Finding your Soulmate: Homosexual and heterosexual age preferences in online dating

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Abstract

Heterosexual age preferences have been extensively studied by evolutionary psychologists, social psychologists, and demographers. Much less is known about such preferences in homosexual men and women. Around two decades ago, D. T. Kenrick, R. C. Keefe, A. Bryan, A. Barr, and S. Brown (1995) examined heterosexual and homosexual mating preferences for age in men and women. Our study aimed to replicate these findings by examining age preferences in a larger UK online dating sample. Dating advertisements of 996 male and female heterosexuals and homosexuals were coded. Age preferences were assessed via generalized linear models with robust standard errors and bootstrapping. Results showed that the relation between own age and preferred age differed substantially between the groups. With increasing age, heterosexual men preferred younger partners. Older heterosexual men (> 50 years) exclusively sought (much) younger women than themselves, whereas younger heterosexual men sought both older and younger women. Male and female homosexuals followed this general trend of preferring increasingly younger mates with increasing age. However, they displayed a higher upper age tolerance and greater range of acceptable ages than both heterosexual men and women. Female heterosexuals' age preferences were distinct from the other groups, in that they displayed a male older norm with no substantial interest expressed in males younger than themselves. Our findings thus largely corroborate those of Kenrick et al. with some exceptions, such as a larger tolerance of age ranges in homosexual men and women compared to heterosexual men and women. Results are discussed with reference to the current literature on similarities and differences in heterosexual and homosexual mate preferences.

For decades, human mate preferences have been the subject of study in social psychology (e.g., Harrison & Saeed, 1977; Hill, 1945; Hudson & Henze, 1969; McGinnis, 1957;

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Sprecher, Sullivan, & Hatfield, 1994), anthropology (e.g., Marlowe, 2004; Pillsworth, 2008), demography (e.g., South, 1991), and evolutionary psychology (e.g., Buss & Barnes, 1986; Shackelford, Schmitt, & Buss, 2005). Next to a multitude of traits such as facial attractiveness, height, and symmetry (see reviews in Buss, 1994; Ellis, 1992; Miller, 2000; Puts, 2010), age preferences are often studied from an evolutionary psychological perspective.

Evolutionary psychologists argue that men rely on age as a cue of fertility in women (e.g., Buss, 1989; Buss & Barnes, 1986; Buss & Schmitt, 1993), with younger women being preferred over older women because their reproductive value is higher. Conversely, it is argued that women prefer older men, because age might be a cue to male socioeconomic status and dominance, traits that appear to

be valued by women across cultures (e.g., Bereczkei, Voros, Gal, & Bernath, 1997; Borgerhoff Mulder, 1990; Buss, 1989; Feingold, 1992; Li, Bailey, Kenrick, & Linsenmeier, 2002; Pollet & Nettle, 2008; Townsend & Levy, 1990). The ultimate explanation for these preferences is argued to lie in the differences between the gametes (anisogamy) between the sexes and sex differences in parental investment (Trivers, 1972).

What is the current evidence for universal patterns in age preferences as predicted by evolutionary psychology (e.g., Buss, 1989; Buss & Barnes, 1986)? Seminal studies by Buss (1989) examining 37 different cultures, and Kenrick and Keefe (1992) indicated that preferences for age as derived from evolutionary psychological predictions exist in both Western and non-Western cultures. That is, men prefer women who are younger than themselves, and more generally, younger women. Women, however, were found to prefer men who were slightly older than themselves (Buss, 1989; Kenrick & Keefe, 1992). Following these studies, additional lines of evidence supporting the sex differences in partner age preferences have come from multiple other studies, now covering many different countries (e.g., Brazil: Castro & de Araújo Lopes, 2011; de Sousa Campos, Otta, & de Oliveira Siqueira, 2002; Canada: Davis, 1998; Japan: Oda, 2001; Norway: Grøntvedt & Kennair, 2013; Poland: Pawlowski & Koziel, 2002; Portugal: Neto, 2005; Spain: Gil-Burmann, Peláez, & Sánchez, 2002; Sweden: Gustavsson, Johnsson, & Uller, 2008 [mixed support]; United Kingdom: Greenlees & McGrew, 1994; United States: Rajecki, Bledsoe, & Rasmussen, 1991; Waynforth & Dunbar, 1995; Wiederman, 1993). There is also some evidence that women who advertise their youth in personal advertisements are more successful in attracting interest from men (e.g., Baize & Schroeder, 1995; de Sousa Campos et al., 2002; Rajecki et al., 1991). Conversely, older men are argued to be more successful in attracting interest from women because their higher advertised age suggests that they have access to resources (e.g., de Sousa Campos et al., 2002; Pawlowski & Koziel, 2002). Some researchers have consequently

