



Viewing Time and Self-Report Measures of Sexual Attraction in Samoan Cisgender and Transgender Androphilic Males

Lanna J. Petterson¹ · Barnaby J. Dixon^{2,3} · Anthony C. Little⁴ · Paul L. Vasey¹

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Abstract

Across cultures, androphilic males (natal males who are predominantly sexually attracted to adult men, not women) tend to present in one of two forms: cisgender or transgender. Previous research has shown that, although their gender presentation and identities are distinct, the two forms are similar in many other ways. The present study examined whether cisgender and transgender androphilic males exhibit a similar pattern of self-reported sexual attraction and viewing time response to images of men and women, and one that is directly inverse to that of cisgender gynephilic males (natal males who are predominately sexually attracted to adult women, not men). Using measures of self-reported sexual attraction and viewing time, we compared the response patterns of Samoan cisgender males who self-identified as men, were predominantly attracted to men, and had sex only with men ($N=16$) and Samoan transgender males who self-identified as *fa'afafine*, were predominantly attracted to men, and had sex only with men ($N=30$). Samoan cisgender males who self-identified as men, were predominantly attracted to women, and had sex only with women ($N=31$) served as a comparison group. Androphilic men and *fa'afafine* reported greater sexual attraction to men than women and viewed the images of men longer than those of women. Gynephilic men showed the inverse pattern. Viewing time discrepancies between participant's preferred gender and their non-preferred gender were greater for gynephilic men compared to the two androphilic groups. The implications of these preliminary findings for the use of viewing time measures of male sexual orientation across different cultural contexts are discussed.

Keywords Sexual orientation · Samoa · Same-sex sexuality · *Fa'afafine*

Introduction

Androphilic males (i.e., natal males who are predominantly sexually attracted to adult men, not women) are present in the majority of cultures globally (Hames, Garfield, & Garfield, 2017). Despite their ubiquity, the gender presentation and identity of androphilic males vary both between, and within,

cultures (e.g., Murray, 2000). Two forms of male androphilia are recognized cross-culturally, a cisgender¹ form and a transgender² form, although demarcations between the two are not absolute owing to the graded nature of gender presentation exhibited by androphilic males (Whitam, 1987). Both types of androphilic males can be present within the same culture, but one form tends to predominate over the other (e.g., Hames et al., 2017; Whitam, 1983). Cross-culturally, male androphilia is most commonly expressed in the transgender form (Hames et al., 2017).

Transgender and cisgender androphilic males share numerous biodemographic, psychodevelopmental, and personality correlates (for a recent review, see Vasey & VanderLaan, 2014). For instance, compared to cisgender gynephilic males (i.e., natal males who are predominantly sexually attracted to adult women, not men) both transgender and cisgender androphilic

✉ Lanna J. Petterson
l.petterson@uleth.ca

¹ Laboratory of Comparative Sexuality, Department of Psychology, University of Lethbridge, 4401 University Drive, Lethbridge, AB T1K 3M4, Canada

² Evolution & Ecology Research Centre, School of Biological, Earth and Environmental Sciences, University of New South Wales, Sydney, Australia

³ School of Psychology, University of Queensland, Brisbane, QLD, Australia

⁴ Behaviour and Evolution Research Group, School of Natural Sciences, University of Stirling, Stirling, UK

¹ Cisgender refers to individuals whose gender role presentation and identity match the ones they were assigned at birth.

