

Who are gynandromorphophilic men? Characterizing men with sexual interest in transgender women

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Background. *Gynandromorphophilia* (GAMP) is sexual interest in *gynandromorphs* (GAMs; colloquially, *shemales*). GAMs possess a combination of male and female physical characteristics. Thus, GAMP presents a challenge to conventional understandings of sexual orientation as sexual attraction to the male *v.* female form. Speculation about GAMP men has included the ideas that they are homosexual, heterosexual, or especially, bisexual.

Method. We compared genital and subjective sexual arousal patterns of GAMP men with those of heterosexual and homosexual men. We also compared these groups on their self-ratings of sexual orientation and sexual interests.

Results. GAMP men had arousal patterns similar to those of heterosexual men and different from those of homosexual men. However, compared to heterosexual men, GAMP men were relatively more aroused by GAM erotic stimuli than by female erotic stimuli. GAMP men also scored higher than both heterosexual and homosexual men on a measure of autogynephilia.

Conclusions. Results provide clear evidence that GAMP men are not homosexual. They also indicate that GAMP men are especially likely to eroticize the idea of being a woman.

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Introduction

Erotic interest in natal males who have female-typical physical characteristics (e.g. breasts) while retaining a penis is not well understood. Individuals who possess this combination of male and female physical characteristics are called *gynandromorphs* (*gyne* refers to female, *andro* to male, and *morph* to form), and men with particular erotic interest in these individuals are gynandromorphophilic (Blanchard & Collins, 1993; henceforth, we refer to gynandromorphs as GAMs, and gynandromorphophilic as GAMP). Natal males who have become GAMs by acquiring female-typical physical characteristics such as breasts through surgery or feminizing hormone therapy while retaining a penis are sometimes referred to simply as *transgender women* (e.g. Operario *et al.* 2008) or *transwomen* (e.g. Weinberg & Williams, 2010) but are commonly and colloquially referred to as *shemales*[†] or *t-girls*. In one analysis of Internet searches comprising sexual interests, 'shemales' was the sixteenth most popular search term (Ogas & Gaddam, 2011). A count of videos at a

popular adult video site (<http://www.aebn.net>) yielded 4071 indexing 'shemale' of a total of >94 000.

Sexual interest in GAMs, who possess both male and female physical characteristics, is paradoxical by common understandings of sexual orientation, which emphasize sexual arousal to either the male or female form (e.g. Freund, 1974). This suggests the hypothesis that GAMP men are bisexual. Indeed, half of one small sample of men with sexual interest in GAMs identified as bisexual (Weinberg & Williams, 2010). However, bisexual men are commonly understood to be sexually attracted to both men and women rather than to GAMs, and so it remains unclear whether men attracted to GAMs tend to be bisexual in the conventional sense.

Ogas & Gaddam (2011) provided one account of GAMP that could explain why it is not uncommon. Based on their analysis of Internet search histories, they concluded that most men looking for GAM pornography are heterosexual and proposed that heterosexual men become aroused by GAM pornography via an 'erotic illusion'. Most heterosexual men find pornography featuring both a man and a woman to be arousing. According to this hypothesis, GAMs incorporate aspects of both members of this scene, and sexual arousal to GAMs is a typical byproduct of male heterosexuality. This hypothesis, however, would fail to account for GAMP in places where men do not have access to

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† The notes appear after the main text.

pornography. Alternatively, even in places without pornography, most heterosexual men still find sex between a man and a woman to be arousing, which might then lead to the 'erotic illusion'.

A third hypothesis regarding GAMP is that it is often a manifestation of *autogynephilia*, which is both rarer than but closely related to male heterosexuality. Autogynephilia is a man's sexual arousal to the thought or image of himself as a woman (Blanchard, 1989a, 1991; Lawrence, 2004, 2013). A man with autogynephilia has heterosexual desire for the woman he desires to be (Blanchard, 1992). Indirect evidence suggests that GAMP men tend to be autogynephilic. In one study, 31.1% of men advertising for sex with cross-dressers, transsexuals, or GAMs reported cross-dressing themselves (Blanchard & Collins, 1993); cross-dressing is probably the most common manifestation of autogynephilia (Lawrence, 2013). Unfortunately, Blanchard & Collins (1993) did not provide rates of cross-dressing separately for men with sexual interest in GAMs *per se*, as opposed to the other sexual interests examined (i.e. sexual interest in cross-dressers or transsexuals). Nor did they provide a comparison rate of cross-dressing in non-GAMP men. No study has yet reported the degree to which GAMP men endorse autogynephilic feelings.