put forward that a mating market is operating whereby women are advertising youth (and attractiveness) in exchange for male resources (Bereczkei et al., 1997; Harrison & Saeed, 1977; Pawlowski & Dunbar, 1999; Pawlowski & Koziel, 2002). Data from speed dating (e.g., Kurzban & Weeden, 2007) and online dating (e.g., Dunn, Brinton, & Clark, 2010) also corroborate the predictions derived from evolutionary psychology with respect to age preferences tested in survey studies.

There have been some criticisms that studies on age differences have largely limited themselves to young populations (e.g., Schwarz & Hassebrauck, 2012). Yet, studies from older populations tend to also support predictions derived from evolutionary psychology (e.g., Alterovitz & Mendelsohn, 2009; Buunk, Dijkstra, Fetchenhauer, & Kenrick, 2002; Buunk, Dijkstra, Kenrick, & Warntjes, 2001; Schwarz & Hassebrauck, 2012, but see Gustavsson et al., 2008).

Moreover, actual marriage patterns also support these predictions, as men are more likely to be married to younger wives, and wealthy men are more likely to be married to younger wives than less wealthy men (e.g., Berardo, Appel, & Berardo, 1993; Casterline, Williams, & McDonald, 1986; Kenrick & Keefe, 1992; Otta, da Silva Queiroz, de Sousa Campos, Dowbor da Silva, & Silveira, 1999; Pollet, Pratt, Edwards, & Stulp, 2013). Data from actual marriages thus suggest that there is evidence for some degree of correspondence between mate preferences and mate choice.

There are, however, some notable exceptions that are at odds with the above findings. For example, a study examining a population from Ecuador documented a pattern in which women preferred younger as opposed to older men (Escasa, Gray, & Patton, 2010). Similarly, examining a Swedish population, one study found that while younger women preferred men older than themselves, the majority of women who were postreproductive preferred younger partners (Gustavsson et al., 2008). A study of marriages from Nova Scotia, Canada (1854–1918) found sizable proportions (60%) of older women marrying younger men (Davis, 1998). So while we generally find support for the claim that men prefer younger wives, and

women prefer older husbands, these patterns are perhaps not universal and may depend on context.

While heterosexual mate preferences have been studied to a great extent, homosexual preferences in mate choice have received relatively less attention (Ha, Berg, Engels, & Lichtwarck-Aschoff, 2012; Valentova, Stulp, Třebický, & Havlíček, 2014). Predicting age preferences in homosexual men and women is less straightforward. Clearly, reproductive demands are less of a concern to homosexual individuals, and the evolutionary rationale of age preferences might not apply, resulting in homosexual preferences differing from those of heterosexuals. Alternatively, homosexual individuals could hold "sex-typical" age preferences in mates. For instance, several studies have found that homosexual men have similar preferences to heterosexual men (e.g., Gobrogge et al., 2007; Hayes, 1995; Kenrick, Keefe, Bryan, Barr, & Brown, 1995; Russock, 2011; Silverthorne & Quinsey, 2000). For example, Jankowiak, Hill, and Donovan (1992) found that homosexual men rated younger partners as more attractive; however, these preferences for younger partners were not as pronounced as they were in heterosexual men (Bailey, Gaulin, Agyei, & Gladue, 1994).

The findings on age preferences in homosexual women are less consistent with those of heterosexual women. Some studies found that homosexual women preferred older partners more than heterosexual women did (Silverthorne & Quinsey, 2000), while other studies observed the exact opposite, namely, that they have a stronger preference for younger partners than heterosexual women do (e.g., Kenrick et al., 1995; Russock, 2011).

In this study, we investigate age preferences of heterosexual and homosexual men and women. In doing so, we aim to replicate the findings of a article by Kenrick et al. (1995) using a large online dating sample. Almost 20 years later, we expect similar findings to Kenrick et al. Specifically, we expect that (a) younger heterosexual men will prefer women both younger and older than themselves, but older heterosexual men will only prefer women younger than themselves and

specifically women in the fertile age range; (b) heterosexual women will prefer men older than themselves and show no preference for younger men; (c) homosexual men will demonstrate similar age preferences to those of heterosexual men; and (d) homosexual women will demonstrate a preference for both younger and older women.