² Transgender refers to individuals whose gender role presentation and identity differ from the one they were assigned as birth.

males have more androphilic male relatives (e.g., Gómez, Semenyna, Court, & Vasey, 2018; Schwartz, Kim, Kolundzija, Rieger, & Sanders, 2010; Semenyna, Petterson, VanderLaan, & Vasey, 2017a), more older brothers (e.g., Blanchard, 2018; Semenyna, VanderLaan, & Vasey, 2017c), larger family sizes (e.g., Camperio Ciani, & Pellizzari, 2012; King et al., 2005; Semenyna et al., 2017a), reduced offspring production (King et al., 2005; Schwartz et al., 2010; Vasey, Parker, & VanderLaan, 2014), greater gender nonconformity in adulthood (Hart, 1968; Lippa, 2008; Semenyna & Vasey, 2016), greater recalled gender nonconformity childhood (e.g., Bailey & Zucker, 1995; Besharat, Karimi, & Saadati, 2016; Cardoso, 2005, 2009; Petterson, Wrightson, & Vasey, 2017; Rieger, Linsenmeier, Gygax, & Bailey, 2008; Semenyna, VanderLaan, Petterson, & Vasey, 2017b; Whitam & Mathy, 1986), and elevated traits of childhood separation anxiety (e.g., Gómez, Semenyna, Court, & Vasey, 2017; VanderLaan, Gothreau, Bartlett, & Vasey, 2011; VanderLaan, Petterson, & Vasey, 2016, 2017; Zucker, Bradley, & Sullivan, 1996). In addition, across disparate cultural contexts, male androphilia tends to comprise similar portions of the population in whichever form predominates (e.g., Gates, 2011; Gómez et al., 2018; Semenyna et al., 2017b; Whitam & Mathy, 1986).

Despite similarities between the two forms, it has not yet been established whether differences in their sexual orientation exist. Recent psychological examinations of sexual orientation have emphasized the importance of collecting both objective measures (e.g., genital response, brain activity, pupil change, viewing time) and subjective measures (e.g., self-report). The latter may be particularly valuable for cross-cultural comparisons because these measures permit comparisons of individuals who may not share common subjective understandings of sexual orientation (for further discussion of this point, see Stief, 2017).

Viewing time responses to images of men and women are valuable measures of male sexual orientation because individuals are, on average, slower to respond when presented with images of their preferred gender compared to their non-preferred gender (Ebsworth & Lalumière, 2012; Imhoff et al., 2010; Israel & Strassberg, 2009; Lippa, 2012a, b, 2017; Lippa, Patterson, & Marelich, 2010; Quinsey, Ketsetzis, Earls, & Karamanoukian, 1996; Rieger & Savin-Williams, 2012; Rullo, Strassberg, & Israel, 2010). It is important to note that the period between image presentation and participant response, which is typically referred to as a “viewing time” may reflect the time required to respond to the task of rating attraction (Imhoff et al., 2010; Imhoff, Schmidt, Weiß, Young, & Banse, 2012). Thus, the term “response time” may be a more accurate reflection of the measure. However, to remain consistent across studies, the term “viewing time” will be used.

Viewing time patterns converge with other measures that have found that cisgender gynephilic men show elevated responses to stimuli of women and greatly reduced responses to stimuli of men, whereas cisgender androphilic men show the opposite pattern. These response patterns hold across various measures including genital arousal (e.g., Chivers, Rieger, Latty, & Bailey, 2004; Chivers, Seto, & Blanchard, 2007; Freund, 1963; Suschinsky & Lalumière, 2011; Suschinsky, Lalumière, & Chivers, 2009), pupil dilation (Rieger et al., 2015; Rieger & Savin-Williams, 2012), viewing time (e.g., Ebsworth & Lalumière, 2012; Lippa, 2012a, b, 2017; Lippa et al., 2010; Quinsey et al., 1996; Rullo et al., 2010), and activity in brain regions associated with sexual arousal and motivation (Paul et al., 2008; Safron et al., 2017). The aforementioned response patterns are consistent with participants’ self-reported sexual attractions to women and men.

