect.

There was also a main effect of gender of participant, $F(1, 668) = 9.24$, $p = .002$, $\eta_p^2 = .02$. Men judged the initiators as having a more extensive sexual history ($M = 4.62$, SD = 1.07) than did women ($M = 4.31$, SD = 1.25). However, this effect was qualified by a significant two-way interaction effect between sex of initiator and gender of participant ($F[1, 668] = 9.74$, $p = .002$, $\eta_p^2 = .02$). A simple effects analysis was conducted to examine the effect of participant gender separately for male initiators and female initiators. The results indicated that effect of participant gender was significant when judging male initiators ($F[1, 686] = 26.08$, $p < .001$, $\eta_p^2 = .04$) but not female initiators ($F[1, 668] = .003$, $p = .96$, $\eta_p^2 = .00$). In particular, male initiators were judged as having a more extensive sexual history by men as compared to women.

An additional simple effects analysis was conducted to examine the effect of sex of initiator separately for men and women. The results revealed that the effect of sex of initiator was significant for men ($F[1, 686] = 13.20$, $p < .001$, $\eta_p^2 = .02$) but not women ($F[1, 686] = 3.48$, $p = .06$, $\eta_p^2 = .00$). Among men, male initiators were judged as having a more extensive sexual history than were female initiators (see Fig. 2). All other main and interaction effects were not statistically significant.

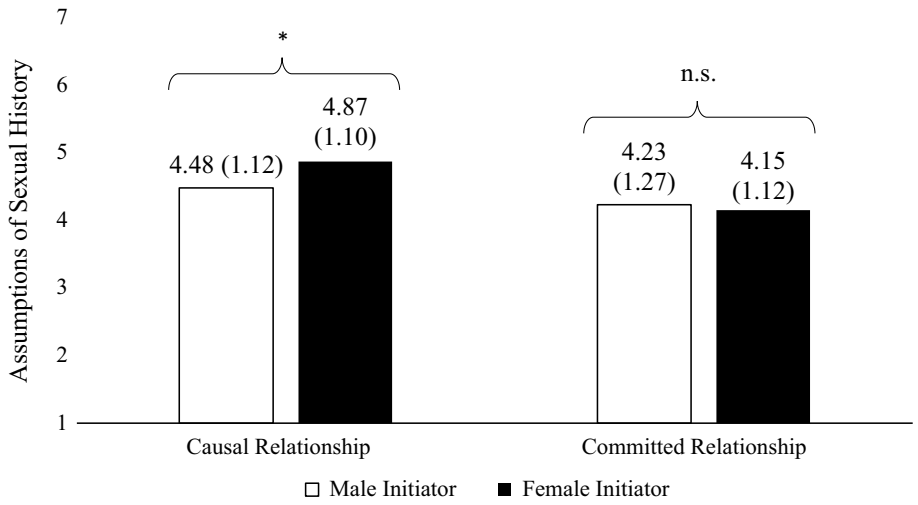

Fig. 1 Depicting two-way interaction between sex of initiator and relationship context. *Note* Number of participants in the male initiator/casual relationship condition = 149, number of participants in the male initiator/committed relationship condition = 176, number of participants in the female initiator/casual relationship condition = 174, number of participants in the female initiator/committed relationship condition = 193. Scores on the sexual history scale ranged from 1 to 7, with higher scores indicating a more extensive sexual history. *$p < .05$; n.s. $p > .05$

