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Binary and Beyond: Age Preferences in Partner Selection among Bisexual, Gay, and Heterosexual Individuals

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ABSTRACT

Sexual selection and its associated mating preferences in human heterosexual populations are well-established. Females tend to be more selective and prefer older mates, whereas males tend to be less selective and seek younger partners. Nevertheless, comparatively few studies examined age preferences in non-heterosexual populations—especially bisexual individuals. To remedy this gap, we explored age preferences and selectivity in bisexual, gay, and heterosexual individuals in a cross-sectional analysis of 1209 individuals. Our results replicated previous findings in sexual selection among heterosexual individuals while offering new data on bisexual populations. Consistent with prior research, heterosexual females preferred older ideal partners and heterosexual males preferred younger ideal partners. Bisexual and gay individuals showed sex-typical preferences, with males valuing younger ideal partners and females valuing older ideal partners. With respect to selectivity, our results provided additional evidence that heterosexual females are more selective with respect to age than heterosexual males and bisexual females.

KEYWORDS

Bisexuality, Heterosexuality, Gay Communities, Age Mate Preferences

INTRODUCTION

Although mating preferences have been of interest to philosophers for millennia (Aristotle, 350 B.C.E-a, 350 B.C.E-b; Plato, 360 B.C.E), the scientific understanding of sexual selection dates from the late 19th and early 20th centuries (Darwin, 1871; Fisher, 1915). In "*The Descent of Man and Selection in Relation to Sex"* (1871), Charles Darwin wrote that variations in observable physical

AUTHOR NOTE: Correspondence concerning this article should be addressed to Urska Dobersek, Ph. D., Department of Psychology, University of Southern Indiana, 8600 University Blvd., Evansville, IN 47712. Contact: udobersek@usi.edu. This study is part of a larger research project examining a novel and exclusive framework on mate value among diverse populations.

characteristics and social traits allowed 'superior' individuals to gain evolutionary (reproductive) advantages in the competition for sexual partners (i.e., mates) (Darwin, 1871). In 1915, Ronald Fisher, a proponent of eugenics and 'Father of Modern Statistics', extended Darwin's work by suggesting that "*beauty and character provide standards of universal currency*" (Fisher, 1915).

Over the last century, Darwin and Fisher's ideas gained empirical support and dominated the study of sexual selection and mate preferences in both human and non-human animals (Shackelford et al., 2005). According to the established theory of sexual selection, individuals with 'favorable' phenotypes (e.g., attractiveness, physical fitness) have greater reproductive success (Darwin, 1871). Consequently, both males and females seek mates with 'favorable' phenotypes or traits to increase their fecundity and concomitant evolutionary fitness.

For example, in heterosexual humans, it is well-established that females exhibit hypergamy (i.e., marrying 'up') preferring mates that display traits signaling physical and social dominance (e.g., tall, muscular physique, financial security, high socio-economic status) (Bech-Sørensen & Pollet, 2016; Buss, 1989; Buss & Barnes, 1986; Furnham & Baguma, 1994; Penton-Voak et al., 2003; Tovée et al., 1999). Given that perception of social dominance and attractiveness increases with age (Valentine et al., 2014), research suggests that heterosexual females tend to prefer older partners than heterosexual males (Bech-Sørensen & Pollet, 2016; Buss, 1989; Harry & DeVall, 1978; Kenrick et al., 1995; Over & Phillips, 1997).

Adherents to the 19th century theory of sexual selection posit that female hypergamy is driven by two facts. First, females have greater physiological, behavioral, and psychological investments in offspring (e.g., pregnancy, lactation, child rearing) (Archer, 2015a, 2015b; Buss, 2016b; Symons, 1979; Trivers, 1972), and second, females are limited in the number of offspring they can produce and support. Thus, to maximize their reproductive success (i.e., evolutionary fitness), females tend to be more selective and seek reproductive partners that can support them and their offspring (Gobrogge et al., 2007; Trivers, 1972).

Conversely, males have smaller physiologic and time investments in the production of descendants, are less constrained in resource-gathering, and can produce many more offspring than an individual female. Thus, males tend to seek partners possessing qualities denoting high reproductive rather than resource-gathering potential, including youth, physical attractiveness, and full lips and breasts (Bech-Sørensen & Pollet, 2016; Buss, 1989; Buss & Shackelford, 2008; Feingold, 1990). Given that youth and physical attractiveness are indicators of age, males have a tendency to seek mates who are younger and relatively younger than themselves (Bech-Sørensen & Pollet, 2016; Buss, 1989; Buss & Shackelford, 2008; Feingold, 1990).

Nonetheless, while these observations describe heterosexual populations prior to the 21st century, research examining mating preferences across more diverse and modern populations is limited, especially among bisexual individuals (Howard & Perilloux, 2017; Rammsayer et al., 2017). For example, the words "lesbian", "gay" and "bisexual" are absent in both Buss's seminal 1989 paper "*Sex differences in human mate preferences: Evolutionary hypotheses tested in 37 cultures*" (Buss, 1989), and the influential 2005 follow-up, "*Universal dimensions of human mate preferences*" (Shackelford et al., 2005).

Since Buss's highly cited papers, the understanding of same-sex mating landscape has expanded. A number of studies demonstrated that gay men display similar preferences as heterosexual men when selecting sexual partners despite the fact that gay individuals may be seeking mates or sexual partners for reasons other than for procreation. For example, gay men were interested in uncommitted sex and sought traits related to appearance and attractiveness compared to females (Bailey et al., 1994; Hayes, 1995; Jankowiak et al., 1992; Kenrick et al., 1995; Silverthorne & Quinsey, 2000; VanderLaan & Vasey, 2008). In respect to age, gay men have similar preferences compared to heterosexual men preferring relatively younger partners compared to females (Gobrogge et al., 2007; Kenrick et al., 1995; Russock, 2011; Silverthorne & Quinsey, 2000). Additionally, some researchers showed that gay men rated younger mates as more attractive (than older mates) (Jankowiak et al., 1992), but these preferences were less pronounced compared to heterosexual men (Bailey et al., 1994).

While gay males display a number of sex-typical mate preferences including age (Gobrogge et al., 2007; Kenrick et al., 1995; Russock, 2011; Silverthorne & Quinsey, 2000), the evidence on age preferences among gay females is less consistent. For instance, some studies demonstrated that gay women prefer older partners (Silverthorne & Quinsey, 2000), while others found that they displayed strong preferences for younger partners compared to heterosexual women (Kenrick et al., 1995; Russock, 2011).