Paralleling these differences, androphilic male-to-female (MtF) transgender women display greater genital arousal to stimuli depicting men compared to stimuli depicting women, whereas cisgender gynephilic men showed the opposite pattern (Chivers et al., 2004; Lawrence, Latty, Chivers, & Bailey, 2005). Similarly, Samoan transgender androphilic males (locally known as *fa’afafine*) view images of men longer than images of women, whereas cisgender gynephilic men exhibited the opposite pattern (Petterson, Dixson, Little, & Vasey, 2015). Indian transgender androphilic males (known locally as *hijra* and *kothi*) view images of men longer than images of women (Stief, 2017). Likewise, Korean androphilic MtF transgender individuals display greater brain activation in response to male stimuli compared to female stimuli (Oh et al., 2012).

To date, no study has directly compared the self-reported attractiveness ratings and viewing time responses of cisgender and transgender androphilic males to stimuli of men and women. In the present study, we do so in a Samoan cultural context. In Samoa gender role enactment plays a primary role in identity formation, but sexual orientation does not. As such, transgender androphilic males are known locally as *fa’afafine*, a gender that Samoan’s conceptualize as distinct from *men* and *women*. Samoan cisgender males are identified, and self-identify, as men, regardless of whether they are gynephilic or androphilic. Unlike Western cultures where terms such as *gay* and *straight* are employed, in Samoa cisgender gynephilic and androphilic men are not differentiated linguistically. Here, we compared the response patterns of Samoan cisgender androphilic males who self-identified as men and had sex only with men (hereafter, *men who had sex only with men* [MSM]) and Samoan transgender androphilic males who self-identified as *fa’afafine* and had sex only with men (hereafter, *fa’afafine who had sex only with men* [FSM]).

Samoan cisgender gynephilic males who self-identified as men and had sex only with women (hereafter, *men who have sex only with women* [MSW]) served as a comparison group.³

Because Samoan MSM and FSM share the same sexual orientation and many biodemographic, psychodevelopmental, and personality traits, it seems reasonable to predict that no differences would be observed between these two types of androphilic males. On this basis, one would predict that MSM and FSM alike would show prolonged viewing times to stimuli of men relative to stimuli of women. However, MSM and FSM differ with respect to gender presentation and identity, which raises the possibility that they may differ in other ways, such as viewing time responses. Inconsistent with Western studies, Peterson, Dixson, Little, and Vasey (2016) showed that Samoan FSM exhibit shorter discrepancies in their viewing times for stimuli of men and women compared to Samoan MSW. If differences in viewing time are linked to gender differences, not sexual orientation, then Samoan MSM, like their MSW counterparts, may have exaggerated viewing times for stimuli of men relative to stimuli of women, whereas FSM would be more muted in this regard.

Previous research has found that some aspects of human psychology are culturally variable (Henrich, Heine, & Norenzayan, 2010). The cognitive-behavioral processes underlying viewing time could be influenced by cultural factors as well, resulting in patterns that do not conform to those typically reported in Western studies. Understanding whether this is indeed the case could further our understanding of sexual orientation and gender expression across cultures.

Method

Participants

All participants were recruited from Upolu, the most populated island in Samoa, using a network sampling procedure. The present study included 31 MSW who were natal males, self-identified as men, had sex only with women, and were primarily attracted to women and not men; 30 FSM who were natal males, self-identified as *fa'afafine*, had sex only with men, and were primarily attracted to men and not women; and 16 MSM who were natal males, self-identified as men, had sex only with men, and were primarily attracted to men and not women.

Participants were asked to respond to three Kinsey-type scale questions (Kinsey, Pomeroy, & Martin, 1948), i.e., how sexually attracted they were to (1) women, (2) men, and (3) *fa'afafine* (response range 0 = “very unpleasant” to 6 = “very

sexually pleasant”).⁴ All FSM and MSM rated men as 6 = “very sexually pleasant.” All FSM and MSM rated both women and *fa'afafine* as 0 = “very sexually unpleasant.” MSW rated women as being “very sexually pleasant” (23 men), “somewhat sexually pleasant” (3 men), or “slightly sexually pleasant” (5 men). MSW rated men as “very sexually unpleasant” (30 men) or “somewhat sexually unpleasant” (1 man) and *fa'afafine* as “very sexually unpleasant” (30 men) or “somewhat sexually unpleasant” (1 man). Although MSW exhibited more variability in their ratings of women and men than the two androphilic groups, all MSW were predominately attracted to women, but not to men or to *fa'afafine*.