We recruited GAMP men, heterosexual men, and homosexual men in order to clarify differences in their sexual orientation and sexual interests in two ways: First, we measured their genital and subjective sexual arousal patterns to erotic stimuli featuring men, women, or GAMs. Second, we surveyed the groups on aspects of their sexual orientation and sexual interests (e.g. degree of autogynephilia).

Method

Participants

GAMP men were recruited using a Chicago-area Internet website for men interested in sexual encounters with transgender individuals (the 't4m' list in the 'casual encounters' section of Chicago's Craigslist) via personal advertisements seeking men with sexual interest in 'transwomen', 'shemales', or 't-girls'. The advertisements contained links to an online eligibility questionnaire that verified a sexual interest in GAMs with a single item that assessed sexual interest in 'shemales'. Heterosexual and homosexual men not attracted to GAMs were recruited on similar websites for men seeking sexual encounters with women or men, respectively (the 'w4m' and 'm4m' lists in the 'casual encounters' section of Chicago's Craigslist, respectively). They also completed the online eligibility questionnaire, which verified a lack of sexual interest in GAMs.

The sample comprised 24 GAMP men (mean age = 34.46, *s.d.* = 11.52), 21 heterosexual men (mean age = 35.00, *s.d.* = 14.28), and 21 homosexual men (mean age = 32.00, *s.d.* = 6.52). The men's age did not differ among the groups, $p > 0.250$. The sample sizes were not specified in advance; rather, they resulted from the combination of funds available for the research and the difficulty in recruiting GAMP men.

Assessment of sexual arousal patterns

Stimuli included nine 3-min films, including two neutral films and seven erotic films. The neutral films featured nature scenery accompanied by soothing music. Erotic stimuli featured pairs of individuals engaged in sexually explicit interactions involving oral and penetrative sex. They included two segments featuring two male actors only (male stimuli), two segments with two female actors only (female stimuli; the penetrative sex was digital), and three segments with GAMs (GAM stimuli): one featuring a GAM with a man, one featuring a GAM with a woman, and one with two GAMs. Erotic videos including only men or only women are effective in producing arousal patterns typical of homosexual or heterosexual men, because they produce higher levels of arousal compared to alternative stimuli (such as still images), and because their content provides unambiguous information about the source of arousal, as opposed to stimuli featuring both male and female actors (Chivers *et al.* 2004, 2007). Because this was the first study of sexual arousal patterns of GAMP men, we included a wider variety of stimuli featuring GAMs.

Genital arousal was assessed using an indium-gallium strain gauge that measured changes in the circumference of the penis. Subjective arousal was assessed at the end of every stimulus clip on a scale from 0 (no sexual arousal) to 10 (extremely sexually aroused).

Assessment of sexual orientation and sexual interests

Participants completed a computer survey regarding various aspects of their sexual orientation and sexual interests. For example, respondents provided both their sexual identity (e.g. 'straight/heterosexual', 'bisexual', 'gay/homosexual') and their rating on the Kinsey scale (Kinsey *et al.* 1948), a 7-point self-report scale ranging from 0 (interest in the other sex only) to 6 (interest in the same sex only). They also provided numbers of lifetime GAM, female, and male sexual partners. Degree of autogynephilia was assessed using the Core Autogynephilia Scale (CAS; Blanchard, 1989b), an 8-item measure that assesses a man's tendency to be sexually aroused by imagining himself as a

woman. Example items include: 'Have you ever become sexually aroused while picturing yourself having a nude female body or with certain features of the nude female form?' and 'Have you ever become sexually aroused by the thought of being a woman?' The CAS was factor analytically derived from 16 face-valid items, and its reliability was high with an alpha of 0.95. None of the items in our survey assessed degree of sexual attraction to GAMs.