Given that "[b]isexuality is an often invisible identity… " (p. 297) (Erickson-Schroth & Mitchell, 2009) and thus "commonly overlooked" (p. 5) (Monro et al., 2017), mate preferences among bisexual populations are examined far less than gay populations. To our knowledge, only two studies investigated age preferences among bisexual populations. A qualitative study that included only males, and showed inconclusive results with some males preferring younger while others preferring similar age partners (Adam, 2000). The second study included bisexual males and females who were 'bicurious' but not committed to a bisexual identity and found similar age preferences as heterosexual males and females (Antfolk, 2017).

More importantly, while the literature on mate preferences in more diverse and non-heterosexual populations is expanding, researchers often fail to consider sex differences (males vs. females). Specifically, the current literature on mate preferences in gay and bisexual communities is often skewed and overgeneralized towards the entire gay population or focused on men/males and ignoring sex differences (Adam, 2000; Gobrogge et al., 2007; Zheng & Zheng, 2015, 2016).

Rationale for the Current Study

Given that the majority of prior research on mating strategies has been examined in heterosexual populations (Bech-Sørensen & Pollet, 2016; Buss, 1989; Kenrick & Keefe, 1992; Shackelford et al., 2005), we first intended to replicate previous findings on age preferences in heterosexual individuals. Additionally, mate preferences in the same-sex individuals have been studied to a lesser extent (Bailey et al., 1994; Hayes, 1995; Kenrick et al., 1995; Russock, 2011; Silverthorne & Quinsey, 2000; Valentova et al., 2017), and only two studies investigated age preferences in bisexual individuals (Adam, 2000; Antfolk, 2017).

Therefore, given the paucity of research among non-heterosexual individuals, the second purpose of this study was to examine age preferences for '*ideal partners*' in gay and bisexual individuals. An *'Ideal partner'* was defined as *"the companion of your dreams*", and age preferences were examined via three variables: an *absolute* difference in age, a *relative* difference in age, and a *range* of age preferences (i.e., selectivity).

Hypotheses

Consistent with the existing literature on mating, we first attempted to replicate previous findings on age preferences in an ideal partner among heterosexual individuals. Given that age is a powerful and visible predictor of fertility in females and dominance in males (Bailey et al., 1994; Smith & Buyalos, 1996; Valentine et al., 2014), the current research suggests that females prefer older and males prefer younger partners (Bech-Sørensen & Pollet, 2016; Buss, 1989; Dunbar & Waynforth, 1995; Kenrick & Keefe, 1992; Sprecher et al., 1994). Therefore, we posited that heterosexual males (compared with heterosexual females) would prefer younger and relatively younger ideal partners, whereas heterosexual females (compared with heterosexual males) would prefer older and relatively older ideal partners (H1) (Bech-Sørensen & Pollet, 2016; Buss, 1989; Harry & DeVall, 1978; Kenrick et al., 1995; Over & Phillips, 1997).

Similarly, we attempted to replicate prior research findings on selectivity of an ideal partner among heterosexual individuals. Specifically, previous literature suggests that females have greater initial obligatory parental investment in offspring (Gobrogge et al., 2007; Trivers, 1972), as such, we hypothesized that heterosexual females would be more selective or choosy in their ideal partner age compared to males (independent of their sexual orientation) (H2).

Although gay males mate for reasons other than procreation, they display sex-typical preferences for many mating characteristics including age (Bailey et al., 1994; Kenrick et al., 1995). Therefore, we posited that they would exhibit the same age preferences as heterosexual males. Specifically, gay males (compared with females independent of their sexual orientation) would prefer younger and relatively younger ideal partners (H3) (Kenrick et al., 1995; Silverthorne & Quinsey, 2000).

Gay females display more varied mate preferences — with some aspects being sex-typical (e.g., sociosexuality, interest in uncommitted sex, physical attractiveness) and others being sex-atypical (e.g., partner's social status) (Bailey et al., 1994; Bailey et al., 1997; Harris, 2002; Kenrick et al., 1995). Additionally, the findings on age preferences among gay females are inconclusive (Hayes, 1995; Russock, 2011; Silverthorne & Quinsey, 2000). Therefore, we did not have a specific directional prediction, but rather, our hypothesis on the ideal partner age preferences among gay females was exploratory (H4).

Finally, because mate preferences and values in bisexual individuals are commonly overlooked, less examined in the literature, and show inconclusive results, our hypothesis on bisexual individuals' preferences for age in their ideal partners was also exploratory in nature (H5).

METHODS

Recruitment and Study Procedures

After Institutional Review Board approval, participants were recruited between July 2020 and November 2021 via Qualtrics Panels, Prolific Academic, and a Psychology Subject Pool (i.e., SONA). Through Qualtrics Panels, 141 (8.41%) participants representative of the U.S. population and 115 (6.85%) participants from the LGBTQ+ communities were recruited in July 2020. Via Prolific Academic, 1104 (65.83%) participants who identified as LGBTQ+ were recruited in July 2020. Through SONA, 317 (18.9%) participants who were 18 years or older were recruited between August 2020 and November 2021. Although a small part of our sample was representative of the U.S. population (from Qualtrics Panels), it is important to note that the sample as a whole was nonrepresentative.

Via an online survey hosted on Qualtrics, individuals were provided with the informed consent and were informed about the purpose of the study before completing the survey. Participants recruited through Qualtrics and Prolific were panel members and received payment for completing the survey. Individuals recruited through the Psychology Subject Pool received SONA credits for their participation.

Measures

***Demographic Questionnaire*.** A demographic questionnaire using multiple-choice items assessed participants' relationship status, ethnic background, education, gender identity, sex, and sexual attraction (defined as to whom participants are sexually attracted). While we recognize that sexual preferences/orientations are nuanced and that we lose information, for the purpose of the analyses, we grouped participants into heterosexual, gay, or bisexual categories. For example, if participants indicated that they were a female sexually attracted to males, they were categorized as heterosexual, if they were sexually attracted to females, they were categorized as gay, and if they were sexually attracted to both males and females, they were categorized as bisexual individuals.

***Age Assessment*.** Participants' age, preferences for the age of their ideal partner (i.e., absolute age), and minimum and maximum age preferences (i.e., age range) were indicated on a sliding scale ranging between 17 and 80 years. Bisexual individuals indicated their general age preferences. In addition to the absolute age, we computed two age variables: a relative age and an age range. Relative age was calculated by subtracting the preferred ideal partner age from the participants' age. For example, if a 20-year-old preferred a 29-year-old partner, their relative age difference was 9. And the age range was used to calculate age variability or selectivity by subtracting the minimum preferred age from the maximum preferred age.