Measures

The present study was collected as a portion of a larger study. The study consisted of an image-rating task, during which participants' viewing times were covertly recorded, followed by a brief biographic questionnaire, and a semi-structured interview. Two Samoan-speaking research assistants translated the text to Samoan and then back-translated it into English. Following the study, participants were thanked and given 20 Western Samoan Tala as a gift for their time.

The image-rating portion of the study was conducted using Empirisoft MediaLab reaction-time software (Eternity and Empirisoft Corporation, 1997). Prior to the actual study, participants completed a trial to familiarize them with the task. Those that did not understand the task after three trials were excluded from the remainder of the study. Following this, participants were shown a series of 31 images that included 10 composite images of Samoan men's faces, 10 composite images of Samoan women's faces, and 11 neutral stimuli (i.e., circles with two dots for eyes and a straight line for a mouth that varied slightly). Participants were asked to respond to a question that appeared at the top of each image: “How would you feel about having sex with this person?” (response range 1 = very unpleasant to 7 = very pleasant), which provided a measure of self-reported sexual attraction. Unbeknownst to the participants, the latency between presentation of the stimuli and the participant's response was recorded, which provided a measure of viewing time.

The base faces were composite average faces that were constructed from two individual facial photographs, in line with previous methods (Benson & Perrett, 1993; Tiddeman, Burt, & Perrett, 2001; Little & Hancock, 2002). Faces were paired randomly from a pool of face images that were, themselves, drawn randomly from a sample of faces of Samoan men and women. The composite base faces were made symmetric and then transformed on a sexual dimorphism dimension using the shape linear difference between a composite of 50 men and

³ The two groups of cisgender men are labeled on the basis of their behavior because they both self-identify as men, neither group self-identifies using a sexual orientation label.

⁴ This phrasing was the closest approximation in Samoan to the English “sexually (un)attractive.”

an equivalent composite of 50 young adult women (consistent with Perrett et al., 1998). In doing so, the faces of men were transformed to be more masculine and the faces of women were transformed to be more feminine, thereby eliminating any possibility that the images could have been viewed as androgynous. Additional details regarding methodology and image construction are available in Petterson et al. (2015, 2016).

Data Analysis

The first image in the actual study was a cartoon face image. Participants' responses to this first neutral image were deleted from the analysis to remove any confounds associated with transitioning from the trial to the actual study. Four additional images were excluded from analysis: 1 image of a woman, because it was rated notably lower than the other images; 1 image of a man, because it was rated notably higher than the other images; and 1 random neutral image, so that each stimuli category contained nine images.

The viewing times were then winsorized to reduce the influence of outliers. To control for individual differences in responsiveness, the viewing times were standardized. To control for baseline response, participants' mean responses to the neutral images were subtracted from (1) their mean responses to images of men and (2) their mean responses images of women for both self-report and viewing time measures. To measure participants' relative preference for men or women, discrepancy scores were calculated. This was done by subtracting responses to the images of men from responses to the images of women, after first controlling for responses to the neutral images. Thus, higher scores indicated higher sexual attraction ratings and longer viewing times for images of men. These scores will be referred to as the gender preference index. To measure the extent to which groups differed in their response to the images of men and women categories, irrespective of which gender received the greater response, absolute discrepancy scores were calculated. These scores will be referred to as the magnitude of the difference in self-reported sexual attraction to, and viewing times of, men and women.