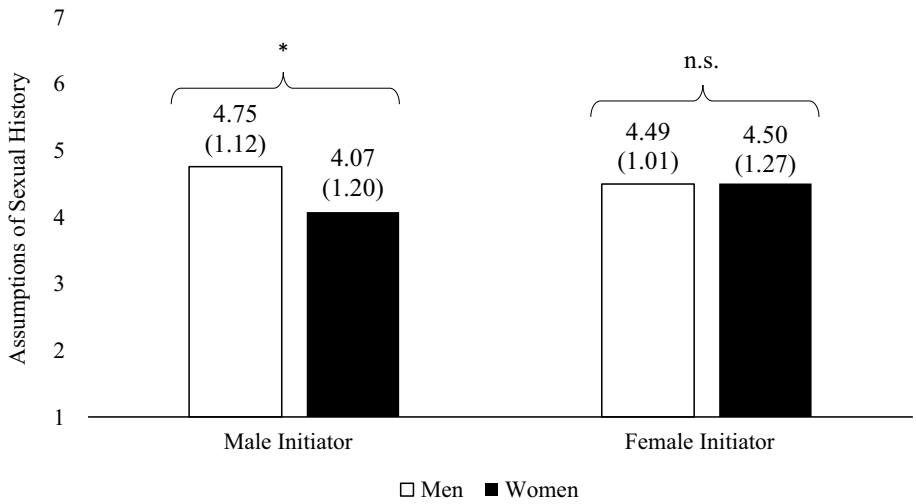

Fig. 2 Depicting two-way interaction between gender of participant and sex of initiator. *Note* Number of men in the male initiator condition = 132, number of men female initiator condition = 153, number of women in the male initiator condition = 192, number of women in the female condition = 213. Scores on the sexual history scale ranged from 1 to 7, with higher scores indicating a more extensive sexual history. *$p < .05$; n.s. $p > .05$

Discussion

Despite research indicating that many young adults are interested in and have experience with MGTs, few studies have assessed attitudes toward MGTS and the variables impacting these attitudes. Thus, the current study investigated men's and women's attitudes (via character judgments) and sexual assumptions about hypothetical individuals initiating a MGT (MMF, FFM) compared to individuals initiating dyadic sexual behavior in two relationship contexts (casual or committed partner). Overall, the results support the existence of a devil effect with respect to MGTs, the presence of a SDS when judging an initiator's cognitive abilities, morality, and partner quality, and a potential reverse SDS with respect to perceptions of the initiator's sexual history. In addition, those initiating dyadic sexual behavior and within a committed context were judged more favorably and as having a less extensive sexual history than those initiating MGTs and within a casual context.

Variations in Judgments of Cognitive Abilities, Morality, and Partner Quality

In keeping with previous research (Thompson & Byers, 2017), judgments were generally neutral (as evidenced by mean scores on the dependent measures hovering around the mid-point). This may point to indifference toward individuals who initiate MGTs. However, it may also mean that people hold ambivalent

attitudes, which may actually indicate mixed feelings or more complex attitudes (Schneider, Veenstra, van Harreveld, Schwarz, & Koole, 2016). Qualitative research would help to shed light on the extent to which attitudes toward MGTs are, in fact, neutral or ambivalent. Nonetheless, hypothetical initiators of MGTs were judged more harshly than initiators of dyadic behavior on all constructs of interest. That is, individuals initiating MGTs were perceived to have lower cognitive abilities, be less moral, and poorer quality partners than those initiating dyadic sexual behaviors. This is consistent with research revealing that individuals participating in consensually nonmonogamous relationships are viewed as less caring, law-abiding, eco-friendly, and successful than individuals participating in monogamous relationships (Conley et al., 2013a).

However, judgments of individuals initiating a MGT with another member of the same sex versus another member of the other sex did not differ. This is not consistent with SST or the heteronormativity bias, which prescribes that sexual behavior should only occur with members of the opposite sex (Aubrey, 2004). As such, the current results support qualitative findings by Scoats, Joseph, and Anderson (2018) indicating that MGTs involving two males are not seen as a violation of one's heterosexuality. This may be because, although they involve two members of the same sex, a member of the other sex is present. Alternately, given shifting attitudes toward same-sex relationships (Twenge et al., 2016), it may be that the heteronormative imperative has little influence on judgments about others.

Lastly, both the sex of the initiator and the relationship context in which sex occurred (with a casual or committed partner) influenced participants' judgments of the hypothetical initiator. Contrary to predictions, these effects were not different for MGTs as compared to dyadic sexual behavior. This suggests that studies assessing attitudes toward MGTs and consensual nonmonogamy (e.g., Conley et al., 2013a; Thompson & Byers, 2017) may not capture the increased stigma that may be experienced by females or individuals who engage in these behaviors in specific contexts.

Sex of the Initiator

The results provide support for the traditional SDS (the tendency to judge the sexual behavior of females more harshly than males) in that male initiators were judged as having greater cognitive abilities, being more moral, and higher-quality partners than female initiators. Consistent with previous research (Jonason & Marks, 2009), the SDS emerged for initiators of MGTs. However, contrary to previous research that has failed to find evidence of a SDS for individuals who engage in conventional sexual behaviors (Jonason & Marks, 2009; Marks & Fraley, 2005; Penhollow et al., 2017), we found that the SDS was evident in judgments of initiators of dyadic sexual behavior as well. This finding may reflect the sexual agency of the target in the vignettes—that is, we specified that the male or female had initiated the behavior whereas other researchers have only indicated that the target had engaged in the studied behaviors. SST supports agentic sexual behavior for men but proscribes it for women (Kiefer & Sanchez, 2007; Masters et al., 2013; Sakaluk et al., 2014). Alternately, this finding may reflect the fact that the dyadic behavior used in the current study was sexual role playing, which may be perceived as nontraditional or unconventional.