Appendix A entails details about the Demographic Questionnaire and Age Assessment. Appendix B entails details about Ideal Partner Age.

Participants

Our sample consisted of 1209 participants between 18 and 52 years of age (M_{age} = 24.3, *SD* = 7.28). In Table 1, we provide details on participants' demographic characteristics. Our post-hoc power analysis using a level of .80, α = .05, and a medium effect size of .25, suggested that a total sample size of 158 individuals was sufficient to detect the hypothesized effects (Faul et al., 2007).

Table 1. Number of participants for relationship status, race, and education per each sex and sexual attractiveness category.

	Heterosexual		Gay		Bisexual		
Demographics	Males	Females	Males	Females	Males	Females	*n (%)*
Relationship Status							
Single	358	197	16	15	25	60	671 (55.5)
Cohabitate	102	91	9	2	6	27	237 (19.62)
Engaged/Married	116	47	16	2	7	15	203 (16.80)
In a Relationship	31	49	1	1	0	9	91 (7.53)
Separated/Divorced	1	3	0	1	1	0	6 (0.5)
NR	-	1	-	-	-	-	1
Race							
White	496	307	35	15	28	80	961 (80.42)
Hispanic	65	29	4	4	7	9	118 (9.87)
Asian	11	19	1	-	1	5	37 (3.1)
Mixed	15	15	-	-	1	8	39 (3.26)
Black	8	10	-	2	1	5	26 (2.18)
Middle Eastern/North African	6	3	-	-	-	1	10 (0.83)
Native American	2	-	1	-	1	-	4 (0.33)
NR	5	5	1	0	0	3	14 (1.17)
Education							
High school or less	284	214	13	7	18	60	596 (49.54)
Associate degree	66	37	1	2	7	13	126 (10.47)
Bachelor's degree	160	97	15	7	6	24	309 (25.68)
Graduate/Professional degree	97	38	13	5	8	14	175 (14.55
NR	1	2	0	0	0	0	3 (0.25)

**Note. n* = number of individuals, % = percentage of individuals; NR and - = not reported.

Data Analyses

We performed two separate 2 (sex: males, females) x 3 (sexual attraction: heterosexual, gay, bisexual) between-subjects Analysis of Covariances (ANCOVAs) to examine absolute age preference and age variability. Participants' age was used as a covariate to control for the differences across the samples. A 2 (sex: males, females) x 3 (sexual attraction: heterosexual, gay, bisexual) between-subjects Analysis of Variance (ANOVA) was performed to examine differences among the groups on relative age. Pearson product-moment correlations were performed to

examine the relation between participants' age and age preferences in heterosexual, gay, and bisexual individuals. Bonferroni correction was applied to control for the family-wise error. All analyses were conducted using jamovi 1.8 and SPSS version 24.

RESULTS

Preliminary Results

A total of 1628 out of 1677 volunteers completed the survey. Because we were interested in males and females who were sexually attracted to the same (gay), opposite (heterosexual), or both sexes (bisexual), we omitted intersex (*n* = 4) and asexual (*n* = 28) individuals. Given that we were interested in individuals who identify as cisgender, we omitted 31 participants because they identified as either transman (*n* = 8), transwoman (*n* = 8), or non-binary/other (*n* = 15). Additionally, 285 participants were excluded because they were too young (i.e., 17 years of age; *n* = 1), did not specify their age (*n* = 7) or their ideal partner's age (*n* = 194), or omitted minimum (*n* = 34) and maximum ideal partner' age (*n* = 24), or their minimum ideal partner age was greater than maximum ideal partner age (*n* = 25). Because relative age and age variability were calculated variables, we used statistical cutoff for the outliers (i.e., *z*-scores were greater than +/-3 *SDs*) and removed 71 of them (i.e., participants' age = 26, absolute age = 18, relative age = 3, age variability = 24). The scores on all age variables were approximately normally distributed as demonstrated by visual inspection of the scatterplots and histograms (Tabachnick & Fidell, 2013). Please see Table 2 for the descriptive statistics on all age variables.

Table 2. *Means and standard deviations for all age variables.*

Age Variables	Heterosexual Individuals (*n* = 996) *M* (*SD*)		Gay Individuals (*n* = 63) *M* (*SD*)		Bisexual Individuals (*n* = 150) *M* (*SD*)	
	Males (*n* = 608)	Females (*n* = 388)	Males (*n* = 42)	Females (*n* = 21)	Males (*n* = 39)	Females (*n* = 111)
Participants' Age	24.6 (6.91)	23.4 (7.68)	27.8 (7.65)	25.7 (8.96)	26.8 (8.03)	23.8 (6.37)
Absolute Age	23.9 (5.70)[1,2,3,7]	25.3 (7.91)[2,5]	28.1 (6.90)[4,7]	26.8 (8.77)[1]	26.1 (7.61)[5,6]	26.2 (7.07)[3,4,6]
Relative Age	-0.73 (2.94)[1,2,7]	1.94 (2.36)[1,3,5]	0.29 (2.98)[3,4]	1.14 (2.24)[7]	-0.72 (4.95)[5,6]	2.47 (2.71)[2,4,6]
Minimum IP Preferred Age	20.9 (4.99)	22.8 (7.08)	25.3 (8.71)	24.0 (8.79)	22.6 (6.78)	23.1 (6.07)
Maximum IP Preferred Age	29.2 (7.28)	29.6 (9.43)	34.2 (9.48)	31.9 (11.1)	31.7 (8.19)	31.6 (9.05)
Age Variability	8.31 (5.30)[1]	6.82 (4.33)[1,2]	8.88 (5.54)	7.86 (5.26)	9.10 (5.74)	8.51(5.31)[2]

**Note.* IP = ideal partner; *M* = means; *SD* = standard deviations. Superscripts in each row indicate significant pair-wise comparisons applying Bonferroni correction for that specific row. For example, a superscript [1] in the absolute age row depicts a significant difference between heterosexual males and gay females in their absolute age preferences; a superscript [2] in the relative age row depicts a significant

difference between heterosexual males and bisexual females in their relative age preferences; a superscript [3] in the relative age row depicts a significant difference between heterosexual females and gay males in their relative age preferences; a superscript [4] in the absolute age row depicts a significant difference between gay males and bisexual females in their absolute age preferences; a superscript [5] in the relative age row depicts a significant difference between heterosexual females and bisexual males in their relative age preferences; a superscript [6] in the relative age row depicts a significant difference between bisexual males and bisexual females in their relative age preferences; a superscript [1] in the age variability row depicts a significant difference between heterosexual males and heterosexual females in their age variability preferences.

