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The influence of sexual orientation on reputational punishment of other women's behaviour

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ABSTRACT

The denigration of competitors is an evolved strategy used to give the impression that a rival is less appealing. Evidence indicates that women denigrate other women principally on appearance and sexual fidelity because men value these qualities in partners. The current investigation examined whether indirect aggression – the spreading of reputation-harming information about a rival woman – is a strategy utilised by both straight and lesbian women. Additionally, we explored whether it was influenced by the extent to which a rival target was identified as ‘threatening’ or sexually promiscuous. Female participants were assigned to one of two possible target vignette/photographic conditions (sexualised versus neutral) based on their self-identified sexual orientation. All were provided the same information about the target’s social life, asked whether they would share that information with others, and completed a threat assessment. Findings suggest that lesbian and straight women both use competitor derogation as a mating strategy and are more likely to denigrate targets they perceive as sexual rivals. Straight women reported a greater likelihood of conveying reputation-harming information about the target in the sexualised condition compared to the neutrally dressed condition, but dress did not influence lesbians’ likelihood of denigration. Potential differences in mate selection criteria are discussed.

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Throughout history and across cultures, aggression amongst women has predominantly been carried out in non-physical forms (McAndrew, 2014; Österman et al., 1998). Although men and women exhibit similar levels of aggression in general (see Card, Stucky, Sawalani, & Little, 2008; McQuade, Achufusi, Shoulberg, & Murray-Close, 2014), research suggests that relative to physical forms of aggression, women are more likely to display aggression that is covert, and aimed at inflicting social rather than physical harm (Arnocky, Sunderani, Miller, & Vaillancourt, 2012; Campbell, 1995, 1999; Lagerspetz, Björkqvist, & Peltonen, 1988; Österman et al., 1998; Vaillancourt & Sharma, 2011). These types of aggressive behaviours can include gossip, social exclusion, and other actions aimed at damaging a target individual’s social standing. Such behaviours are broadly referred to as indirect aggression, also known as relational or social aggression (McAndrew, 2014).

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Indirect aggression is particularly prevalent among women who are competing for a sexual partner and is strategically utilised in the context of intrasexual competition – rivalry amongst same-sex peers (Fisher & Cox, 2011; Reynolds, 2016; Vaillancourt, 2013). Intrasexual competition is a well-documented feature of human mating behaviour in the extant literature and remains the subject of much research inquiry (Buss, 1988; Fisher & Cox, 2011). The goal of intrasexual competition is, ultimately, to make oneself appear a highly desirable sexual partner relative to other same-sex individuals. This is accomplished either by bolstering one's own self-image or by damaging the image of rivals; tactics include boasting about the existence of abilities or traits believed to be attractive to a potential mate (Fisher & Cox, 2011), as well as spreading negative, reputation-harming information about potential competitors (Buss, 1988; Buss & Dedden, 1990; Walters & Crawford, 1994). The denigration of rivals, therefore, is a strategy of indirect aggression used as a form of intrasexual competition; women spread information intended to portray a rival as less appealing (i.e. promiscuous, unattractive, or adulterous; see Buss, 1988; Buss & Dedden, 1990; Walters & Crawford, 1994), with the aim of improving their own sexual prospects.

This strategy of rival denigration has been widely portrayed in the mainstream media, such as in the popular movie *Mean Girls* (Michaels & Waters, 2004). In this film, one of the main characters (a 'mean girl') attempts to eliminate her sexual competition by advising a potential male partner that a rival female is a stalker obsessed with him (Michaels & Waters, 2004). Spreading this information damages the rival's reputation, making her seem less appealing as a long-term partner. This example illustrates how reputation-harming information, whether true or not, can facilitate competitors' advantage over their rivals (Fisher & Cox, 2009).

Although gender differences exist in the spreading of reputational-harming information, in that women tend to participate more readily than men, it is unclear whether differences also exist on the basis of sexual orientation. The purpose of the current investigation was to examine whether indirect aggression – specifically, the spreading of reputation-harming information about rival women – is a strategy utilised by both straight and lesbian women.

