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Original Article

Sex Differences in Same-Sex Direct Aggression and Sociosexuality: The Role of Risky Impulsivity

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Abstract: Sex differences in same-sex direct aggression and sociosexuality are among the most robust in the literature. The present article evaluated the hypothesis that both can be explained by a sex difference in the willingness to take impulsive risks. Self-report data were gathered from 3,775 respondents (1,514 female) on same-sex aggression, sociosexuality, and risky impulsivity. Risky impulsivity was higher for men than for women (d = .34) and path analysis showed it to be a common cause of same-sex aggression and sociosexuality for both sexes. However, it did not completely mediate the sex differences in same-sex aggression and sociosexuality. The results suggest that same-sex aggression and sociosexual behavior share a common psychological mechanism, but that fully explaining sex differences in aggression requires a more sensitive assay of impulsive risk and a consideration of dyadic processes.

Keywords: direct aggression, impulsivity, risk taking, sex differences, sociosexuality

Introduction

The phrase *direct aggression* refers to acts that are intended to harm or injure and which occur in the presence of both the aggressor and target (Buss, 1961). It may be physical (e.g., a punch) or verbal (e.g., an insult), but in both cases the target is able to identify the aggressor and retaliate immediately. The possibility of immediate retaliation is what makes direct aggression distinct from indirect aggression, which is delivered via circuitous means and hence conceals the identity of the aggressor (Archer and Coyne, 2005).

Sex differences in the use of direct aggression appear in the first two years of life and persist through childhood and adolescence (Card, Stucky, Sawalani, and Little, 2008), although there is always some overlap between male and female distributions. As adults, men use more direct aggression than women in laboratory settings (Bettencourt and Miller, 1996), as well as in real life settings – whether measured by self report (Archer, 2004) or by frequencies of arrest for violent crime (Roe, Coleman, and Kaiza, 2009). The sex

difference in direct aggression is consistent across cultures (Archer, 2009; Campbell, 1999) and time periods (Daly and Wilson, 1988). In contrast, indirect aggression does not show consistent sex differences in adults (Archer, 2004). Because this article is concerned with sex differences, the focus will be on direct as opposed to indirect aggression (and the term *aggression* will refer to direct aggression). This article also focuses on same-sex, as opposed to opposite-sex, aggression. Aggression towards opposite-sex targets does not show a robust sex difference in the male direction (Archer, 2004; Cross, Tee, and Campbell, in press), and evolutionary accounts of sex differences in aggression have focused on the role sex-specific selection pressures on same-sex aggression (Campbell, 1999; Daly and Wilson, 1988).

Sex differences in same-sex aggression: Evolutionary accounts

Daly and Wilson (1988) explained men's high levels of same-sex aggression as follows. Social status and access to sexual partners are a crucial limiting factor in men's, but not women's, reproductive success – the number of offspring who survive to maturity to reproduce themselves. Furthermore, there is greater variance in reproductive success for men than for women (see Brown, Laland, and Mulder, 2009, for a review), with men being more likely than women to fail to reproduce at all. Although for men who engage in aggression there is a chance of being injured or killed, men who fail to secure a mate face reproductive death regardless of how long they themselves stay alive. This threat of reproductive death is sufficiently dire to make risky, aggressive competition adaptive even when potential costs are high (see Wang, 2002). Although Daly and Wilson's (1988) analysis is outlined here in terms of the costs of failing to compete, this argument is often discussed in terms of men's rewards for competing successfully (e.g., "Bigger prizes warrant bigger gambles." Daly and Wilson, 1988, p. 163).

In a contrasting analysis, Campbell (1999) argued that the low level of same-sex aggression found in women is not merely the result of an absence of the adaptation for aggression found in men; it is itself an adaptive trait which serves the function of safeguarding physical integrity. Although women stand to gain little from competing for numbers of mates, they have much to compete for in terms of securing the best quality mates or sequestering food resources for provisioning their offspring. Women's levels of same-sex aggression, although always lower than men's, are sensitive to resource shortage in the same way (Campbell, Muncer, and Bibel, 2001). Low levels of aggression between women are therefore not the result of an absence of female-female competition. However, there is a stronger selection pressure on women than on men to avoid physical injury because infants are considerably more dependent on mothers than on fathers. The detrimental effect of maternal death on infant survival is much stronger and more consistent than the effect of paternal death (Sear and Mace, 2008). Consequently, women's physical integrity is more tightly bound to their reproductive success as a whole than men's, and the resulting selection pressures drive down women's engagement in aggression.