Person-product moment correlation analyses suggested strong, positive significant relations between participants' age and age preferences in heterosexual individuals, $r(994) = .91$, $p < .001$, 95% CI [.92, .89], $R^2 = 0.83$, gay individuals, $r(61) = .94$, $p < .001$, 95% CI [.96, .90], $R^2 = 0.88$, and bisexual individuals, $r(148) = .86$, $p < .001$, 95% CI [.90, .82], $R^2 = 0.74$. Please see Appendix C for the visual representation of the results.

Main Analyses

The ANCOVA demonstrated an interaction between sex and sexual attraction on the absolute age, $F(2, 1202) = 3.8$, $p = .02$, $\eta_p^2 = .01$. Figure 1 shows the results for all pairwise comparisons on the absolute age using a Bonferroni correction. The ANCOVA also suggested a significant main effect for sex on the absolute age, $F(1, 1202) = 43.85$, $p < .001$, $\eta_p^2 = .04$, 95% CI [-0.96, -0.52], where males preferred younger partners ($M = 24.2$, $SD = 4.41$) than females ($M = 26.2$, $SD = 5.04$). There was no main effect for sexual attraction on the absolute age, $F(1, 1202) = 2.14$, $p = .12$, $\eta_p^2 = .004$.

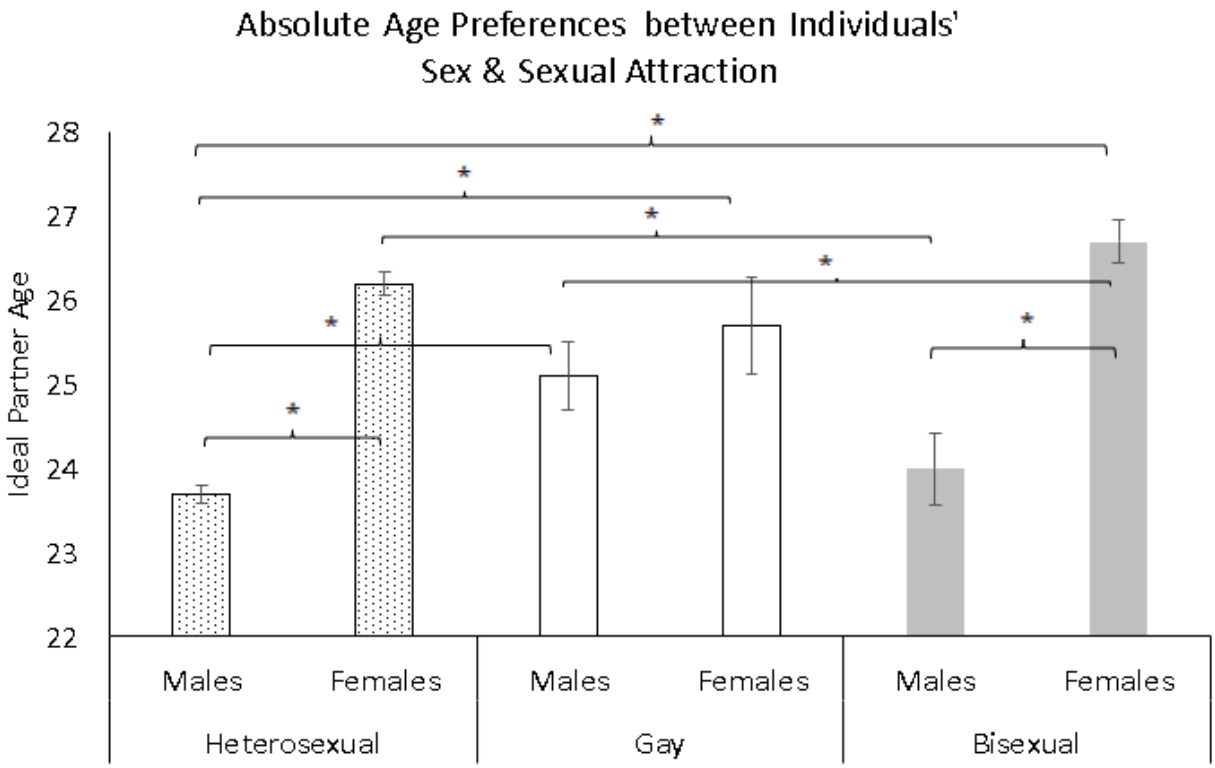

Figure 1. The ideal partner absolute age preferences between individuals' sex and sexual attraction. Means and standard errors are based on the estimated marginal means.
Note: **p* < .05; all other pair-wise comparisons were not statistically significant.

The ANOVA demonstrated an interaction between sex and sexual attraction on the relative age, $F(2, 1203) = 3.34$, $p = .04$, $\eta_p^2 = .01$. Figure 2 shows the results for all pairwise comparisons on the relative age using a Bonferroni correction. The ANOVA also suggested a significant main effect for sex on the relative age, $F(1, 1203) = 51.14$, $p < .001$, $\eta_p^2 = .04$, where males preferred relatively younger partners ($M = -0.39$, $SD = 5.26$) compared to females ($M = 1.85$, $SD = 5.67$), 95% CI [-1.01, -0.57]. There was no main effect for sexual attraction on the relative age, $F(1, 1203) = 0.49$, $p = .62$, $\eta_p^2 = .001$.