There is evidence indicating that gay men and lesbians may utilise mate selection strategies comparable to their straight counterparts (Bailey, Kim, Hills, & Linsemeier, 1997; Lippa, 2007; Smith & Stillman, 2002), suggesting that lesbians and straight women may use similar competitive strategies. Some researchers argue that gender rather than sexual orientation is more influential in predicting mating psychology and behaviour, pointing to evidence that lesbian women are similar to straight women regarding interest in uncommitted sex, number of sexual partners, and response to emotional versus sexual infidelity, for example (Bailey, Gauling, Agyei, & Gladue, 1994; Howard & Perilloux, 2017; Lawson, James, Jansson, Koyama, & Hill, 2014). Indeed, one could postulate that competitor derogation is a gender-based adaptation amongst all women, which is used broadly despite the potential for varying levels of effectiveness depending on a woman's sexual orientation. However, some lesbians also display gender-atypical preferences and behaviours regarding mate selection (Russock, 2011; Smith, Konik, & Tuve, 2011; VanderLaan & Vasey, 2008). For instance, lesbians are more likely than straight women to display their wealth/resources in attempts to attract or retain a mate (VanderLaan & Vasey, 2008), and some are more likely to prefer a younger, rather than older, sexual partner (Russock, 2011). These behaviours displayed by some lesbian women more similarly match mate-selection behaviours of males, rather than their straight female counterparts, indicating that gender expression and gender role ideology may be an influencing factor in competing for a mate (Russock, 2011).

The advantages of being a 'mean girl'

Much of female mate selection research is rooted in evolutionary theory, such as Buss and Schmitt (1993) sexual strategies theory. According to this account, the denigration of rivals is a strategy used by women to secure the sustained investment of a romantic partner who will provide food, resources, and protection (Buss, 1988). From an adaptive standpoint, indirect aggression is particularly valuable to women because it requires minimal effort and carries little risk of physical harm. It is

also highly effective; evidence indicates that the use of indirect aggression is associated with an increase in dating and sexual behaviour for the aggressor, and a reduction in the rival women's (i.e. the targets/victims of the indirect aggression) desire or ability to compete for the partner (Vaillancourt, 2013). In essence, indirect aggression improves a woman's chances with a potential partner by maximising reputational damage to the rival while minimising the potential for personal harm (Björkqvist, Lagerspetz, & Kaukiainen, 1992; McAndrew, 2014).

However, spreading negative information about a rival is not necessarily the best strategy in all situations. Self-promotion (boasting about one's own traits and abilities), for instance, has been found to be an important tactic, even when used alone (Fisher & Cox, 2009). This may be due, in part, to its convenience; one does not need to possess knowledge about the other competitor (by being in the same social circle, for example), and does not have to engage directly with a rival to compete with them (Fisher & Cox, 2009). Additionally, behaving in ways that devalue others could be perceived as cruel or mean-spirited, traits which are socially undesirable and potentially detrimental to an aggressor's appearance (Fisher & Cox, 2011; Schmitt & Buss, 1996). As such, individuals may be more inclined to self-promote rather than risk appearing 'mean' by using a derogation strategy (Fisher & Cox, 2009).

Predictors of rival denigration

The costs and benefits of negative information sharing may differ depending on the context. Factors pertaining to both the aggressor and the target have been shown to predict rival denigration among women, including competitiveness, attractiveness of target, sexual permissiveness of target, and perceived threat. Age has also been associated with increased indirect aggression (Archer, 2004), possibly suggesting that as the desire for a mate becomes stronger, so too does use of competitive tactics. Reynolds (2016) found that women who scored high on levels of competitiveness were more likely to pass on negative information and less likely to pass on positive information about a target than women who had lower competitiveness scores. However, this was only true when the hypothetical rival presented an overt threat, by flirting with the aggressor's mate; even highly competitive women did not damage the reputations of women who did not pose any threat to their romantic prospects (Reynolds, 2016).

If, as this data suggests, rival denigration is used strategically in response to perceived threat (Reynolds, 2016; Reynolds & Baumeister, 2017), it is important to understand the factors that contribute to threat perception. Previous research has shown that the preferences held by a desired partner play a role in the selection of competitive tactics used by rivals in seeking a mate (Gutierrez, Kenrick, & Partch, 1999; Keys & Bhogal, 2018). For instance, because men value qualities such as appearance and sexual fidelity in their partners, straight women often focus their self-promotion and denigration strategies on these two elements (Buss, 1989; Grammer & Thornhill, 1994; Shackelford, Buss, & Bennett, 2002; Singh & Young, 1995). Indeed, women who are physically attractive and/or provocatively dressed are more likely to be targets of denigration by other women (Bleske & Shackelford, 2001; Keys & Bhogal, 2018; Reynolds, 2016; Reynolds & Baumeister, 2017; Vaillancourt, 2013).