Statistical Analyses

Statistical analysis was conducted using RStudio, version 1.1.383 (RStudio, 2015). Nonparametric tests were used to analyze self-reported sexual attraction ratings because they were highly skewed. Between-group comparisons of sexual attraction ratings were conducted using Kruskal–Wallis tests (with the alpha level set at $\alpha = .05$). Post hoc comparisons were conducted using Wilcoxon tests. Between-group comparisons of viewing time response patterns were conducted using one-way analyses of variance (ANOVAs) (with the alpha level set at $\alpha = .05$). Post hoc comparisons were conducted using Tukey's honest significant difference (HSD).

Results

Biodemographic information is presented in Table 1 by group. Non-baseline adjusted self-reported sexual attraction ratings and viewing times for images of men and women are presented in Table 2, by group.

A main effect of group was found for the sexual attraction gender preference index, $\chi^2(2) = 61$, $p < .001$. Higher scores indicate greater self-reported sexual attraction to stimuli of men. MSW (Mdn = -3.44 , SD = 1.48) scored lower on the sexual attraction gender preference index than FSM (Mdn = 4.56, SD = 1.31), $p < .001$ and MSM (Mdn = 6, SD = 1.24), $p < .001$. MSM scored higher on the sexual attraction gender preference index than FSM, $p < .001$.

A main effect of group was found for the magnitude of the difference in self-reported sexual attraction to men and women, $\chi^2(2) = 29$, $p < .001$. The magnitude of the difference in self-reported sexual attraction to men and women was smaller for MSW (Mdn = 3.45, SD = 1.48) than for FSM (Mdn = 4.56, SD = 1.31), $p = .005$, and MSM (Mdn = 6, SD = 1.24), $p < .001$. The magnitude of the difference in self-reported sexual attraction to men and women was greater for MSM than for FSM, $p < .001$.

A main effect of group was found for the viewing time gender preference index, $F(2, 74) = 76.7$, $p < .001$, $\eta^2 = .67$. Higher scores indicate longer viewing times for stimuli of men. MSW ($M = -1.17$, SD = .49) scored lower on the viewing time gender preference index than FSM ($M = .59$, SD = .65), $p < .001$, Hedge's $g = 3$, 95% CI (2.27, 3.74), and MSM ($M = .45$, SD = .66), $p < .001$, Hedge's $g = 2.89$, 95% CI (2.05, 3.73). FSM and MSM had similar viewing time gender preference index scores, $p = .754$, Hedge's $g = .2$, 95% CI ($-.41$, .81).

A main effect of group was found for the magnitude of the difference in viewing times of men and women, $F(2, 74) = 10$, $p < .001$, $\eta^2 = .21$. The magnitude of the difference in viewing times of men and women was greater for MSW ($M = 1.18$, SD = .46) than for FSM ($M = .74$, SD = .47), $p = .001$, Hedge's $g = .94$, 95% CI (.41, 1.46), and MSM ($M = .61$, SD = .5), $p = .001$, Hedge's $g = 1.16$, 95% CI (.52, 1.81). The magnitude of the difference in viewing times of men and women was similar for FSM and MSM, $p = .689$, Hedge's $g = .25$, 95% CI ($-.36$, .86).

Discussion

FSM and MSM reported greater sexual attraction to the images of men than the images of women, and they viewed images of men longer than images of women. MSW reported greater attraction to the images of women than the images of men, and they viewed the images of women longer than the images of men. FSM and MSM were relatively indistinguishable on the basis of their viewing time patterns, a finding that

Table 1 Descriptive statistics regarding participants' biodemographic information by group