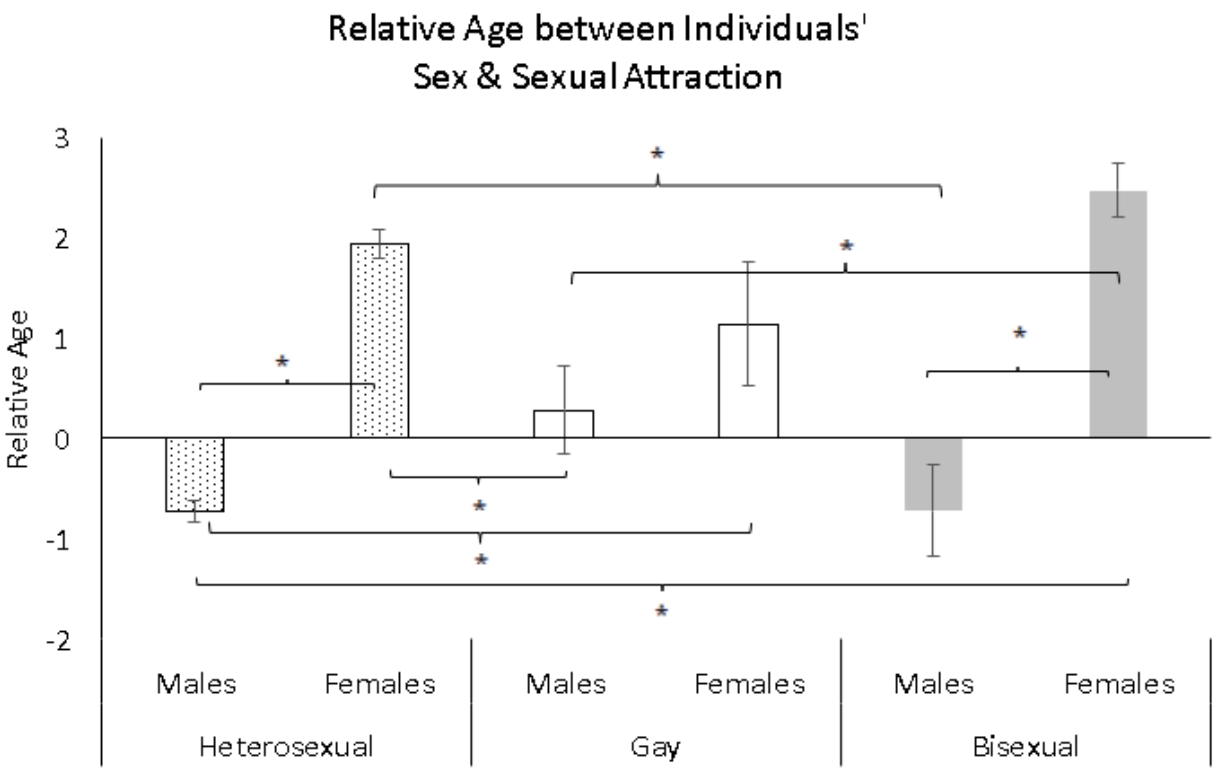

Figure 2. The relative age preferences between individuals' sex and sexual attraction. Means and standard errors are based on the estimated marginal means.
Note: *p < .05; all other pair-wise comparisons were not statistically significant.

Although ANCOVA demonstrated a non-significant interaction between sex and sexual attraction on age variability, $F(2, 1202) = 0.93$, $p = .40$, $\eta_p^2 = .002$, two pairwise comparisons were statistically significant. Specifically, heterosexual females were more selective in age ($M = 7.0$, $SD = 3.21$) than heterosexual males ($M = 8.26$, $SD = 5.20$), $t(1202) = 3.99$, $p = .001$, $d = .26$, , 95% CI [0.13, 0.39], and bisexual females ($M = 8.63$, $SD = 10.71$), $t(1202) = -3.12$, $p = .03$, $d = -.34$, 95% CI [-0.55, -0.12]. Figure 3 shows the results for all pairwise comparisons on age variability using a Bonferroni correction. The ANCOVA suggested non-significant main effects for sex, $F(1, 1202) = 1.37$, $p = .24$, $\eta_p^2 = .001$, and sexual attraction on age variability, $F(1, 1202) = 2.23$, $p = .11$, $\eta_p^2 = .04$.

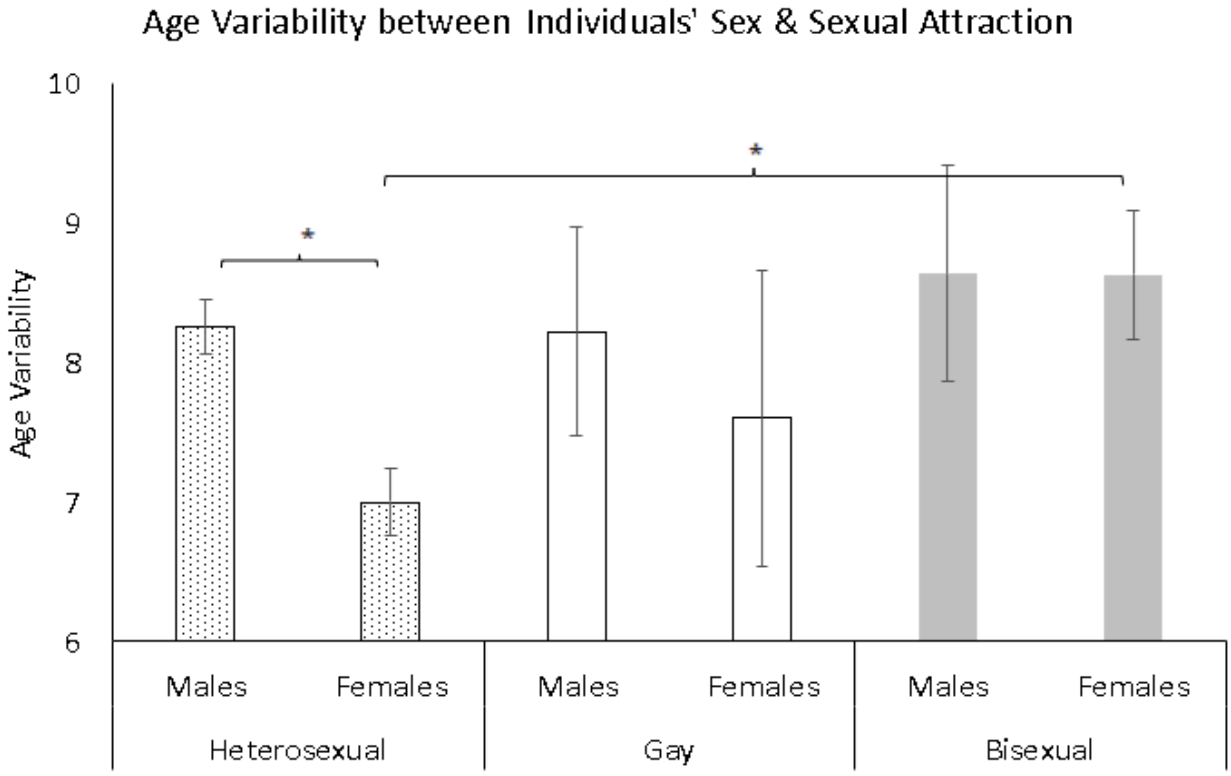

Figure 3. Age variability between individuals' sex and sexual attraction. Means and standard errors are based on the estimated marginal means.
Note: *p < .05; all other pair-wise comparisons were not statistically significant.