Statistical analyses

The genital and subjective arousal data were analyzed using mixed-effects regression that modeled participants as the level-2 units and arousal to individual clips as the level-1 response variable (Raudenbush & Bryk, 2002). Regression models included two planned stimulus (within-subjects) contrasts: one that contrasted the male stimuli with the other erotic stimuli and one that contrasted the GAM stimuli with the female stimuli. These within-subjects contrasts were allowed to randomly vary between subjects. Models also included two group (between-subjects) contrasts: one that contrasted homosexual men with the other two groups and one that contrasted GAMP men with heterosexual men. Finally, models also included four cross-level interaction terms, which illuminated group differences in patterns of erotic preferences. Our central theoretical interest and Results section focused on these interaction terms. However, Supplementary Tables S1 and S2 provide complete detail on these regression models and the exact quantitative values used for contrast codes.

Before conducting analyses, we first standardized values for genital and subjective arousal so regression coefficients could be used as measures of standardized effect sizes. More specifically, for genital arousal data, we (a) subtracted average arousal to the neutral stimuli from average arousal to each of the three types of erotic stimuli (in order to control for baseline differences in arousal), (b) computed the global standard deviation of baseline-controlled arousal across all participants and all stimuli clips, (c) divided the baseline-controlled arousal data by this global standard deviation, and (d) reported coefficients from regression models of the now standardized data. The exact same procedure was repeated for the subjective arousal data.

Participant exclusion criteria

It is desirable to exclude genital arousal data from participants who failed to respond adequately to the stimuli. (Excluding non-responders here is analogous to excluding participants who do not answer the questionnaire in a study.) As in past research (e.g. Chivers *et al.* 2004), we required participants to meet

two response criteria for inclusion. First, ipsatized (i.e. within-subjects standardized) genital arousal to at least one type of erotic stimuli (male, female, or GAM) must exceed that to the neutral stimuli by half a standard deviation or more. (We ipsatized by subtracting the average genital arousal to all stimuli from the average arousal to each type of stimuli and then dividing by the standard deviation of arousal across stimuli.) Second, baseline-controlled genital arousal (measured as the difference in average genital arousal between a type of erotic stimuli and the neutral stimuli) must exceed 2 mm for at least one type of erotic stimuli. Using these criteria, genital responding rates for GAMP, heterosexual, and homosexual participants were 95.8% (23/24), 71.4% (15/21), and 81.0% (17/21), respectively; response rates did not differ significantly across groups (Fisher's exact probability = 0.077). Participants who were excluded from genital response analyses were still included in other analyses involving subjective arousal or questionnaire data.

Ethical standards

The authors assert that all procedures contributing to this work comply with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2008. Specifically, an Institutional Review Board at our university reviewed and approved the study.

Results

Sexual arousal patterns

As shown in Fig. 1, GAMP men were overall more similar to heterosexual than to homosexual men both in terms of genital (Fig. 1a) and subjective (Fig. 1b) arousal patterns. However, compared to heterosexual men, GAMP men were more aroused by the GAM stimuli. In contrast to both GAMP and heterosexual men, homosexual men had a distinct pattern of genital and subjective arousal.

Mixed-effects regression models confirmed that, compared to GAMP and heterosexual men, homosexual men were significantly more genitally aroused by the male stimuli relative to the other erotic stimuli [$\beta = 1.81$, 95% confidence interval (CI) 1.39–2.22, $p < 0.001$], and by the GAM stimuli relative to the female stimuli ($\beta = 0.54$, 95% CI 0.10–0.99, $p = 0.018$). In contrast, GAMP and heterosexual men did not differ in their low genital response to the male stimuli relative to the other erotic stimuli ($\beta = -0.05$, 95% CI -0.52 to 0.42 , $p > 0.250$). However, GAMP men did have a significantly larger genital response to the GAM stimuli