Sex differences in sociosexuality

Sex differences in sociosexuality, like sex differences in aggression, are marked and

robust across cultures (Schmitt, 2005). Sociosexuality measures a tendency to change sexual partners frequently, to desire large numbers of sexual partners, and to require little or no emotional intimacy in order to have sex (Simpson and Gangestad, 1991). Men in every region of the world desire a greater number of sexual partners than women do and are more likely to report actively seeking short-term sexual partners (Schmitt, 2003). Men report a greater interest in casual sex than women do (Oliver and Hyde, 1993; Petersen and Hyde, 2010), require less time than women do before consenting to sex with a new partner (Schmitt, Shackelford, and Buss, 2001) and, after one-night stands, experience fewer feelings of regret (Campbell, 2008).

Sociosexuality, like aggression, is a form of behavior for which the cost-benefit trade-off differs for men and women. (see, e.g., Mulder and Rauch, 2009; Penn and Smith, 2007). Women bear greater metabolic costs following a successful conception than men do, and their ability to make other, potentially better, investments in offspring is limited for much longer. This makes the consequences of a poor choice of partner more severe for women than for men (Bjorklund and Kipp, 1996; Trivers, 1972). Men have more to gain then women from mating with additional partners (Jokela, Rotkirch, Rickard, Pettay, and Lummaac, 2010), and women suffer reputational costs from unrestricted sexual activity which men do not (Jonason, 2007). Sexually transmitted infections pass more easily from men to women than from women to men (Devincenzi et al., 1992). Furthermore, women are approximately ten times more likely than men to be raped or sexually assaulted (Roe et al., 2009), and an increased number of sexual partners increases the risk that at least one partner will be sexually aggressive (Franklin, 2010). Again, this suggests that the optimally adaptive level of engagement in sexual activity is higher for men than for women.

A common proximate mechanism?

Same-sex aggression and sociosexuality, therefore, both show robust and marked sex differences which are argued to be the result of differing selection pressures on men and women. For both forms of behavior, the optimal level of involvement is higher for men than for women. I therefore postulate that a single proximate psychological mechanism might underlie the sex difference in both same-sex aggression and sociosexuality, and that risky impulsivity is a promising candidate for such a mechanism. The risky impulsivity scale was developed specifically to measure risk-taking which occurs without prior thought (Campbell and Muncer, 2009). In the following paragraphs I outline the conceptual links between risky impulsivity and the proximate mechanisms postulated by previous evolutionary accounts of the sex difference in aggression.

Wilson and Daly (1985) argue that a male "taste for risk" explains men's greater use of same-sex aggression and there is considerable evidence that men engage in risky pursuits more than women. Men are more likely to take part in extreme sports, for example (Murray, 2003), and this form of risk-taking involves careful planning to minimize the chances of accident. However, men are also overrepresented in illegal drug use (Degenhardt et al., 2008), dangerous driving convictions (Corbett, 2007), and deaths from non-vehicle accidents (Pampel, 2001), which implies that men are also more likely than women to take risks *without adequate consideration of the consequences*. This suggests that a measure of risk-taking which occurs without forethought might be instructive in

developing an account of sex differences in aggression and sociosexuality.