DISCUSSION

Although the Darwin-Fisher paradigm gained strong empirical support in explaining partner selection over the last century, its ability to describe diverse populations is limited. Therefore, our exploration of age preferences extended prior literature on the heterosexual mating landscape, but more importantly, it offered novel findings among non-heterosexual populations especially among bisexual individuals.

Non-Heterosexual Individuals' Age Preferences in Partner Selection

Our examination provided new findings on age preferences in males and females who indicated that they are sexually attracted to *both* sexes. Specifically, we showed that bisexual females preferred older and relatively older partners compared to heterosexual, gay, and bisexual males. And bisexual males preferred younger and relatively younger ideal partners compared to heterosexual and bisexual females. In

other words, our findings support sex-typical age preferences among bisexual populations (H5), which supports previous work examining bisexual age preferences (Antfolk, 2017).

However, given that bisexual individuals are partnering with *both* sexes, we were unable to examine their values separately for their male and female partners. It is possible that their age preferences would differ depending on the sex of their partner. For example, it could be that bisexual females prefer older male partners and younger female partners or vice-versa. And that bisexual males prefer older male partners and younger female partners or vise-versa. In our study, we do not know whether bisexual participants focused on age preferences for the opposite-sex partner or same-sex partner or indicated a general partner preference. Future research exploring bisexual individuals' preferences when partnering for procreative or non-procreative reasons (e.g., companionship or sex for pleasure) that includes a more in-depth analysis of the complexity of bisexuality, may provide more insight.

Our results on gay individuals extended prior findings by showing that gay females displayed sex-typical values and preferred relatively older ideal partners than heterosexual males (H4) (Bailey et al., 1994; Russock, 2011). Also congruent with sex-typical theory, previous research, and hypothesis (H3), our results showed that gay males preferred younger ideal partners compared to gay and heterosexual females (Silverthorne & Quinsey, 2000; VanderLaan & Vasey, 2008). However, there were no significant differences between gay and heterosexual females (Russock, 2011; Silverthorne & Quinsey, 2000). Several previous studies found that gay females prefer younger partners (Jankowiak et al., 1992; Kenrick et al., 1995; Laner, 1978; Russock, 2011), whereas others demonstrated that they value older partners (Silverthorne & Quinsey, 2000). Contrary to prior findings and our hypothesis (H3), gay males preferred a partner who is about the same age (Kenrick et al., 1995; Silverthorne & Quinsey, 2000).

The reasons for these contradictory and inconsistent findings among gay individuals could be methodologic. For example, we used self-reported questionnaires, whereas others used personal advertisements (Kenrick et al., 1995; Laner, 1978; Russock, 2011), photographs of a whole body (Jankowiak et al., 1992), or pictures of human faces (Silverthorne & Quinsey, 2000). Additionally, gay partner preferences might depend on gender expression or identity (i.e., masculine and feminine phenotypes). For example, it could be expected that more masculine individuals would prefer younger same-sex partners than would more feminine individuals (Silverthorne & Quinsey, 2000). Future research objectively examining more diverse identities may provide a better understanding among age preferences in gay populations.

Replication of Sexual Selection in Heterosexual Individuals and Age Selectivity

Consistent with prior literature on heterosexual mating preferences and our hypothesis (H1), males preferred younger and relatively younger partners, and females preferred older and relatively older partners (Buss, 2016a; Buunk et al., 2002; Buunk et al., 2001). Our results provide additional support for sexual selection theory among heterosexual populations. Based on the prior research, it could be inferred

that youth in females signals fertility, and maturity in males signals social dominance and financial security (Bech-Sørensen & Pollet, 2016; Buss, 1989; Buss, 2016a; Buss & Barnes, 1986; Buunk et al., 2002; Buunk et al., 2001; Kenrick et al., 1990; Lim et al., 2015).

Given their physiological and psychological investment in offspring (Archer, 2015c; Archer et al., 2015; Buss, 2016a; Trivers, 1972), females face greater risk when mating with low-status males when pregnancy is possible. As such, theories of evolutionary fitness suggest that females tend to be more selective with respect to reproductive outcomes compared to males (Antfolk, 2017; Buss & Barnes, 1986; Buunk et al., 2002; Dobersek et al., 2020; Kenrick et al., 1993; Shoemake, 2007; Trivers, 1972). Our results are consistent with respect to heterosexual individuals, where females were more selective in the age of their ideal partners compared to heterosexual males, but not compared to gay and bisexual males (H2).

Our novel finding regarding age selectivity was that heterosexual females were more selective than bisexual females. Given that bisexual females are more explicit in seeking partners for both procreative and non-procreative reasons, they may prefer younger *female* partners who potentially display signs of fertility and older *male* partners who display signs of social and physical dominance. As such, one would expect high age variability among bisexual females. Our results support sexual selection theory and selectivity in heterosexual mating landscape while providing additional insights into bisexual mating calculus.

Study Limitations

Our study had limitations. First, although participants were recruited from three different venues (i.e., Qualtrics Panels, Prolific Academic, SONA) inclusive of a representative sample of the U.S. population, the sample as a whole is nonrepresentative. Additionally, our findings are limited to primarily WEIRD populations (Western, Educated, Industrial, Rich, Democratic) as is most literature on human mate choice in relation to sexual selection. Another limitation related to the sample is an unequal group size. Future research should examine more diverse, non-Western populations to expand the current knowledge on mate preferences with respect to sexual selection and strive to recruit more equal group sizes.

Second, while we focused solely on a single mating characteristic — age preference, which is one of many criteria used to select partners, we examined three different age variables (i.e., ideal age, relative age, age variability/selectivity). Assessing other factors that play a role in the decisional calculus humans use to choose spouses, sex- and reproductive-partners, and companions would offer a more wholistic and realistic view of mate selection and preferences (e.g., personality, lifestyle, financial and social status).

Third, our assessment methods relied solely on participants' self-reports and preferred/aspirational age mate preferences as opposed to actual mating behaviors, which presents a plethora of intentional and non-intentional distorting factors such as those found in nutrition studies (e.g., social desirability, intentional and non-intentional misreporting) (Archer et al., 2015; Dobersek et al., 2020). Therefore, implementing objective estimates of participants' age (e.g., inspecting identification documents), actual (rather than preferred) age of individuals' partner (e.g., real life-marriages,

online dating markets), and broader, more diverse measures of sexual attraction (e.g., behaviors) would improve and extend the current understanding of age preferences and mate selection among diverse populations (Conroy-Beam, 2021; Miller & Todd, 1998; Todd et al., 2007).