Method

Procedure

Two of the authors (N.N. and J.R.C.) coded 996 personal advertisements from the Soulmates website of *The Guardian* (www.soulmates.guardian.co.uk) in December 2012. Profiles were coded based on last login, and apart from sexual orientation, no additional inclusion or exclusion criteria were used. From these profiles, the sexual orientation, respondent's own age, and minimum and maximum age range sought were coded and from this we calculated the mean age sought and the age range. All profiles included this information. Minimum and maximum ages are constrained by *The Guardian* age website tools, which only allow people of age 18 or above to sign up. Sought age was a forced choice drop-down menu with 18 as the minimum and 100 as the maximum. No identifying information was coded.

Statistics

We used generalized linear models (GzLM) (MacCullagh & Nelder, 1989), with normal link, to examine whether heterosexual men and women differ from homosexual men and women in their preferences. Information criteria (Akaike information criterion/Bayesian information criterion) were used to examine whether models that incorporate interactions with own age provide a better fit to the data than simple main effect models (Akaike, 1974; Burnham & Anderson, 2002, 2004; Schwarz, 1978). In all cases, we first fitted a model with own age, followed by a model including own age and group (heterosexual male, heterosexual female, homosexual male, homosexual female), followed by a model including the

interaction between group and own age. Via comparing model fits we can establish which models are the best fit to the data. As rules of thumb we assumed that Model B should be preferred in terms of model fit over Model A when there are more than 10 units of difference, whereas around 2 units of difference suggests that the models are hardly distinguishable in terms of model fit (Burnham & Anderson, 2002, 2004; Raftery, 1996).

Our models used robust standard errors (Huber/White/sandwich standard errors; Huber, 1967; White, 1982) to correct for the occurrence of heteroskedasticity. It appears that this assumption has gone untested in previous research (e.g., Kenrick et al., 1995). When preferences are examined relative to own trait value, heteroskedasticity is likely to occur. In our example, for instance, age preference data exhibit a clear lower limit; that is, individuals cannot prefer ages younger than 18, which means that young individuals cannot have a large lower age gap in the same way that older individuals can. Visual inspection of residual plots of own age on mean age sought suggests the existence of some heteroskedasticity, especially for heterosexual males. White's tests for heteroskedasticity (White, 1982) indicated evidence for heteroskedasticity in the overall sample, $\chi^2(2) = 6.398$, $p = .0127$. This appears to be driven largely by heterosexual men: heterosexual men, $\chi^2(2) = 35.011$; $p = 2.50 \times 10^{-8}$; heterosexual women, $\chi^2(2) = 6.398$, $p = .0407$; homosexual men, $\chi^2(2) = 1.175$; $p = .557$; and homosexual women, $\chi^2(2) = 0.495$; $p = .781$. Therefore, we opted for robust standard errors for all analyses, which adjust for heteroskedasticity.

The confidence intervals we report are 95% confidence intervals as based on bias-corrected accelerated bootstraps of 1,000 samples each (Davison & Hinkley, 1997; Efron, 1987). These bootstrapped confidence intervals do not have parametric assumptions. By comparing the slopes and their 95% confidence intervals between groups we can assess whether groups differ from one another in how one's own age affects the preferences in partners. All analyses were run in IBM SPSS Statistics version 20.0 (IBM SPSS Statistics, 2011).

Results

The descriptive statistics for the sample can be found in Table 1. This table includes a breakdown per sex and sexual orientation of the mean, standard deviation, minimum and maximum values for own age, maximum age sought, minimum age sought, and age range. Table 1 shows the mean, minimum, and maximum age differences sought by group.

Table 2 shows the model fit statistics for the models. With the exception of age range, the best fitting models contained an Own Age × Group interaction on all the dependent variables. This indicates that the effects of own age on age preferences are substantially different across the four groups. The models containing the interaction term (Models 3 in Table 2) thus provided the best fit and were used to assess the estimated differences in minimum, maximum, and mean preferences between groups. The significant interaction indicates that the effect of own age on preferences varies between groups, which means that comparisons between groups will depend on which specific age the group comparison will be made for (see Figure 1). For ease of comparison with earlier research, we compare means between groups evaluated for the mean age of the entire sample (36.89 years; the grand mean estimate in the GzLM), and those are the estimated marginal means we report below.