Campbell (1999) argued that women's higher levels of fear was important in explaining sex differences in aggression, and later outlined a model in which early sex differences in levels of fear lead to later sex differences in impulsivity, which then mediates the sex difference in aggression (Campbell, 2006; see also Strüber, Luck, and Roth, 2008). Girls are more likely than boys to have high levels of fearfulness in childhood (Coté, Tremblay, Nagin, Zoccolillo, and Vitaro, 2002), and more fearful children develop more effective control of their impulses (Kochanska and Knaack, 2003). Impulsivity, therefore, is a construct which is conceptually related to both Wilson and Daly's (1985) and Campbell's (1999) proposed mechanisms for the sex difference in aggression. Furthermore, impulsivity is correlated with involvement in aggressive behavior (Henry, Caspi, Moffitt, and Silva, 1996; Vigil-Colet, Morales-Vives, and Tous, 2008) and sexual risk-taking (Hoyle, Fejfar, and Miller, 2000). Risky impulsivity is correlated with aggression (Campbell and Muncer, 2009) and data are suggestive of a correlation with sociosexuality (Boothroyd, Cross, Gray, Coombes, and Gregson-Curtis, 2011).

The present study

The chief aim of the present study is to test risky impulsivity as a possible common mechanism for same-sex aggression and sociosexuality. A secondary aim of the present study was to test the factor structure of risky impulsivity in male and female subsamples separately. The most widely used psychometric measure of impulsivity (Barratt Impulsiveness Scale; Patton, Stanford, and Barratt, 1995) has a factor structure which differs in male and female subsamples (Ireland and Archer, 2008). This is a problem for any scale being used to investigate sex differences, as any quantitative difference in scores between the sexes is confounded with qualitative difference in the structure of the trait. Finally, sex differences in variability in same-sex aggression, risky impulsivity, and SOI were examined. Archer and Mehdikhani (2003) argue that sexual selection produces greater variance in men than in women for sexually selected traits, including aggression. If risky impulsivity and SOI are part of the same sexually selected adaptive complex, then we might expect to see greater male than female variance in risky impulsivity and SOI as well as aggression.

It was hypothesized that risky impulsivity would emerge as a common cause of both same-sex aggression and sociosexuality. Furthermore, it was hypothesized that risky impulsivity would mediate the sex differences in same-sex aggression and sociosexuality. Finally, it was hypothesized that same-sex aggression, SOI, and risky impulsivity would have larger variances in men than in women.

Materials and Methods

Participants

Participants were 3,775 heterosexual adults (1,514 female) aged between 18 and 65 (mean age = 32.5, *SD* = 9.3 years), who completed a questionnaire posted on a university website. Ninety-three per cent of the sample classed themselves as European, 2% North American, 2% British, and 3% other.

Measures

Risky impulsivity scale. The 12 items in this scale were derived from exploratory and confirmatory factor analyses of an item pool generated by focus groups (Campbell and Muncer, 2009), and are designed to measure the tendency to behave in potentially dangerous ways without prior thought. Example items are "Have another drink even though I am already drunk," and "Drive too fast when I am feeling upset." Because the main purpose of this instrument was to assess tolerance of general risk rather than aggression, none of the items refer to aggressive acts. Campbell and Muncer (2009) report a Cronbach's alpha of .81 for this scale. Participants were asked "Based on your previous experiences, how likely would you be to do each of these things on impulse?" and indicated their answer using a Likert scale from 1 (very unlikely to do this) to 5 (very likely to do this). The Likert scores for each item were summed to form a scale total.

Sociosexual Orientation Inventory. This 7-item scale was developed by Simpson and Gangestad (1991) and measures an unrestricted attitude towards sexual behavior. The first three items are free-response self-report items (e.g., "With how many people have you had sex in the last 12 months?"). Because these items can cause scores on the whole scale to be highly skewed, these were recoded onto a 9-point Likert scale, following Penke and Asendorpf (2008). The SOI also has three attitudinal items (e.g., "Sex without love is OK") where participants indicate strength of agreement on a 9-point Likert scale, and an item assessing frequency of sexual desire, which is scored on an 8-point Likert scale. Simpson and Gangestad report a Cronbach's alpha of .73. High SOI scores are associated with having sex early in a relationship, and having sexual relationships with more than one partner at a time.

Self-reported same-sex direct aggression. Archer and Webb (2006) compiled a 16-item list of acts of direct aggression from items used in other studies of aggressive behavior (Gergen, 1990; Harris, 1992; Richardson and Green, 1999). This list included four verbal items (e.g., "screamed at someone") and 12 physical items (e.g., "grabbed someone"). Archer and Webb (2006) reported a Cronbach's alpha of .84 for this scale. In the present study, participants indicated how many times in the last 12 months they had used each of the 16 acts towards someone of their own sex by choosing one of five categories, ranging from "never" to "more than 10 times."