Relationship Context

As predicted, hypothetical individuals initiating within the context of casual relationships were judged as being lower-quality partners than those initiating within committed relationships. This is consistent with SST (Jackson & Scott, 2004) because it confirms committed sexual relationships are valued more than casual sexual relationships. These results may reflect differences in perceptions of risk, whereby sex with a casual partner is seen as more risky than sex with a committed partner (e.g., increased alcohol use, vulnerability to STI transmission, and unwanted pregnancy; Bersamin, Paschall, Saltz, & Zamboanga, 2012; Farvid, Braun, & Rowney, 2017). Our finding that hypothetical males and females were judged equally harshly when initiating MGTs and dyadic sexual behaviors with casual partners suggests that people do not judge MGTs as more risky than casual sexual with a single partner.

Variations in Assumptions about Sexual History

Although having a more extensive sexual history is not inherently good or bad, we found evidence that was viewed negatively. That is, participants who judged initiators more negatively in terms of their cognitive abilities, morality, and partner quality also assumed that they had a more extensive sexual history. Similarly, researchers have found that sexual permissiveness tends to be viewed negatively and that sexually permissive individuals are less desirable romantic partners (Vrangalova & Bukberg, 2015; Vrangalova et al., 2014). This extends previous research on MGTs (Thompson & Byers, 2017) by showing that the devil effect extends to evaluations of individual's sexual history. However, contrary to the SDS, having a more extensive sexual history was not perceived more negatively for females than for males.

We found that the variables manipulated in this study (sex of initiator, relationship context, sexual scenario) affected people's assumptions about the hypothetical initiator's sexual history. First, both men and women assumed that targets initiating MGTs had a more extensive sexual history than those initiating dyadic sex. This is consistent with the finding that participants judged MGT initiators more negatively than initiators of dyadic sexual behavior with respect to cognitive ability, morality, and partner

quality and indicate that these negative judgments extend to sexual history. It may also suggest that participants assumed that an individual who was not conventional with respect to one behavior (in this case MGTs) also deviates from the traditional sexual script in other ways, such as having an unrestricted sociosexual orientation (i.e., willingness to participate in uncommitted sexual contact; Penke & Asendorpf, 2008) and thus have a larger number of partners and/or engage in sexual activity at an earlier age. There might be some validity to the former assumption. For example, a person's sociosexuality is associated with participation in polyamory and experience with infidelity (Morrison, Beaulieu, Brockman, & Beaglaoich, 2013; Selterman, Garcia, & Tsapelas, 2019).

Second, we found that men (but not women) assumed that the hypothetical male had a more extensive sexual history than the female. This could be interpreted as partial support for a reverse SDS (i.e., males being judged more harshly for their participation in sexual behavior than females; Milhausen & Herold, 1999; Papp et al., 2015). Alternately, it may indicate that men are more influenced by gender stereotypes prescribed in the traditional sexual script (England & Bearak, 2014; Rudman et al., 2013) than are women and thus view males as engaging in more varied and frequent sexual activities than females (Petersen & Hyde, 2010; Sakaluk et al., 2014).

Finally, female initiators, but not male initiators, were assumed to have more extensive sexual histories when initiating an MGT or dyadic behavior within a casual relationship context as compared to a committed relationship context. This further supports SST, which posits that women are socialized and expected to engage in sexual behavior for relationship-centric motives (McCabe, Tanner, & Heiman, 2010). Because females initiating MGTs or dyadic behavior in a casual context are likely to be perceived as violating prescribed norms, participants may have assumed that only females who have violated these norms in other ways (e.g., with an extensive sexual history) would initiate casual sex. Because men are expected to engage in sexual behavior for pleasure-focused motives, the context in which the behavior occurred would not affect assumptions about a male's sexual history.