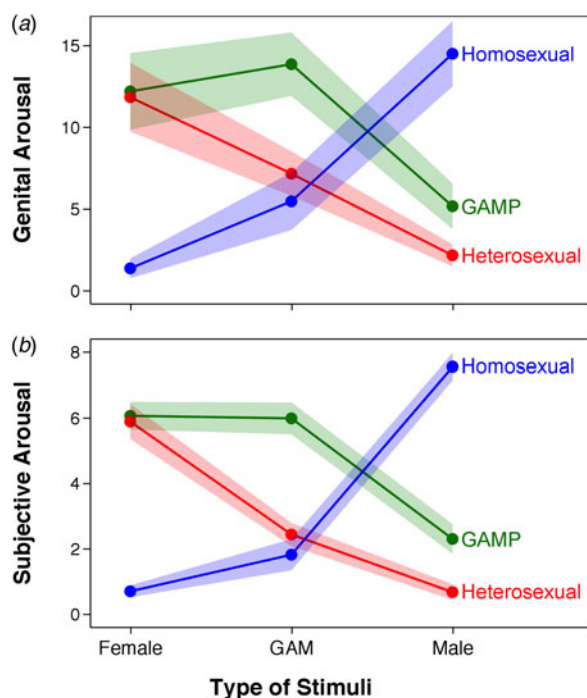


Fig. 1. Patterns of (a) baseline-controlled genital arousal and (b) raw subjective arousal (i.e. in units from 0 – no sexual arousal to 10 – extremely sexually aroused) to the different types of erotic stimuli separated by participant group. Shaded regions represent standard errors. GAM, Gynandromorph; GAMP, gynandromorphophilic.

relative to the female stimuli compared to heterosexual men ($\beta = 0.61$, 95% CI 0.11–1.12, $p = 0.017$). With respect to subjective arousal, a similar pattern of interactions emerged from the mixed-effects regression models, although point estimates of effect sizes were larger than for genital arousal (for detailed results, see Supplementary Table S2).

Sexual orientation and sexual interests

Fig. 2a plots each participant's self-rating on the Kinsey scale. As shown, heterosexual men reported near-exclusive sexual interest in women, and homosexual men reported near-exclusive sexual interest in men. However, GAMP men's Kinsey scores were more intermediate, indicating greater bisexuality among GAMP men. Although GAMP men differed from heterosexual and homosexual men on the Kinsey scale (both $p < 0.001$), GAMP men were more similar to heterosexual than to homosexual men ($p < 0.001$). **Table 1** shows the means and standard deviations for the Kinsey scale separated by participant group.

Fig. 3 plots each participant's numbers of lifetime GAM, female, and male sexual partners. As expected, GAMP men reported significantly more lifetime GAM sexual partners than other men did ($d = 0.73$, 95% CI

0.18–1.28, $p = 0.036$)². Roughly half (46%) of GAMP men reported having at least one GAM partner, compared to 0% of heterosexual men and 11% of homosexual men. In terms of other sexual experience, GAMP men were again more similar to heterosexual than to homosexual men: GAMP and heterosexual men reported similar numbers of female partners ($d = 0.32$, 95% CI -0.31 to 0.95 , $p > 0.250$), and both reported significantly more female partners than homosexual men did ($d = 1.07$, 95% CI 0.47 – 1.67 , $p < 0.001$). However, GAMP men reported significantly more male partners than heterosexual men did ($d = 0.77$, 95% CI 0.12 – 1.42 , $p = 0.010$), although homosexual men reported significantly more than both GAMP and heterosexual men did ($d = 3.29$, 95% CI 2.45 – 4.12 , $p < 0.001$). Roughly half (46%) of GAMP men reported having at least one male partner, compared to 0% of heterosexual men and 100% of homosexual men. Thus, with respect to sexual experience, GAMP men were most similar to heterosexual men, but they had elevated GAM and, interestingly, homosexual experience. **Table 1** shows the means and standard deviations for numbers of lifetime GAM, female, and male sexual partners separated by participant group.

With respect to sexual identity, 41.7% (10/24) of GAMP men identified as bisexual, and the rest identified as heterosexual. Not surprisingly, compared to heterosexual-identified GAMP men, bisexual-identified GAMP men reported significantly higher sexual attraction to men on the Kinsey scale ($d = 1.59$, 95% CI 0.55 – 2.63 , $p < 0.001$), and more lifetime male sexual partners ($d = 0.72$, 95% CI -0.20 to 1.65 , $p = 0.113$). Although not significant, this difference in number of male sexual partners was still moderate. The bisexual identity and behavior of these men were, however, not reflected in greater baseline-controlled genital arousal to the male erotic stimuli compared to heterosexual-identified GAMP men ($d = -0.27$, 95% CI -1.18 to 0.63 , $p > 0.250$).