As predicted, when examining individuals of average age (36.89 years), we find that heterosexual men on average requested the youngest partners ($M = 33.2$ years), so they preferred partners who were younger than themselves. Homosexual men of average age preferred partners who were slightly younger than themselves ($M = 35.86$ years), whereas homosexual women preferred partners of roughly the same age ($M = 36.36$ years). In contrast, the model indicated that heterosexual women on average preferred partners older than themselves ($M = 38.98$ years; Table 1 and Figure 1). Heterosexual men's mean preferences differed strongly and significantly from all other groups (all $ps < .0001$, Cohen's $D = 0.74$ to 2.33). Homosexual men and homosexual women did not significantly differ in their mean age preference ($p = .147$), while

Table 1. *Descriptives of mean, maximum, and minimum age difference sought and age range for homosexual and heterosexual males and females*

Group	*M*	*SD*	Min	Max	*N*
Mean age difference sought					
Heterosexual males	−3.9960	3.31662	−15.00	4.00	249
Heterosexual females	2.0464	2.90659	−5.00	19.00	248
Homosexual males	−.0444	4.77829	−14.50	35.00	248
Homosexual females	−.8327	4.11484	−17.00	27.50	251
Total	−.7103	4.41260	−17.00	35.00	996
Maximum age difference sought					
Heterosexual males	1.7992	3.38519	−11.00	14.00	249
Heterosexual females	7.7419	4.67896	1.00	44.00	248
Homosexual males	7.9395	6.89425	−7.00	73.00	248
Homosexual females	6.6972	5.75812	−7.00	68.00	251
Total	6.0422	5.88655	−11.00	73.00	996
Minimum age difference sought					
Heterosexual males	−9.7912	4.48705	−28.00	−2.00	249
Heterosexual females	−3.6492	3.82749	−38.00	8.00	248
Homosexual males	−8.0282	5.56260	−27.00	7.00	248
Homosexual females	−8.3625	4.83570	−27.00	2.00	251
Total	−7.4629	5.24185	−38.00	8.00	996

heterosexual women preferred on average significantly older partners than both homosexual men and women (both $ps < .0001$, Cohen's $D = 0.85$ and 0.9, respectively).

For maximum age, heterosexual men preferred a substantial lower maximum age than other groups (estimated marginal means: $M = 38.89$ years vs. $Ms = 43.83$, 44.24, and 44.63 years; homosexual women, homosexual men, and heterosexual women respectively; all $ps < .0001$, Cohen's $D = 0.95$ to 1.09). Heterosexual women tended to prefer older partners than homosexual women for their maximum age preference ($p = .076$, Cohen's $D = 0.16$).

With regard to minimum age, heterosexual women indicated a substantial higher minimum age ($M = 33.32$ years) than homosexual women ($M = 28.90$ years), heterosexual men ($M = 27.51$ years), and homosexual men ($M = 27.48$ years). Heterosexual women strongly and significantly differed from all the other groups in their minimum age preference (all $ps < .0001$, Cohen's $D = 1.30$ to 1.88), by preferring older partners. Homosexual women also had significantly higher minimum age

preferences compared to homosexual men and heterosexual men (both $ps < .001$, Cohen's $D = 0.31$ and 0.43, respectively). Homosexual men and heterosexual men did not differ in their preference ($p = .942$).

For age range, we used the estimated marginal means from Model 2 (evaluated at 36.89 years), as including an interaction term in Model 3 provides a model fit that is hardly distinguishable from Model 2 (using the estimated marginal means from Model 3 leads to similar conclusions). Homosexual men had much larger tolerable age ranges than the other groups ($M = 16.48$ years), especially as compared to heterosexual men and women (both $ps < .0001$, Cohen's $D = 0.8$ and 0.73, respectively). Homosexual men also had more tolerant age ranges than homosexual women ($M = 14.83$ years, $p = .013$, Cohen's $D = 0.22$), although this effect was less pronounced than the comparison with heterosexual men and women. Homosexual women also had much larger age ranges than both heterosexual men and women ($Ms = 11.38$ and 11.32 years, both $ps < .0001$, Cohen's $D = 0.62$ and 0.56, respectively). Heterosexual men and women

Table 2. *Model fit indices and significance tests for the effect of own age, group, and their interaction on several dependent variables*