In particular, research indicates that straight women who dress provocatively (i.e. wearing heavy makeup or clothing that accentuates hips or breasts) are considered more threatening rivals and are more likely to be indirectly aggressed against (Keys & Bhogal, 2018; Reynolds & Baumeister, 2017). A 2011 study by Vaillancourt and Sharma reported that when a confederate was dressed provocatively, female participants perceived her as a sexual rival and were less willing to introduce her to their boyfriend or allow her to spend time alone with him. Women also report less willingness to befriend same-sex peers who are promiscuous or sexually provocative (Bleske & Shackelford, 2001; Vaillancourt & Sharma, 2011).

Further, women are more hesitant about disclosing their sexual experiences to others and tend to feel more guilt and anxiety when addressing their sexuality (Carns, 1973; Oliver & Hyde, 1993;

Reynolds, 2016). Women's sexual permissiveness tends to incur a great deal of societal prejudice (Bourdage, Lee, Ashton, & Perry, 2007; Muggleton, Tarran, & Fincher, 2018) and as such, women may be particularly vulnerable to reputational attacks regarding their sexuality (Reynolds, 2016).

Intrasexual competition and sexual orientation

Unfortunately, most research inquiry into intrasexual competition has focused on straight individuals (Dillon & Saleh, 2012). A notable absence in the existing literature is the discussion of lesbian women in this context – do women seeking female partners also use denigration strategies to derogate other women's appearance or sexual permissiveness? In one of the first studies to explore this question, VanderLaan and Vasey (2008) conducted an analysis of gender, sexual orientation, and mate retention strategies. They asked gay and straight participants (both men and women) about the frequency of certain behaviours by their romantic partners, such as emotional manipulation, appearance enhancement, and derogation of competitors. Lesbian participants in this study reported fewer instances of competitor derogation by their partners than straight men, implying that lesbian women are less likely than straight women to use this tactic (VanderLaan & Vasey, 2008). However, it is unclear what individual and target factors contributed to the denigration, or if the situations in which denigration occurred differed within lesbian and straight partnerships. It may be that differences found between the lesbian and straight women on competitor derogation result from differential gender expression in these two sexual orientation groups; specifically, with lesbian women more closely mirroring straight men in mate retention strategies. However, not all women who identify as lesbian have a masculine gender expression, leaving a gap in what is known about why these differences exist. Do lesbians, like straight women, feel threatened by physical attractiveness or sexual permissiveness? Are they more likely to damage the reputations of women who display these traits?

The present study

The present study sought to answer these questions and examine whether indirect aggression – specifically, the spreading of reputation-harming information – is utilised strategically by lesbian women. Competitiveness and perception of the target as a sexual rival were investigated as potential predictors. Relationship status was also assessed as a variable of interest, given that women with committed partners may be less driven to compete for the attention of potential mates. This research expands upon Reynolds and Baumeister (2017) study by including an analysis of the influence of sexual orientation and relationship status on women's propensity to use rival denigration in intrasexual competition.

Methodology

Design

This study utilised a 2 (participant sexual orientation: straight/lesbian) × 2 (photographic condition: sexualised/neutral) randomised quasi-experimental between-groups design to determine whether lesbian women differ from their straight counterparts in the spreading of reputation-harming information about a rival woman. Further, we explored predictors of participant likelihood to spread reputation-harming information among lesbian and straight women, with a focus on competitiveness, relationship status, and perceptions of target threat.

Participants

The sample comprised 771 female participants ($n = 67$ lesbian women) between the ages of 16 and 74 years ($M_{\text{age}} = 23.70$; $SD_{\text{age}} = 7.98$) recruited via snowball sampling from various online forums (e.g. Facebook, Instagram, Twitter, Reddit), and the research participant pool at our large Western Canadian university. No significant differences were found between straight women and lesbian women on highest level of completed education, $\chi^2(5, N = 771) = 9.19, p = .10$, relationship status, $\chi^2(5, N = 771) = 1.90, p = .86$, or competitiveness scores, $t(769) = 1.426, p = .154$. Straight and lesbian women did differ in both ethnicity, $\chi^2(7, N = 769) = 34.06, p < .01$ and age, $t(769) = 2.25, p < .05$, with lesbian participants significantly older ($M_{\text{age}} = 25.79$; $SD_{\text{age}} = 9.31$) than their straight counterparts ($M_{\text{age}} = 23.50$; $SD_{\text{age}} = 7.82$). Demographic characteristics by participant sexual orientation are summarised in Table 1.

Measures

Demographics

Participants were asked to respond to a 5-item questionnaire regarding their age, sexual orientation, relationship status, highest level of completed education, and ethnicity.