Fig. 2b plots each participant's score on the CAS (Blanchard, 1989b). As shown, only GAMP men frequently reported autogynephilia: 42% of GAMP men had a score > 1 , compared to 12% of heterosexual men and 0% of homosexual men. Indeed, GAMP men scored significantly higher on autogynephilia than both heterosexual and homosexual men did ($d = 1.20$, 95% CI 0.62 – 1.77 , $p < 0.001$), while heterosexual and homosexual men did not differ ($d = 0.40$, 95% CI -0.28 to 1.08 , $p = 0.210$). Among GAMP men, scores on the CAS were unrelated to either genital ($r_{21} = 0.25$, $p > 0.250$), or subjective arousal ($r_{21} = 0.25$, $p > 0.250$), to GAMs. However, bisexual-identified GAMP men reported significantly higher autogynephilia than heterosexual-identified GAMP men did ($d = 1.38$, 95% CI 0.37 – 2.38 , $p = 0.007$). Thus, among GAMP men,

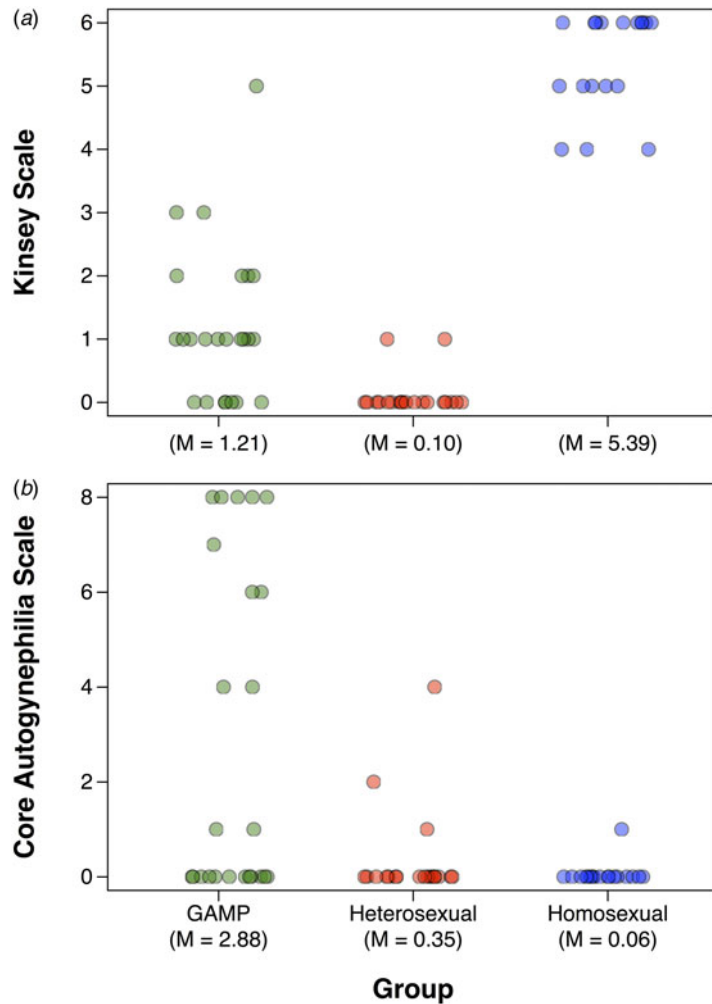


Fig. 2. Strip plot and means for (a) Kinsey scale and (b) Core Autogynephilia Scale separated by participant group. GAMP, Gynandromorphophilic.

bisexual identification appears not to be associated with sexual arousal to men, but rather with autogynephilia. Table 1 shows the means and standard deviations for the CAS separated by participant group.

GAMP men were both more autogynephilic and more sexually aroused by GAM (*v.* female) stimuli compared to heterosexual men. We examined whether the confound between being GAMP and being autogynephilic could account for this difference in sexual arousal patterns between the two groups. In doing so, we found that GAMP men still had a larger genital response than did heterosexual men to the GAM stimuli relative to the female stimuli, even when autogynephilia was statistically controlled ($\beta = 0.67$, 95% CI 0.11–1.23, $p = 0.020$). The result for subjective arousal was similar ($\beta = 1.02$, 95% CI 0.61–1.44, $p < 0.001$). Thus, compared to heterosexual men, GAMP men appear more sexually aroused by the GAM relative

to the female stimuli because they were GAMP, not because they were also more autogynephilic.