Results

Psychometrics and sex differences

The men in the sample were significantly older than the women, $F(1,3774) = 46.57$, $p < .001$, the mean difference being 2.1 years. Age is therefore controlled in the following analyses of sex differences.

Sociosexuality. Means and standard deviations for all variables can be found in Table 1. Cronbach's Alpha for the SOI was .79, which is comparable to the value found in Simpson and Gangestad's (1991) original article. As anticipated, men scored significantly higher than women on the SOI (See Table 1). The variance ratio was significantly larger than 1, indicating greater male variability.

Self-reported aggression. Cronbach's alpha was .89 for same-sex aggression, which

is comparable to the value given by Archer and Webb (2006). Table 1 shows that, as hypothesized, men scored significantly higher than women. The variance ratio was significantly larger than 1, indicating greater male variability.

Risky impulsivity. Cronbach's alpha for the 12-item risky impulsivity scale was acceptable at .76, which is similar to the value given by Campbell and Muncer (2009). Men scored significantly higher than women on risky impulsivity (see Table 1), but the variance ratio was not significantly different from 1, indicating no sex difference in variability.

Table 1. Means and standard deviations for all variables

Variable	Male mean (*SD*)	Female mean (*SD*)	*F* (1,3773)	*d* [a]	Variance ratio[b]
Risky impulsivity	29.01 (7.07)	26.62 (6.95)	105.72***	.34	1.04
SOI	33.63 (11.31)	27.00 (10.57)	328.42***	.58	1.14**
Same-sex aggression	17.68 (11.97)	11.34 (8.94)	309.01***	.56	1.80***

Note: The effect of age is controlled in analyses of sex differences. [a] *d* = a measure of effect size given by (male mean – female mean) / pooled *SD*. [b] Variance ratio = male variance divided by female variance. Values significantly larger than 1 indicate significantly larger male variance. $^{**}p < .01$; $^{***}p < .001$

Confirmatory factor analysis was used to test the factor structure of the risky impulsivity scale. The model evaluated by Campbell and Muncer (2009) was tested using AMOS 7. This model had three intercorrelated factors: injury risk, criminal risk, and health risk. The estimation method used was maximum likelihood. The factor structure was confirmed on the male data and female data separately. The fit statistics were more than adequate for both sets of data, χ^2/df = 8.63, RMSEA = .058, 90% CI [.053, .063], TLI = .89, CFI = .91 for males; χ^2/df = 5.39, RMSEA = .054, 90% CI [.048, .060], TLI = .90, CFI = .92, for females. Inspection of modification indices revealed no alterations that would improve the fit for either males or females. This indicates that risky impulsivity is a trait that manifests itself in the same way for both sexes. The factor loading and mean scores for each item on the risky impulsivity scale can be found in Table 2.

Table 2. Means, standard deviations and factor loadings for risky impulsivity items, by sex

Item	Mean (*SD*)		Factor	Factor loading	
	Male	Female		Male	Female
Drive through an amber traffic light	2.82 (1.21)	2.40 (1.17)	Physical injury	.62	.61
Run across the road to beat the traffic if I am in a hurry	3.01 (1.21)	2.80 (1.21)	Physical injury	.65	.58
Drive too fast when I am feeling upset	3.00 (1.13)	2.90 (1.19)	Physical injury	.54	.59
Turn right across oncoming traffic with only just enough time to make it	2.24 (1.03)	2.01 (1.03)	Physical injury	.67	.66
Smoke cannabis if someone offered it to me	2.01 (1.27)	1.74 (1.15)	Health risk	.42	.45
Have another drink when I am already drunk	3.30 (1.29)	3.15 (1.29)	Health risk	.61	.68
Have a one night stand with an attractive stranger	3.21 (1.34)	2.62 (1.31)	Health risk	.57	.60
Have unprotected sex	2.83 (1.29)	2.58 (1.28)	Health risk	.54	.55
Steal something from a shop	1.25 (0.57)	1.18 (0.53)	Criminal risk	.30	.27
Gamble more money than I actually have	1.55 (0.87)	1.48 (0.82)	Criminal risk	.66	.60
Put purchases on a credit card without having enough money to pay it off	1.96 (1.11)	2.14 (1.24)	Criminal risk	.63	.59
Tear up a parking ticket	1.86 (1.03)	1.66 (0.96)	Criminal risk	.35	.37