Another significant limitation related to the assessment methods is that bisexual individuals were asked a single question about their age preferences. Given that bisexual individuals are partnering with *both* sexes (males and females), is possible that their age preferences differ depending on the sex of their partner. Therefore, future studies exploring bisexual individuals' preferences should ask questions for the same and oppositive sex partners to provide in-depth analysis and a better understanding of their mating landscape.

Finally, we did not account for time- and context-specific factors. This is a significant limitation because in humans, mate preferences, values, and demands vary over the course of their lifetime. For example, individuals at some point in their life may have procreative interests—preferring younger partners to increase their reproductive successes, whereas at other points in their life, they may have nonprocreative interests and therefore may prefer non-sexual partners (e.g., companions) (Kenrick et al., 1996). Additionally, individuals may exhibit different age preferences when looking for short-term encounters compared to long-term relations (Buss, 1989; Buss et al., 2001; Little et al., 2001), and our definition of an '*ideal partner* [as] *the companion of your dreams*' was wholly subject to participants' interpretation.

Implications for Future Research

A few additional suggestions are warranted for implications for future research to advance partner preferences and mating landscape among more diverse and modern populations. First, given that bisexual individuals' partner with either biological sex (males and females), an interesting and important future direction would be to examine whether they view their relationship different depending on the sex of their partner.

Second, given that individuals' mate preferences differ over time, another interesting question for future research would be to examine the disparities in the age preferences in biological age, chronological age, and age based on physical appearance. Finally, individuals are interested in different types of relationships at different points in their life, therefore, examining age preferences when looking for a sex partner, short- vs. long-term relationships, companionship, open, and/or platonic relationships would contribute to the mating landscape among non-heterosexual populations.

CONCLUSIONS

Our study contributes to the literature on ideal partner age preferences by extending previous work on heterosexual individuals, and more importantly, providing additional findings among non-heterosexual populations. Our results support sex-typical preferences among bisexual and gay individuals in their appraisals for an ideal partner's age. We confirmed previous findings where heterosexual males preferred

younger females, and heterosexual females valued older partners. Finally, we showed that heterosexual females are more age selective compared to heterosexual males and bisexual females.

Conflict of Interest

None.

Contributors

Conceptualization: UD. Methodology: All authors. Formal analysis and investigation: UD and AM. Writing-original draft preparation: UD. Writing-review and editing: All authors. Funding acquisition: UD.

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Data Availability

Data available upon request.

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APPENDIX A

Demographic Questionnaire and Age Assessment

Items for age, were on a sliding scale.

The following items are about **your** characteristics.

Please indicate which best describes **you.** You may skip any questions at any time.

My biological sex is

- ◯ Male
- ◯ Female
- ◯ Intersex

My gender identity is

- ◯ Woman
- ◯ Man
- ◯ Trans-woman
- ◯ Trans-man
- ◯ [ ] Other (please complete the box below):

My age is

17 23 30 36 42 49 55 61 67 74 80

What is your **current** relationship status?

- ◯ Single
- ◯ Cohabitate
- ◯ Engaged
- ◯ Married
- ◯ Separated
- ◯ Divorced
- ◯ Widowed
- ◯ [ ] Other (please complete the box below):

I am **sexually attracted** to

- ◯ Females
- ◯ Males
- ◯ Both Males AND Females
- ◯ Neither (Asexual)
- ◯ [ ] Other (please complete the box below):

I am **sexually attracted** to

- ◯ Women
- ◯ Men
- ◯ Both Men AND Women
- ◯ Trans-women
- ◯ Trans-men
- ◯ Both Trans-men AND Trans-women
- ◯ [ ] Other (please complete the box below):

What is your race or ethnicity or ancestry? (select all that apply)

- ☐ Native American (American Indian or Alaskan Native)
- ☐ Asian
- ☐ Black (African American or Black African descent)
- ☐ Hispanic, Latino/a or Spanish Origin
- ☐ Middle Eastern or North African
- ☐ Pacific Islander
- ☐ White (European American)
- ☐ Mixed

APPENDIX B

Ideal Partner Age

Please complete the items below by indicating which best describes ***your ideal partner.***

Your **ideal partner** is the companion of your dreams.