Model (AIC) (BIC)	Predictors	Wald χ^2	df	p
Mean age sought				
Model 1 (5499.18) (5513.89)	Own age	2417.79	1	<.0001
Model 2 (5158.39) (5187.81)	Own age	3232.75	1	<.0001
	Group	591.95	3	<.0001
Model 3 (5120.54) (5164.67)	Own age	2942.06	1	<.0001
	Group	17.49	3	.001
	Group × Own Age	28.76	3	<.0001
Maximum age sought				
Model 1 (6292.00) (6306.71)	Own age	1305.79	1	<.0001
Model 2 (6108.65) (6138.07)	Own age	1524.63	1	<.0001
	Group	371.48	3	<.0001
Model 3 (6097.29) (6141.43)	Own age	1302.84	1	<.0001
	Group	20.42	3	.0001
	Group × Own Age	8.45	3	.038
Minimum age sought				
Model 1 (5770.45) (5785.16)	Own age	1359.49	1	<.0001
Model 2 (5444.23) (5473.66)	Own age	1547.10	1	<.0001
	Group	451.14	3	<.0001
Model 3 (5406.80) (5450.94)	Own age	1360.77	1	<.0001
	Group	11.13	3	.011
	Group × Own Age	20.63	3	.0001
Age range				
Model 1 (6612.95) (6627.66)	Own age	27.44	1	<.0001
Model 2 (6502.98) (6532.40)	Own age	38.79	1	<.0001
	Group	125.50	3	<.0001
Model 3 (6500.91) (6545.05)	Own age	37.28	1	<.0001
	Group	12.24	3	.007
	Group × Own Age	5.20	3	.158

did not significantly differ from one another in the tolerable age range ($p = .909$).

Subsequently, we examine whether the slopes of the effect of own age on age preferences differ between groups (Table 3 and Figure 1).

Heterosexual women ($B = .88$) had the strongest slope for mean age preference: With an increase of 1 year, their mean preferred age rises 0.88 year. This is significantly stronger than the slope observed for heterosexual men ($B = .75$), homosexual women ($B = .76$), and homosexual men ($B = .66$). However, the confidence intervals for the slopes overlap between heterosexual men, homosexual women, and homosexual men.

With regard to maximum age, the slope for heterosexual women is steeper than for the other groups ($B = .99$). The slope is significantly steeper for heterosexual women than for homosexual women and heterosexual men, but there is some minor overlap between the confidence intervals with homosexual men. This suggests that with increasing age, heterosexual women's preferences for the maximum age in their partners rise stronger than for other groups. For heterosexual women, increasing 1 year in age corresponds with a near equal increase in the maximum preferred age. For the other groups, the increase is around 20% less steep (an increase of 1 year corresponds to 0.8 to 0.83 years in preference). Heterosexual
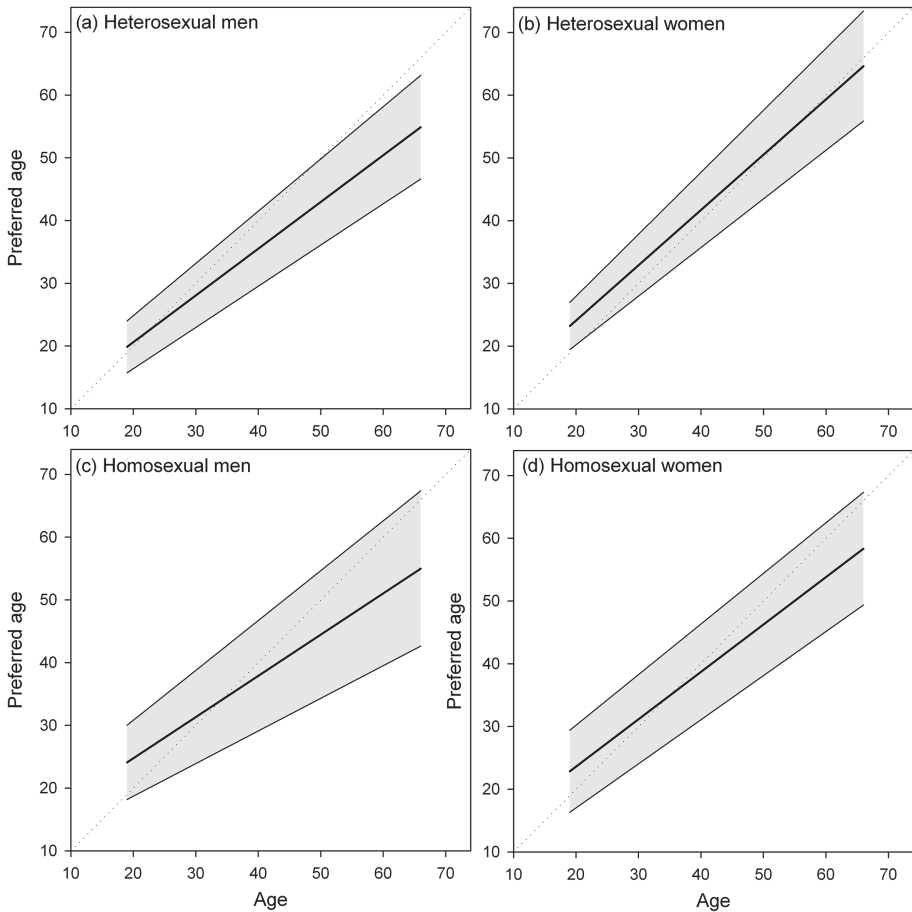
Figure 1. Regression lines and 95% confidence intervals for preferred age as a function of own age for (a) heterosexual men, (b) heterosexual women, (c) homosexual men, and (d) homosexual women.