Achievement Motivation Scale

The Achievement Motivation Scale (AMS; Cassidy & Lynn, 1989) is a 49-item measure consisting of seven subscales which together assess overall desire for goal attainment. Participants completed only the competitiveness subscale of this measure, which assesses the level of motivation derived from competing with others. The competitiveness subscale consists of seven items and includes questions such as, 'I judge my performance on whether I do better than others, rather than on just getting a good result' and 'I try harder when I'm in competition with other people'. Responses were scored on a 3-point Likert scale ranging from 0 (*not at all true of me*) to 2 (*always true of me*), where higher scores indicated greater competitiveness. Previous research (Cassidy & Lynn, 1989; Ward,

Table 1. Demographic characteristics by sexual orientation.

	Straight women ($n = 704$) $M_{\text{age}} = 23.50$ ($SD = 7.82$)	Lesbian women ($n = 67$) $M_{\text{age}} = 25.79$ ($SD = 9.31$)
Ethnicity		
(a) Caucasian	284 (40.4)	46 (69.7)
(b) South Asian	255 (36.3)	7 (10.6)
(c) Middle Eastern	11 (1.6)	1 (1.5)
(d) Asian	99 (14.1)	3 (4.5)
(e) Black	17 (2.4)	3 (4.5)
(f) Hispanic	18 (2.6)	4 (6.1)
(g) Indigenous	2 (.3)	1 (1.5)
(h) Other	17 (2.4)	1 (1.5)
Relationship status		
(a) Single	283 (40.2)	23 (34.3)
(b) Casual Dating	108 (15.3)	10 (14.9)
(c) Committed	238 (33.8)	25 (37.3)
(d) Married	70 (9.9)	8 (11.9)
(e) Divorced	4 (.6)	1 (1.5)
(f) Widowed	1 (.1)	0
Education level		
(a) Some high school	41 (5.8)	4 (6)
(b) High school	168 (23.9)	9 (13.4)
(c) Some university	376 (53.4)	35 (52.2)
(d) Undergraduate	67 (9.5)	12 (17.9)
(e) Certificate	13 (1.8)	3 (4.5)
(f) Postgraduate	39 (5.5)	4 (6)

1997) has reported reliabilities ranging from .67 to .74. In the current study, a Cronbach's alpha of .70 was achieved.

Independent variable: photo images and description

Participants were randomly assigned based on their self-identified sexual orientation (straight versus lesbian) to one of two photographic conditions of the face and upper body of an attractive, 30-year-old Caucasian woman. In one condition the woman was dressed neutrally; her hair was pushed back from her face, she wore no make-up, and was dressed in a loose-fitting sweatshirt (attire typically marketed to women as causal, comfortable, or activewear). In the other condition, she was sexualised by being provocatively dressed; her hair was straightened and draped over her shoulders, she wore heavy make-up that accentuated her eyes and lips, and she was dressed in a tight low-cut shirt revealing cleavage (attire usually marketed to women as sexy, glamorous, or chic). This resulted in four distinct groups: Straight participants exposed to the neutral target ($n = 362$), straight participants exposed to the sexualised target ($n = 342$), lesbian participants exposed to the neutral target ($n = 30$), and lesbian participants exposed to the sexualised target ($n = 37$).

Likelihood to spread reputation-harming information

Participants in each condition were provided information about the target image and asked to indicate how likely they would be to pass the information along, utilising a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*absolutely*). Specifically, all participants were told, 'This is Veronica. She just joined your social group' and were presented the following information about the target: (1) She sleeps around a lot, (2) She cheated on her last [boyfriend/girlfriend] and 3) She has a sexually transmitted infection. Scores were totalled to provide a composite score for likelihood to spread the reputation-harming information, ranging from 0 to 12, where higher scores indicated a greater likelihood. Previous use of the scale reported by Reynolds and Baumeister indicated a strong reliability of .87. In the current study, a Cronbach's alpha of $\alpha = .84$ was established (Reynolds & Baumeister, 2017).

Assessment of target as a rival

Using a 5-point Likert scale ranging from 0 (*not at all*) to 4 (*absolutely/totally*), participants were asked several questions designed to individually assess the extent to which the target image was perceived as a potential sexual rival – and by extension, a potential threat. For instance, one question assessed participant's estimation of target threat by asking, 'How threatening is she [Veronica]?' Another inquired about the target's promiscuity by asking, 'How promiscuous do you think she is?'. One question assessed target attractiveness by asking 'How attracted do you think [men/women] would be to her?' and a final queried, 'How sexually appealing do [men/women] find her. Scores were totalled to provide a composite score ranging from 0 to 16, where higher scores indicated greater assessment of rivalry and threat. A moderate Cronbach's alpha of $\alpha = .65$ was achieved (Reynolds & Baumeister, 2017).