Limitations, Conclusions, and Implications

The results of the study must be considered in light of some of the limitations. First, although samples obtained via MTurk® are often more representative than those recruited using traditional methods (Buhrmester, Kwang, & Gosling, 2011; Casler, Bickel, & Hackett, 2013), the external validity of our results remains unknown. Second, given differences in attitudes toward consensual nonmonogamy between sexual minority and heterosexual adults (Cohen & Wilson, 2017), research is needed that purposely recruits individuals with various sexual identities. Nonetheless, our supplemental analyses indicated that the attitudes reported by sexual minority adults' did not vary markedly from those reported by heterosexual adults. In addition, researchers should investigate whether judgments are affected by the sexual orientation of the initiator because female same-sex behavior is often eroticized whereas male same-sex behavior is not (Louderback & Whitley, 1997; Yost & Thomas, 2012). Thus, the extent to which the initiator was assumed to have engaged in direct same-sex sexual contact likely influenced judgments and should be examined in future research. Third, because the partner quality and sexual history subscales were developed for the current study more research is needed to further establish the psychometric properties of these scales. In particular, a confirmatory factor anlaysis validating the two-factor structure of these subscales is warranted. Fourth, the vignettes described two specific contexts, one in which an individual initiated sexual activity within the context of a 2-year committed relationship and the other in the context of a casual relationship. Additional research is needed to determine whether the current results are specific to these two contexts. Fifth, because of the relatively small amount of research assessing U.S. adults' experiences with MGTs, the frequency with which people engage in casual MGTs is unknown. Consequently, we cannot determine whether the negative attitudes toward MGTs occurring with a casual partner (in comparison to a committed partner) are because casual MGTs are viewed as deviant rather than risky. Thus, researchers should work to investigate U.S. adults' experiences with MGTs in an effort to understand how these encounters are initiated and with whom. Finally, we used hypothetical scenarios to assess character judgments and assumptions about sexual history. Consequently, in light of the replication concerns plaguing psychological research (e.g., Earp & Trafimow, 2015; Świątkowski & Dompnier, 2017), future studies (with pre-registered hypotheses) should be conducted to replicate our results using real-world scenarios.

Nonetheless, these results shed light on judgments regarding initiating consensual nonmonogamous encounters, with and without same-sex partners. First, the results provide evidence of continued stigma. That is, although attitudes were fairly neutral, the variability in people's judgments suggest that some individuals do stigmatize initiators of MGTs. Given the demand characteristics associated with increasing sexual permissiveness in society (likely resulting in more positive judgments), it may be that judgments in real-life would be more stigmatizing than suggested by the current results.

Second, MGT initiators were judged less positively and as having a more extensive sexual history than were initiators of dyadic sexual behavior, which further supports the stigmatization of MGTs. Although we assessed judgments of four important qualities (cognitive ability, morality, partner quality, sexual history), research is needed to determine other ways in which

individuals who initiate MGTs are judged and whether this leads to prejudicial and discriminatory behavior. Given the potential stigma coupled with evidence of substantial interest in engaging in MGTs (Thompson & Byers, 2017), it is important that sex educators include discussions of MGTs and other forms of consensually nonmonogamous behaviors as a means to normalize the experience. It is also vital that mental health practitioners incorporate these results into their work by supporting clients to make their own sexual choices. However, as a means to mitigate the impact of stigma, it is important that practitioners discuss the devil effect with their clients and the possibility of negative judgments that may result from their sexual decisions. In addition, the specific contexts most likely to elicit stigma should be addressed with clients and that discrimination may be especially prevalent among women (particularly those who are agentic), those engaging in less conventional behaviors, and in casual contexts.

Third, attitudes toward individuals initiating MGTs (and dyadic sex) varied according to the sex of the initiator and the relationship context, suggesting that they are nuanced rather than uniform. Thus, to fully understand sexual attitudes, it is important that researchers continue to include the context and the activity in their methods and measures (Blanc, Byers, & Rojas, 2018). This includes providing information about the role the hypothetical initiator played in the sexual encounter and the amount of same-sex contact that occurred. Finally, our results suggest that the argument that the SDS is only endorsed for unconventional sexual behaviors may be overly simplistic because it does not take into account men's and women's roles in these encounters (related to sexual agency). Researchers should continue to explore the circumstances that illicit the SDS in an attempt to clarify the circumstances in which it is still endorsed.

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Compliance with Ethical Standards

Conflict of interest Ashley E. Thompson and E. Sandra Byers declare that they have no conflict of interest.

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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