men, homosexual men, and homosexual women do not differ from one another in how their age affects maximum age preferences (based on confidence intervals).

For minimum age preferences, the slope is weakest for homosexual men ($B = .52$), followed by heterosexual men ($B = .66$), heterosexual women ($B = .70$), and homosexual women ($B = .78$). Heterosexual and homosexual men do not significantly differ in how their own age is associated with their preferences. Likewise, heterosexual and homosexual women do not differ in how their own age affects their preferences. The slope for homosexual men differs from heterosexual and homosexual women. The confidence interval for the slope for heterosexual men shows overlap with the intervals for both heterosexual and homosexual women. The effect of own age thus probably does not significantly differ between heterosexual men and other groups.

The age range sought was not differentially responsive to one's own age for the four different groups (interaction term Own Age × Group, $p = .158$). No groups differed significantly from one another in their slopes.

Discussion

Both heterosexual and homosexual men prefer partners similar to their own age or younger, and with increasing age, relatively younger partners are preferred (Figure 1). In contrast, heterosexual women prefer partners similar

Table 3. *Effect of own age on each dependent variable and for each group: coefficient, standard error, 95% bootstrapped confidence interval and* p*-value*

Group	B(SE)	95% CI	p
Mean age sought			
Heterosexual males	0.75 (0.02)	[0.70, 0.79]	.001
Heterosexual females	0.88 (0.03)	[0.84, 0.93]	.001
Homosexual males	0.66 (0.04)	[0.58, 0.73]	.001
Homosexual females	0.76 (0.02)	[0.71, 0.80]	.001
Maximum age sought			
Heterosexual males	0.83 (0.02)	[0.79, 0.88]	.001
Heterosexual females	0.99 (0.06)	[0.90, 1.09]	.001
Homosexual males	0.80 (0.07)	[0.68, 0.94]	.001
Homosexual females	0.81 (0.03)	[0.75, 0.86]	.001
Minimum age sought			
Heterosexual males	0.66 (0.03)	[0.59, 0.72]	.001
Heterosexual females	0.78 (0.04)	[0.68, 0.84]	.001
Homosexual males	0.52 (0.05)	[0.43, 0.60]	.001
Homosexual females	0.70 (0.03)	[0.65, 0.76]	.001
Age range			
Heterosexual males	0.18 (0.03)	[0.11, 0.24]	.001
Heterosexual females	0.21 (0.08)	[0.09, 0.37][a]	.134
Homosexual males	0.28 (0.08)	[0.14, 0.43]	.006
Homosexual females	0.10 (0.03)	[0.03, 0.16]	.004

[a]Note that this confidence interval does not overlap with 0. This seems a consequence of the approximation used in calculating confidence interval in bias-corrected accelerated bootstrap (see the algorithm descriptions in SPSS 20.0).

to their own age or older, but at an older age younger partners are also accepted. Homosexual women prefer partners of a similar age, and with increasing age increasingly younger women are preferred. Our study also supports Kenrick et al.'s (1995) findings that heterosexual women preferred older mates to a greater degree than homosexual women did (also see Russock, 2011), rather than the suggestion that homosexual women preferred older mates to a greater degree than heterosexual women do, as put forward by Silverthorne and Quinsey (2000). It therefore appears that we successfully replicated the findings of Kenrick et al. in a different, sizable sample from the United Kingdom nearly 20 years later.