Correlations. Risky impulsivity was significantly correlated with same-sex aggression and sociosexuality for both men and women (see Table 3). Aggression and sociosexuality were also significantly correlated for both sexes. Risky impulsivity was significantly more strongly related to male-male aggression, $r = .40$, than to female-female aggression, $r = .25$ ($z = 5.06$, $p < .001$).

Table 3. Intercorrelations between risky impulsivity, sociosexuality, and aggression scales. Correlations for men (n = 2261) above the diagonal; correlations for women (n = 1514) below the diagonal

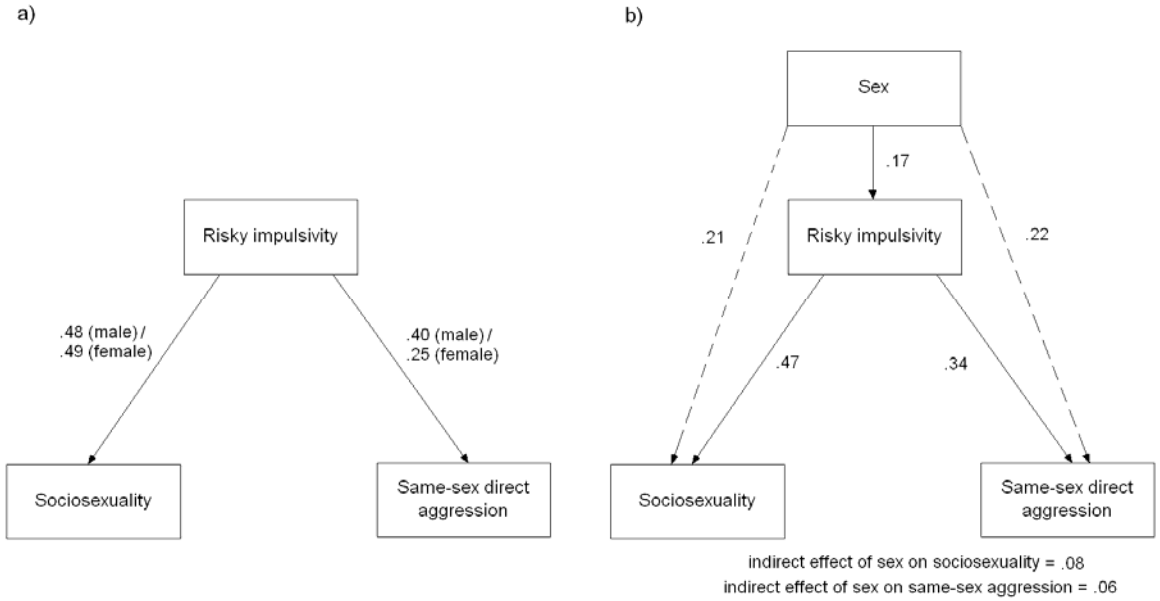
Scale	Risky impulsivity	SOI	Same-sex aggression
Risky impulsivity	-	.48	.40 [a]
SOI	.49	-	.20
Same-sex aggression	.25 [a]	.16	-

Note: [a] Denotes a significant sex difference in the size of the correlation coefficients. All correlations are significant at $p < .001$.