Discussion

Our study provides the clearest answer to a slightly different question than that posed in our title, namely, who GAMP men are not: GAMP men are not homosexual. This was evident with respect to sexual arousal patterns, sexual identity, and sexual experience. In contrast, GAMP men were more similar to heterosexual men in all of those respects. However, there were two main differences between those two groups: GAMP men were more aroused by GAM stimuli relative to female stimuli, and GAMP men scored higher on autogynephilia. This first difference in sexual arousal patterns between GAMP and heterosexual men was independent of the second difference in autogynephilia.

Table 1. Descriptive statistics for the Kinsey scale, numbers of lifetime sexual partners, and the Core Autogynephilia Scale

Group	Kinsey scale		GAM sexual partners		Female sexual partners		Male sexual partners		Core Autogynephilia Scale	
	Mean	s.D.	Mean	s.D.	Mean	s.D.	Mean	s.D.	Mean	s.D.
GAMP men ($n = 24$)	1.21	1.22	2.54	5.48	14.17	9.65	4.50	7.91	2.88	3.47
Bisexual ($n = 10$)	2.10	1.29	3.40	7.73	13.70	10.37	7.70	8.63	5.20	3.46
Heterosexual ($n = 14$)	0.57	0.65	1.93	3.29	14.50	9.49	2.21	6.75	1.21	2.42
Heterosexual men ($n = 21$)	0.10	0.31	0.00	0.00	11.15	8.95	0.00	0.00	0.35	0.99
Homosexual men ($n = 21$)	5.39	0.78	0.11	0.32	3.56	6.47	22.22	5.48	0.06	0.24

GAM, Gynandromorph; GAMP, gynandromorphophilic.

Regarding the difference in their sexual arousal patterns, we selected only heterosexual participants who denied strong sexual interest in GAMs. This raises the question whether differences between our study's heterosexual men and GAMP men reflect the atypicality of GAMP men or of our particular sample of heterosexual men. In other words, are our heterosexual subjects unusual among heterosexual men in having little sexual interest in GAMs? In a related survey we conducted, only 5.3% (12/227) of heterosexual men recruited from Amazon Mechanical Turk endorsed attraction to GAMs (A. M. Rosenthal *et al.*, unpublished data). Thus, it seems unlikely that the heterosexual sample in the present study was very atypical because those who endorsed GAMP were excluded. To the extent that our heterosexual sample is typical, our results argue against the speculation from Ogas & Gaddam (2011) that heterosexual men are generally aroused by GAMs because of an 'erotic illusion'. Indeed, heterosexual men's subjective arousal to the GAM stimuli was low, nearer their arousal to male than to female stimuli. However, despite their low subjective arousal, heterosexual men exhibited some genital arousal to GAM stimuli that was greater than that to male stimuli, although lower than that to female stimuli.

Similar to past samples (e.g. Weinberg & Williams, 2010), our GAMP men were moderately likely to identify as bisexual. Their bisexual identities, however, did not correlate with their sexual arousal to male stimuli. Instead, bisexual identification was positively associated with degree of autogynephilia. Blanchard (1989b) noted that bisexual-identified men with autogynephilia were especially likely to eroticize the idea of being a woman desired by or having sex with a man. He called this interest *pseudobisexuality*, because it differs from genuine sexual interest in both male and female bodies. In a recent study of autogynephilic men, self-reported bisexual identity and a higher number of lifetime male sexual partners predicted greater

self-reported autogynephilic arousal to the idea of being a woman interacting (especially sexually) with a man (Hsu *et al.* 2015). Although we did not assess pseudobisexuality directly in the present study, it likely explains some of the bisexual identification among GAMP men. Another likely contributor is the fact that GAMs have both male and female features. This might explain homosexual men's increased sexual arousal to the GAM stimuli, compared to the female stimuli, as well as heterosexual men's increased sexual arousal to the GAM stimuli, compared to the male stimuli. However, with respect to GAMP men, sexual attraction and arousal to GAMs appear to be the limit of interest in the male form. Thus, GAMP men do not appear to be bisexual in the conventional sense.

Our study does not provide answers to two important questions. First, why do some men develop increased sexual arousal to GAMs? Second, why is there an association between autogynephilia and GAMP? Our results suggest that these questions require separate answers. Although we currently have no good suggestions regarding the former question, we offer the following speculation on the latter: autogynephilic men are sexually aroused by the idea of becoming women. GAMs instantiate the transition from man to woman. As a result, GAMs may trigger or amplify their autogynephilic arousal. It could be revealing to interview autogynephilic GAMP men on their thoughts and fantasies while consuming GAM stimuli (or interacting with a GAM partner) to explore whether they differ from non-autogynephilic GAMP men.