Nonetheless, there are also some differences between our findings and those of Kenrick et al. (1995). Indeed, the tolerance ranges for certain age preferences in our sample are larger than in Kenrick et al. study. Whereas in our sample men on average stopped considering older mates as potential partners when they were in their 50s, in Kenrick et al.'s study this occurred about 10 years earlier. This discrepancy between our results and those by Kenrick et al. could be a consequence of methodology (e.g., online dating sample vs. lonely hearts advertisements), or point to a "genuine" difference in preferences between populations. Kenrick et al.'s sample (486 heterosexual and 297 homosexual) was based on five different personal advertisements of journals in the United States (Kenrick et al., 1995), while our sample comprised 996 dating profiles from a single online dating site in the United Kingdom (*The Guardian*). The fact that our sample was taken from an online site might account for some of the differences between our study and Kenrick et al.'s. Regular social media use has been associated with specific personality traits, such as high openness to experience (Correa, Hinsley & de Zúñiga, 2010). People with high openness to experience are more curious, and

more willing to try out new things, compared to their less open counterparts. Hence, this might, in turn, explain a higher tolerance for a greater diversity of partner age. It is also important to note that we used a continuous age variable to better identify changes in age preferences and when exactly they occur. Kenrick et al. created age categories with 10-year ranges, and an overall 50+ category for older mate seekers that may have had an impact on the accuracy of the statistical estimates. In the same way, statistical methods also differed between the two studies, as we used bootstrapping and GzLM for our data analysis, while Kenrick et al.'s study used multivariate analyses of variance, which may have also led to differences in statistical estimates. It may also be the case that age preferences have changed somewhat across time, since Kenrick et al. (1995) study took place around two decades earlier than this study. Further research is necessary to establish if and at what age heterosexual men's preferences might shift away from partners older than themselves.

Perhaps one of the most striking findings from our research is that both homosexual men and women tolerated a substantially larger age range than did heterosexual men and women. Our findings diverge here somewhat from the original Kenrick et al. (1995) study, who found a statistical trend that homosexual men had slightly larger age ranges in their preferences than heterosexual men did. In addition, they found no evidence that homosexual women had larger tolerable age ranges than heterosexual women. Our findings suggest that both homosexual men and women are thus less selective than their heterosexual counterparts with respect to age. This could perhaps be a strategy to maximize the number of potential partners (given that the pool of potential partners might be smaller for homosexual men and women than for heterosexual men and women). Alternatively, homosexual males and females might also be less choosy in terms of partner age because they are free from reproductive constraints and/or value other traits more than age. We cannot currently assess whether homosexual men and women are generally less choosy than heterosexual men and women or whether this is specific to partner age only.

Our study examined age preferences but age preferences could underlie preferences for other traits, rather than age itself. Evolutionary psychologists argue that female youth might be a relevant cue in heterosexual male mate choice, as it is suggested to be a reliable indicator of female fertility and, thus, ultimately mate quality (e.g., Buss, 1994; Buss & Schmitt, 1993). Similarly they argue that male age might be a less relevant cue to heterosexual women for their choice of partner. It is likely that heterosexual women are not using age as a direct cue for male quality in itself but, rather, as a proxy for a correlate of male age, such as male social status or income, which could be a more directly relevant trait for female mate choice (e.g., Ellis, 1992). Therefore, we cannot make any direct claims as to the relevance of age *in itself* for mate preferences. A broader study assessing multiple traits is necessary to further investigate the similarities and differences in heterosexual versus homosexual mate preferences from a broad interdisciplinary perspective. It is important to acknowledge that a multitude of factors, including social learning, could shape these preferences.

Our study suggests that homosexual mate preferences for age overlap to a certain degree with heterosexual mate preferences, albeit that homosexual men and women appear to have a larger tolerated age range. In our sample preferences for age can thus be seen as largely sex typical. This is line with previous research showing that, in some aspects, homosexual mate preferences can be sex typical. For example, Hayes (1995) found that age preferences of heterosexual and homosexuals tend to be similar, although homosexuals had a somewhat greater preference for younger partners. Nonetheless, there is some variation in the sex typicality of mate preferences depending on the trait. A cross-cultural analysis of heterosexual and homosexual mate preferences showed an overall sex difference in preferences for partner age, with men ranking it more highly than women, but partner age was more important to heterosexual men than homosexual men, and there was no difference between heterosexual and homosexual women (Lippa, 2007). Apart from partner age, Lippa's (2007) study also showed that good looks