Path analysis. In order to test the hypothesis that risky impulsivity drives both sociosexual and aggressive behaviour, three competing path models were tested. In Model 1, risky impulsivity was a common cause of both sociosexuality and same-sex aggression (see Figure 1a). In model 2, SOI was tested as a common cause of risky impulsivity and same-sex aggression. In model 3, same-sex aggression was evaluated as a common cause of risky impulsivity and SOI. It was hypothesised that only model 1 would show a good fit to the data. This model fit the data well for both the male (χ^2/df = 2.83, RMSEA = .00, 90% CI [.00, .05], TLI = 1.00, CFI = 1.00) and the female (χ^2/df = 2.43, RMSEA = .03, 90% CI [.00, .08], TLI = 0.99, CFI = 1.00) subsamples. For models 2 and 3, the fit statistics were very poor (model 2, male data, χ^2/df = 299.05, RMSEA = .36, 90% CI [.33, .40], TLI = 0.09, CFI = .70; model 2, female data, χ^2/df = 61.12, RMSEA = .20, 90% CI [.16, 24], TLI = 0.65, CFI = 0.88; model 3, male data, χ^2/df = 499.24, RMSEA = .47, 90% CI [.44, .51], TLI = -0.52, CFI = .49; model 3, female data, χ^2/df = 383.53, RMSEA = .50, 90% CI [.46, .55], TLI = -1.24, CFI = 0.26). This further supports the argument that risky impulsivity is a common cause of direct same-sex aggression and sociosexuality.

In order to test the hypothesis that risky impulsivity accounts for the sex differences in same-sex aggression and sociosexuality, sex was incorporated into the path model (see Figure 1b). Although there were statistically significant indirect effects of sex on sociosexuality and same-sex aggression, this model did not fit the data well, χ^2/df = 142.13, RMSEA = .193, 90% CI [.178, .209], TLI = 0.62, CFI = 0.81, and allowing for direct effects of sex on sociosexuality and same-sex aggression improved the model fit significantly, χ^2/df = 1.71, RMSEA = .014, 90% CI [.000, .048], TLI = 1.00, CFI = 1.00; χ^2 change (2) = 424.7, $p < .001$. This suggests that risky impulsivity accounts for some of the between-sex variance in same-sex aggression and sociosexuality, but is not enough to explain it completely.

Figure 1. Relationships between: a) risky impulsivity, same-sex aggression and sociosexuality, and b) sex, risky impulsivity, same-sex aggression and sociosexuality



Note: Dashed lines indicate paths that were not originally specified but which were indicated by modification indices. See main text for model fit statistics.

Discussion

The present study sought to evaluate the hypothesis that same-sex aggression and sociosexuality share a common proximate psychological mechanism, namely risky impulsivity, which might also explain sex differences in both of these variables. The principal finding of the current study is that risky impulsivity appears to be a common cause of both same-sex aggression and sociosexuality. This implies that the reason these two variables are related is because they share an element of risk, and that risky impulsivity represents a single mechanism which underlies individual differences in behavior in two distinct domains. Furthermore, this relationship holds in both sexes, indicating that within-sex differences in risky behavior are mediated by the same mechanisms in men and women.

In terms of evolutionary accounts of same-sex aggression and sociosexuality, the present results suggest that high levels of impulsivity might have been selected in men because they served two adaptive functions at the same time: promoting competition with other males and pursuing mating opportunities. Conversely, low levels of impulsivity might have been adaptive in women not only because they inhibited dangerous intrasexual competition but because they resulted in more cautious and restricted sexual behavior. Impulsivity was therefore subject to two different forms of sex-specific selection pressure. Sex differences in same-sex aggression and sociosexuality might have evolved concurrently, with impulsivity as a common substrate. A single common mechanism representing a tolerance for impulsive risks would be a more parsimonious account of individual differences in same-sex aggression and sociosexuality – and the correlation

between them – than two separate mechanisms governing aggressive and sociosexual behavior.

The results suggest that risky impulsivity is a measure well suited to investigating sex differences in risky behavior: There is a significant sex difference in risky impulsivity, and it has a factor structure that is invariant across the sexes. Risky impulsivity, however, did not fully account for the sex differences in same-sex aggression or sociosexuality, despite the evidence that it accounts for significant within-sex variation. The sex difference in risky impulsivity, although significant, is smaller than the sex differences in same-sex aggression and sociosexuality and may therefore not be large enough to account for them. It is possible that risky impulsivity, although a valid measure of individual differences in impulsive risk-taking, is sensitive enough to detect the sex difference but not sensitive enough to reflect its magnitude. Risky impulsivity measures the tendency to take risks that arise commonly in everyday life. Including activities which are slightly more dangerous might produce more substantial sex differences. However, care would need to be taken not to compromise the applicability of the scale to community and student samples who might not have experience of extreme forms of risk-taking.