	Men who had sex only with women ^a N = 31	Men who had sex only with men ^a N = 16	Fa'afafine who had sex only with men ^b N = 30
Age (range)	20–46	19–29	19–43
Age (M, SD)	(29.7, 8.88)	(23.5, 2.92)	(30.27, 7.15)
Weekly income: % (n)			
0–99 tala	54.8 (17)	37.5 (6)	23.3 (7)
100 tala or more	45.2 (14)	62.5 (10)	76.7 (23)
Religiosity: % (n)			
Slightly religious	3.2 (1)	37.5 (6)	3.3 (1)
Somewhat religious	61.3 (19)	37.5 (6)	63.3 (19)
Highly religious	35.5 (11)	25 (4)	33.3 (10)
Relationship status: % (n)			
Single	45.2 (14)	31.3 (5)	63.3 (19)
Casually dating	6.5 (2)	68.8 (11)	30 (9)
In a committed relationship	12.9 (4)	0 (0)	3.3 (1)
Married	32.3 (10)	0 (0)	0 (0)
Widowed or divorced	3.2 (1)	0 (0)	3.3 (1)

^aMen who had sex only with women are cisgender males who identify as men, have sex only with women, and are predominantly attracted to women not men. Men who had sex only with men are cisgender males who identify as men, have sex only with men, and are predominantly attracted to men not women. In Samoa, sexual orientation is not used as a basis of identity formation

^bFa'afafine who had sex only with men are transgender males who identify as fa'afafine, have sex only with men, and are predominantly attracted to men not women

Table 2 Non-baseline controlled self-reported sexual attraction and response times for images of men and images of women

	Men who had sex only with women ^a N = 31	Men who had sex only with men ^a N = 16	Fa'afafine who had sex only with men ^b N = 30
<i>Self-reported sexual attraction ratings to images of</i>			
Median (SD)			
Women	5 (2.12)	1.15 (.05)	1.15 (.06)
Men	1.08 (.35)	6.88 (1.47)	5 (1.81)
<i>Viewing times for images of</i>			
Mean (SD)			
Women	11.05 (8.62)	3.32 (1.14)	4.75 (4.75)
Men	5.35 (4.39)	4.24 (1.81)	5.84 (3.69)

^aMen who had sex only with women are cisgender males who identify as men, have sex only with women, and are predominantly attracted to women not men. Men who had sex only with men are cisgender males who identify as men, have sex only with men, and are predominantly attracted to men not women. In Samoa, sexual orientation is not used as a basis of identity formation

^bFa'afafine who had sex only with men are transgender males who identify as fa'afafine, have sex only with men, and are predominantly attracted to men not women

is consistent with previous research demonstrating numerous biodemographic, psychodevelopmental, and personality similarities between cisgender and transgender androphilic males (see “Introduction”).

MSM uniformly rated the images of men as highly sexually appealing, whereas FSM and MSW were comparatively modest in their ratings of their preferred gender and displayed greater variability in this regard. This variation in self-reported

attraction to images of an individual's preferred gender might relate to sociocultural and biodemographic factors. Men tend to lower their mating standards when available partners are less plentiful (Stone, Shackelford, & Buss, 2007). Of the three groups we examined, MSM may have the greatest challenge accessing available partners. MSM are not as socially accepted as FSM or MSW (Feagaimaali'i-Luamanu, 2017; UNDP et al., 2016) and, therefore, are less likely to be open about their

sexuality. Additionally, androphilic males prefer masculine male sexual partners (Bailey, 2003), but Samoan MSM exist in a social environment in which the vast majority of androphilic males are transgender (*fa'afafine*) and, thus, unlikely to be desirable sexual partners. These factors potentially limit the availability of sexual partners for Samoan MSM, and, as such, they may be less critical when assessing prospective partners compared to the other groups.

Previous research conducted in the U.S. has shown that both androphilic and gynephilic men exhibit gender-differentiated viewing time patterns that mirror one another (e.g., Lippa, 2017). In Samoa, however, gender-differentiated viewing time patterns were smaller in magnitude for FSM and MSM than they were for MSW. That both androphilic groups exhibited this pattern is compelling, but future research should, nonetheless, aim to replicate this result with larger, independent samples.