Limitations

Results of our study should be interpreted with some limitations in mind. First, our sample size is small, primarily due to funding restraints and the difficulty in recruiting GAMP men. Thus, results, especially those that were negative, should await future replication.

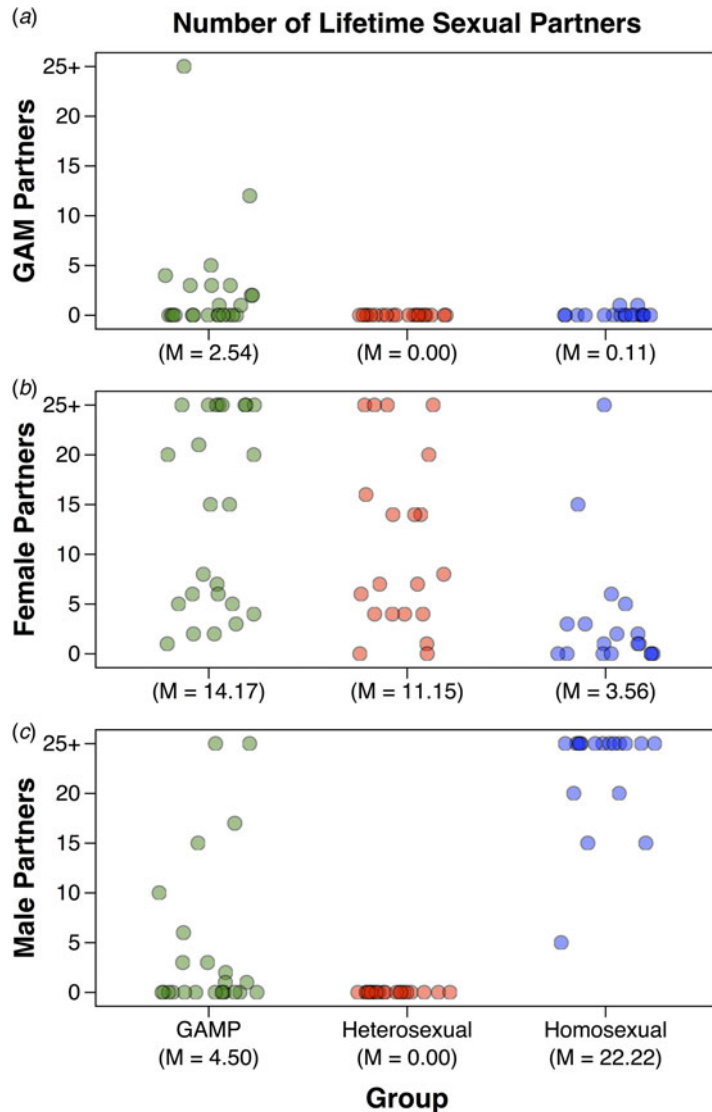


Fig. 3. Strip plot and means for numbers of lifetime gynandromorph, female, and male sexual partners separated by participant group. GAMP, Gynandromorphophilic.

A second potential concern is our choice of erotic stimuli. Our GAM stimuli were not perfectly analogous to our male and female stimuli. Male and female stimuli depicted same-sex couples, but the GAM stimuli consisted of one GAM-male couple, one GAM-female couple, and one GAM-GAM couple. We chose this mixture because we were concerned that GAM-GAM stimuli were especially unusual, even compared to other GAM stimuli, and thus might be potentially less effective at evoking arousal. If our decision had a potential drawback, it would have been to make it more difficult to detect differences between GAMP men and the other men. For example, even if homosexual men do not find GAMs arousing, they may be somewhat aroused by the GAM-male stimulus clip because it includes a man. Indeed, this is another possible reason why homosexual

men were more aroused by the GAM stimuli than by the female stimuli, and why heterosexual men were analogously more aroused by the GAM stimuli than by the male stimuli. Still, we were able to detect differences between GAMP men and both of the other groups.