There was greater male than female variance on same-sex aggression, which is concordant with Archer and Mehdikhani's (2003) argument that men are more free to vary in their parental investment strategies than women. SOI also showed greater male than female variance, which is consistent with the argument that same-sex aggression and SOI might form part of a single adaptive complex. There was no evidence, however, of greater variability among men than women in risky impulsivity. At first blush, this appears inconsistent with the argument that the sex difference in risky impulsivity is the result of sexual selection, despite the strong relationships between risky impulsivity, same-sex aggression, and SOI. However, the absence of items relating to extremely risky activities on the risky impulsivity scale might account for the absence of greater male variance, as well as the lack of complete mediation of the sex difference in same-sex aggression.

Two further factors to consider in explaining the sex difference in same-sex aggression are qualitative differences between male and female same-sex aggression, and the possibility that a mean difference between the sexes has a synergistic effect when looking at male-male compared to female-female dyadic interactions. First, men's conflicts are characterized by a need to preserve face in response to a slight or a threat to status (Felson, 1982). The costs of 'backing down' are greater for men than for women (Wilson and Daly, 1985). Men are more likely than women to use explosive forms of anger expression such as angry shouting or hitting inanimate objects (an effect which is partially mediated by risky impulsivity; Campbell and Muncer, 2008). This form of anger expression might be perceived as threatening, in turn provoking a counter-threatening response and an upward spiral of aggression. In contrast, women's conflicts are more likely to be characterized by the use of defusing forms of anger expression such as withdrawing or crying (Campbell and Muncer, 2008), which are less likely to be perceived as threatening or provoking and make escalation less likely.

Second, research on the escalation of aggressive behavior in laboratory settings indicates that when individuals with high trait aggressiveness interact, the trait aggressiveness levels of both individuals have additive effects on aggressive escalation

(Anderson, Buckley, and Carnagey, 2008). A relatively small mean difference between men and women in risky impulsivity might therefore have large effects when same-sex dyads are considered. This might explain why risky impulsivity is a stronger correlate of same-sex aggression in men than in women. If interactions between men are characterized by greater provocation and have a greater tendency towards escalation than interactions between women, then individual differences in risky impulsivity have greater latitude to affect the behavioral outcome in the former. All of this suggests that an interactionist approach to explaining sex differences in aggression is appropriate. An individual's sex might be a factor in determining their level of tolerance for risk, but it also affects qualitatively the antagonistic encounters in which they are likely to become involved.

There were, of course, some limitations of the present study. Firstly, limiting the scope of inquiry to same-sex aggression means that the role of impulsivity in aggression towards opposite-sex targets could not be addressed. Aggression towards opposite-sex partners has been shown to relate less strongly than aggression towards same-sex targets to impulsivity. Future work could examine the role of risky impulsivity in partner aggression more closely, particularly in same-sex partnerships which are under-researched. Secondly, the present article cannot address the role of impulsivity in indirect aggression. It was decided to focus on direct aggression because it carries a risk of immediate retaliation, and sex differences are evident. Impulsivity might be less relevant to indirect aggression in which the aggressor has to maintain sufficient self-control to refrain from direct confrontation and deliver his or her aggressive acts circuitously. Thirdly, because risky impulsivity did not completely account for the sex differences in same-sex aggression and sociosexuality, consideration must be given to other possible mechanisms and how they might interact with risky impulsivity.

To conclude, the present study indicates that same-sex aggression and sociosexuality are correlated because of their shared element of risk, and that sex differences in both behaviors might be the result of sex-specific selection pressures acting on a general tendency to tolerate risk. While risky impulsivity can account for individual differences in both of these behaviors, a more sensitive measure might be needed to reflect the true extent of sex differences in impulsive risk-taking. Individual differences in impulsivity also need to be considered in concert with variables at the dyadic level in order to give a complete account of sex differences in same-sex aggression.

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