and facial attractiveness were the traits most valued by men, whereas money, status, and dependability were the traits most valued by women. Heterosexual men ranked good looks as more important than their homosexual counterparts, while homosexual men ranked money and dependability higher than heterosexual men (Lippa, 2007). As for women, dependability and money were ranked higher by heterosexuals than by homosexuals. Status, facial attractiveness, and good looks were ranked equally for heterosexual and homosexual women (Lippa, 2007). Heterosexual and homosexual women agreed more about status and good looks traits compared to heterosexual and homosexual men, while men and women overall did not value any of these traits equally (Lippa, 2007). Smith, Konik, and Tuve (2011) found that the most frequently requested traits by heterosexual men and women were attractiveness and financial stability, respectively, whereas homosexual women tended to put the highest emphasis on sincerity and honesty in their sought relationships. Smith et al (2011), however, did not investigate which traits were most requested by homosexual men. As Kenrick et al. (1995) remarked in their article, homosexual women and men appear to have a similar pattern of mate preference to their heterosexual counterparts, with a few exceptions in terms of characteristics and age. It should be noted, however, that the sex typicality of mate preferences can also vary substantially depending on the role within a relationship. A recent study on height preferences among homosexual men showed that preferences were dependent on the preferred sexual and dominance role within the relationship, suggesting that not all homosexuals display "sex typical" (or sex atypical) preferences (Valentova et al., 2014). Our research did not differentiate between roles within a relationship and we call for further research to examine whether, as with height preferences, age preferences vary as a function of dominance and sexual roles in homosexual relationships.

Apart from focusing on just a single trait, there are a number of other limitations to the current study. First, the generalizability of the sample is an issue, because data were drawn from one online national newspaper (*The Guardian*), which is characteristically atypical of the general British population and more broadly the world (also see comments on Western, industrialized, educated, rich, and developed populations by Henrich, Heine, & Norenzayan, 2010). Nonetheless, the sample can be compared to samples used by Kenrick et al. (1995), who relied on a series of local U.S. newspapers, and to other studies also relying on lonely heart advertisements both from print and online publications (e.g., Russock, 2011). For the replication study, our sample is thus adequate. However, it would be desirable to further replicate these findings with other samples and other methods (e.g., speed dating; Finkel & Eastwick, 2008; Kurzban & Weeden, 2007; Stulp, Buunk, Kurzban, & Verhulst, 2013). Nonetheless, our findings lend further support to an evolutionary psychological interpretation of preferences for age and demonstrate that the results from Kenrick et al. are largely upheld in a sample of online daters from the United Kingdom.

A second limitation is that our measure of sexual orientation was binary (we excluded bisexuals from the current sample), rather than a more appropriate continuous measure. This could especially affect our understanding of homosexual females' preferences and comparability of their preferences to homosexual males' preferences. Women's sexual orientation tends to be less dichotomous than men's (e.g., Chivers, Rieger, Latty, & Bailey, 2004; Dickson, Paul, & Herbison, 2003; Peplau & Garnets, 2000). Therefore, operationalizing sexual orientation as a dichotomous category (homosexual or heterosexual) might not be the optimal procedure for understanding preferences as a function of sexual orientation. Online dating advertisements often survey sexual orientation as a categorical choice for practical reasons, rather than as a continuum, and our findings might substantially change if we operationalize sexual orientation differently (e.g., via measurement) via a Kinsey scale (Kinsey, Pomeroy, & Martin, 1948) or via other scales measuring sexual orientation (e.g., Sell, 1997). Future research could focus on how the use of a continuous sexual orientation scale on a dating website would influence online dating behavior.

In spite of these limitations, we can conclude that nearly 20 years later the findings from Kenrick et al. (1995) are largely upheld. Heterosexual men appear to prefer progressively younger and younger partners as they age, whereas heterosexual women appear to prefer slightly older men than themselves, largely regardless of their own age. Interestingly, we found that both homosexual men and women preferred a larger range of partners than their heterosexual counterparts. Homosexual men and women might broaden their age preferences because of their limited pool of potential partners, and potentially because they are free from reproductive constraints, making them seemingly less demanding in terms of partner age. This suggests that homosexual men and women might find it easier to find a partner online when it comes to age, at least more so than their heterosexual counterparts.

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