The final limitation that we discuss here is that our participants were Western men. In Samoa and some other cultures, homosexual men have typically adopted a transgender presentation that is somewhat similar to GAMs in Western culture: female-typical names, hairstyles, dress, mannerisms, and interests (VanderLaan *et al.* 2013). Perhaps importantly, though, these individuals have not acquired female-typical physical characteristics such as breasts like GAMs have. A recent study found that Samoan heterosexual men who have had sex with such individuals (called *fa'afafine* in their culture)

were more bisexual in their patterns of erotic interest compared to heterosexual men without such experience (Pettersen *et al.* 2015). Although those results appear to contrast with ours, there were methodological differences between the studies involving stimuli type and measurement of erotic interest. Furthermore, *fa'afafine* are not quite the Samoan analog to GAMs in the West. One might nonetheless speculate first, whether most heterosexual men are capable of sexual attraction to GAMs in a culture where such attraction is not stigmatized, and second, whether even in such cultures, a minority of men will be relatively more attracted to (and aroused by) GAMs than to natal women.

Clinical implications

Some men with GAMP have struggled with their lack of self-understanding (e.g. Savage, 2010; Clark-Flory, 2011; Bering, 2012), and our results provide some understanding of the phenomenon. For example, a man wrote to the sex advice columnist 'Savage Love' asking whether his attraction to GAMs meant that he was gay (Savage, 2010). Our results strongly suggest that he is not; indeed, GAMP men were not more sexually aroused by men than heterosexual men were. To be sure, GAMP men did have increased homosexual experience compared to heterosexual men, but this may be due to other factors than homosexual or bisexual orientation, such as autogynephilic pseudobisexuality.

We address two other clinical issues potentially illuminated by our study with brief vignettes about individuals who contacted the senior author due to his expertise concerning the science of transgender-related issues.

Obligate GAMP

An adult woman's sexual and romantic partner was a man who had revealed his erotic interest in GAMs early in their relationship. They had occasionally incorporated GAM pornography into their sex life together, and at first she found this exotically erotic. After several years together, this practice became necessary for her partner to enjoy their interactions. This was unacceptable to the woman, and their relationship ended.

Results of our study suggest that GAM stimuli are not obligate for erotic stimulation. For our GAMP men, the difference between their genital and subjective arousal to female and to GAM stimuli did not differ significantly from zero. (It was heterosexual men's diminished response to GAM stimuli that led them to differ from GAMP men in arousal pattern.) Still, a few GAMP men did evidence stronger but not exclusive preferences for GAM relative to female stimuli. These men may be more likely to become dissatisfied in sexual relationships with natal women.

Gender dysphoria

An adult man with a history of sexual and romantic relationships with GAMs revealed that he had long considered socially transitioning to the female role and obtaining sex reassignment surgery. Furthermore, during sex with GAMs, he imagined himself as a woman.

Our results suggest that gender dysphoria may be more common among GAMP men than among typical men. This is because they were more likely than other men to report autogynephilia, and autogynephilia is associated with gender dysphoria (Blanchard, 1993; Hsu *et al.* 2015). However, our results suggest that autogynephilia is far from universal among GAMP men, as only half ($n=12$) of our GAMP sample reported autogynephilia. Still, one-third ($n=8$) had scores of at least 6 on the CAS, which exceeds the average of a sample of autogynephilic gender dysphoric patients (Blanchard, 1989b).

Conclusions

GAMP is a poorly understood, although not uncommon, erotic interest. The lack of understanding is unfortunate, both scientifically and socially. GAMP men and their romantic and sexual partners have frequently sought clarification about the nature of GAMP (especially whether the interest in GAMs is indicative of being homosexual) and have suffered from ignorance. The present research represents a significant step toward understanding.

Supplementary material

For supplementary material accompanying this paper visit <http://dx.doi.org/10.1017/S0033291715002317>.

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Declaration of Interest

None.

Notes

¹ *Shemale* is a controversial term; some find it derogatory, because it is often used to refer to male-to-female transgender sex workers or to GAMs in adult entertainment (Arune,

2006). To avoid needless offense and controversy, we use the term GAM instead of shemale.

² For analyses comparing numbers of different partners, the maximum number for any type of sexual partner (GAM, female, and male) was limited to 25 in order to avoid the disproportionate influence of possible outliers. This decision substantially underestimated the average number of male partners of homosexual men. However, results were similar when this restriction on maximum number was removed.

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