Age of my ideal partner is

17 28 38 49 59 70 80

The **minimum** age of my ideal partner is

17 28 38 49 59 70 80

The **maximum** age of my ideal partner is

17 28 38 49 59 70 80

APPENDIX C

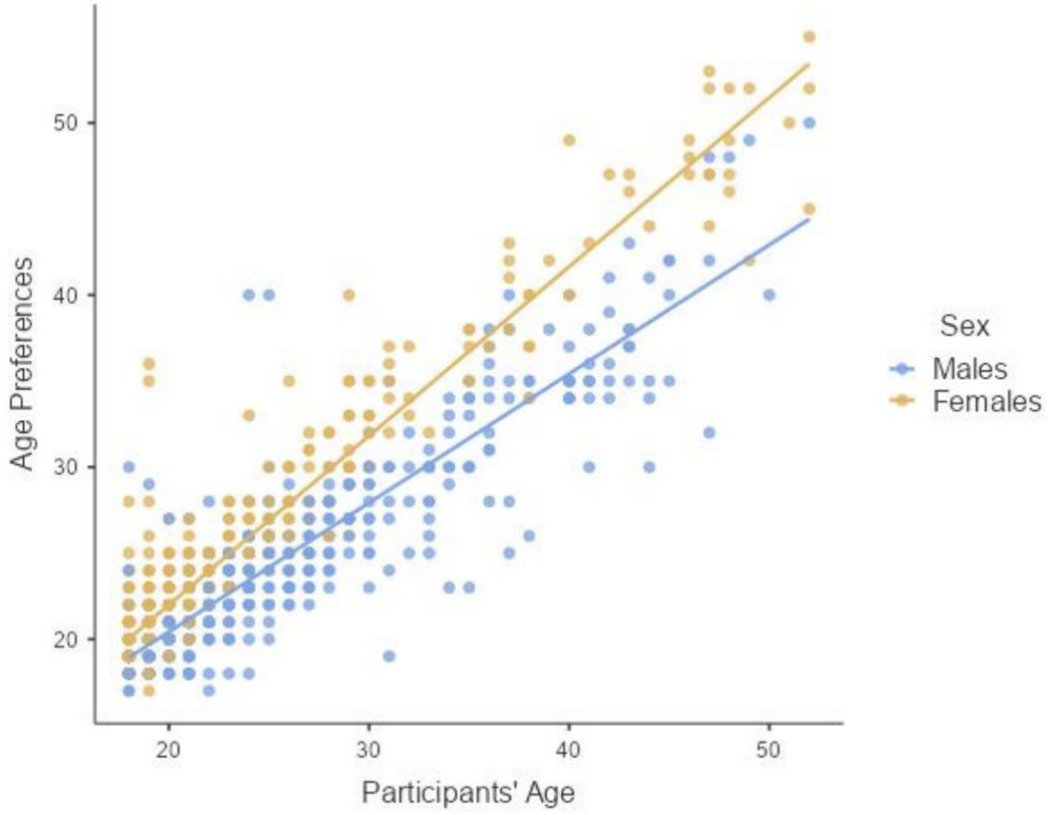

Figure C1. Scatterplot depicting bivariate relation between participants' age and age preferences in heterosexual individuals.

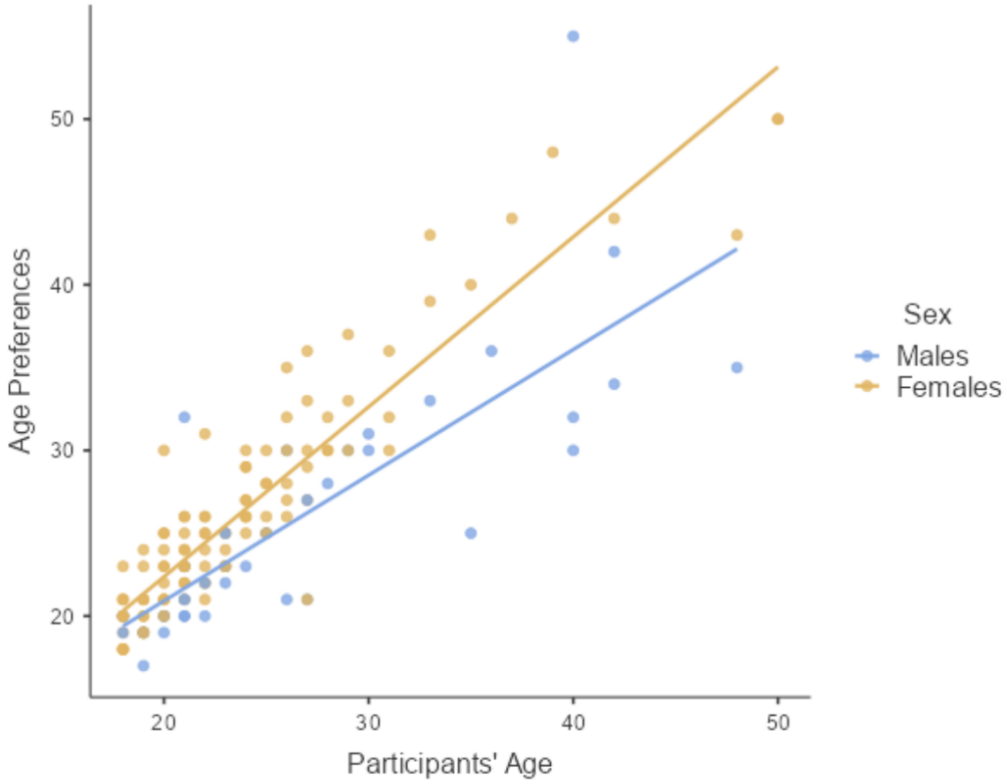

Figure C2. Scatterplot depicting bivariate relation between participants' age and age preferences in bisexual individuals.

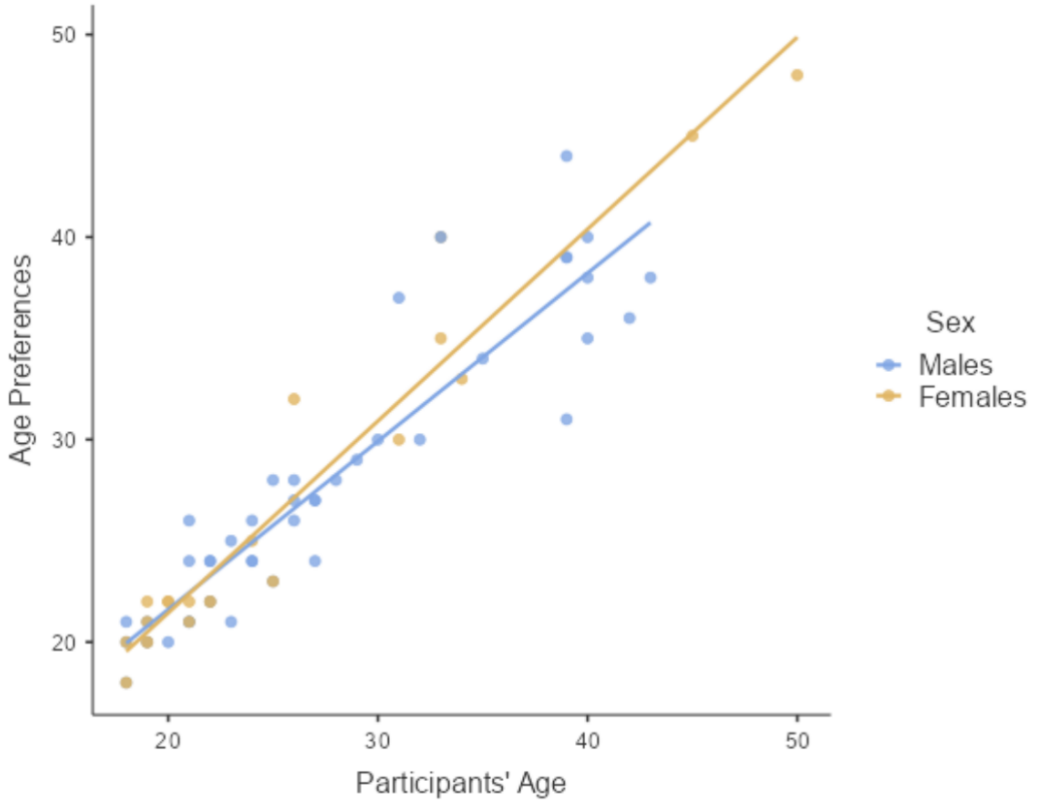

Figure C3. Scatterplot depicting bivariate relation between participants' age and age preferences in gay individuals.