MSW showed a greater discrepancy in the amount of time required to rate the images of men and the images of women relative to all other groups, despite being the least discrepant in their self-reported sexual attraction ratings. Imhoff et al. (2010) have demonstrated that prolonged response latencies (referred to here as viewing times) could result from the high demand involved in deciding that someone is sexually attractive compared to the low demand of deciding that someone is sexually unattractive. They have proposed that, when assessing a target's sexual attractiveness, individuals must determine, for example, whether the target is a member of their preferred gender, and whether they have attractive characteristics. This process ends once a target fails to meet an individual's criterion for sexual attractiveness.

In Samoa, MSW must assess whether potential partners exhibit gender characteristics associated with their preferred gender (i.e., femininity) or their non-preferred gender (i.e., masculinity). If an individual is feminine, MSW must then decide whether the target individual is a *fa'afafine* or a woman. In contrast, this process is abbreviated for FSM and MSM; once they have determined that an individual is masculine, they can assume with virtual certainty that that the individual is their preferred sexual target, namely a man, because masculine women occur at such a low frequency in the Samoan population. Thus, a process that only involves one step for Samoan FSM and MSM involves two steps for Samoan MSW. Consequently, this process may take longer for MSW in cultures, like Samoa, where feminine natal males are relatively commonplace.

Limitations and Future Directions

Our study was limited in its use of a relatively small sample of Samoan MSM. These men are difficult to access because they live in a country with a small population (approximately 195,125 people inhabited Independent Samoa as of 2016; World Bank Group, 2017) and in culture where male androphilia is overwhelmingly expressed in the transgender form. As

such, cisgender androphilic men represent a minority within a minority. Further, these men are challenging to access because they conceal their sexual orientation and, with respect to their gender presentation, they do not differ in obvious ways from gynephilic men. Similar research should be conducted with larger samples to determine whether the findings presented in this study are robust. Doing so may require sampling from countries with a larger base population. In addition, future studies would benefit from comparing patterns of attraction and arousal between cisgender and transgender androphilic males in other non-Western cultures.

In the present study, groups were formed based on their sexual behavior. MSW showed greater variability in their ratings of women and men than the two androphilic groups based on the Kinsey-type scales (Kinsey et al., 1948). There was no a priori reason to predict that this would be the case. Future research may choose to form groups based on their self-reported sexual attraction (i.e., include only those who are exclusively attracted to men or women). One limitation of doing so, however, is that more predominately gynephilic participants would be excluded than predominantly androphilic participants. Additionally, it is possible that their responses would have differed (i.e., appeared nearly exclusively gynephilic) if a standard Kinsey-scale (Kinsey et al., 1948) would have been used (i.e., one that measures attraction to women versus attraction to men on a single scale).

Different processes may be employed when evaluating the sexual attractiveness of faces than when evaluating the sexual attractiveness of erotic stimuli. As such, further study using sexually explicit images would likely prove useful. Unfortunately, Samoan pornography laws prohibit the use of such imagery. Underwear or swimwear-clad models could provide an alternative (e.g., Ebsworth & Lalumière, 2012; Israel & Strassberg, 2009; Letourneau, 2002; Lippa, 2012a, b), but the use of such imagery in Samoa is not without potential confounds. Due to Samoan cultural mores, it is uncommon for a woman to be seen with exposed midriffs and upper legs, but it is not uncommon to see men wearing short bottoms (e.g., *lava lavas*—a cloth sarong) and no tops. Despite these issues, it is important to note that (heterosexual) group difference in response latencies is maintained when only faces are used as stimuli (Imhoff et al., 2010), and the same was true for the sexual orientation group difference in this study.

Finally, the present study was conducted in a field setting. Every effort was made to ensure that all participants were tested under similar conditions; however, confounds may have been introduced due to variation in testing conditions.

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Compliance with Ethical Standards

Ethical Approval This research was approved by the University of Lethbridge Human Subjects Research Ethics Committee. A Samoan Research Visa was obtained from Samoan Immigration under the auspices of the Samoan Ministry of Women, Community and Social Development. Participants were required to provide informed written consent prior to taking part in the study.

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