Procedure

All recruited participants of this study were instructed to take part in a 15-minute, anonymous online survey via the survey software Qualtrics. This study was presented as an examination of the factors involved in women's interpersonal relationships with other women. Upon completion of a consent form, basic demographic questions were asked, followed by the competitiveness subscale of the Achievement Motivation Scale (Cassidy & Lynn, 1989). Participants were then randomised into the photographic conditions of a rival woman, either neutrally or provocatively dressed. After viewing the rival woman's photograph and profile description, participants were asked the likelihood that they would spread reputation-harming information about the target and the degree to which they perceived the target as a rival. Lastly, a debriefing page stated the true purpose of the study. Given

that deception was used, participants were given the option to withdraw their survey data from the analysis.

Results

This study employed a 2 (sexual orientation; straight versus lesbian) \times 2 (photo condition; sexualised versus neutral) between-groups factorial ANCOVA – controlling for participant age – on the dependent variable of likelihood to spread reputation-harming information. Given that no previous research has explored whether perception of target threat differs by sexual orientation, we also performed a between-groups factorial ANCOVA on the assessment of target rivalry. Finally, correlations and subsequent multiple regression analysis examined best predictors of the likelihood to convey reputation-harming information, with a focus on sexual orientation and relationship status.

Analyses of differences between straight and lesbian women

First, descriptive statistics by photo condition on likelihood to spread reputation-harming information revealed higher scores in the sexualised/provocative condition ($M = 3.22$; $SD = 2.74$) than the neutral condition ($M = 2.32$; $SD = 2.11$) overall. Next, a factorial ANCOVA investigated participant sexual orientation and photo condition on the spreading of reputation-harming information after controlling for the effects of age. Results revealed a significant main effect of condition, $F(1, 766) = 8.30$, $p < .001$; *partial* $\eta^2 = .01$, with women reporting greater likelihood to convey reputation-harming information in the sexy condition ($M = 3.20$; $SE = .21$; $CI [2.80-3.61]$) relative to the neutral condition ($M = 2.31$; $SE = .23$; $CI [1.86-2.76]$). There was no significant main effect of sexual orientation, $F(1, 766) = .012$, $p = .913$; *partial* $\eta^2 = .00$, and no condition by orientation interaction, $F(1, 766) = .004$, $p = .948$; *partial* $\eta^2 = .00$.

A second factorial ANCOVA explored participant sexual orientation and photo condition on perceptions of target threat, using the assessment of rivalry score as the dependent variable. After controlling for age, there was a significant main effect of sexual orientation, $F(1, 766) = 33.07$, $p < .001$; *partial* $\eta^2 = .04$, with straight women reporting greater assessment of rivalry ($M = 8.69$; $SE = .07$; $CI [8.55-8.84]$) than lesbian women ($M = 7.25$; $SE = .24$; $CI [6.78-7.72]$). There was also a significant effect of photo condition, $F(1, 766) = 60.39$, $p < .001$; *partial* $\eta^2 = .07$, with women exposed to the sexualised image reporting greater perceptions of threat ($M = 8.94$; $SE = .17$; $CI [8.61-9.28]$) than those exposed to the neutral condition ($M = 7.00$; $SE = .19$; $CI [6.63-7.36]$). There was no significant orientation \times condition interaction observed, $F(1, 766) = 1.51$, $p = .220$; *partial* $\eta^2 = .00$.

Analyses of lesbian women

Two follow-up ANCOVAs determined whether differences exist between the sexy and neutral photo conditions among lesbian participants only on the two main dependent variables – likelihood of spreading of reputation-harming information and perceptions of threat – after controlling for the effects of age. The first ANCOVA showed a non-significant effect, $F(1, 64) = 1.74$, $p = .19$, on the likelihood to convey reputation-harming information between the sexy ($M = 3.08$; $SE = .44$; $CI [2.2-3.95]$) and the neutral photo conditions ($M = 2.21$; $SE = .49$; $CI [1.23-3.18]$). However, the second revealed a significant effect of photo condition on perceptions of threat, $F(1, 64) = 9.21$, $p < .01$. Specifically, higher perceptions of threat were reported in the sexy condition ($M = 8.03$; $SE = .36$; $CI [7.31-8.75]$) compared to the neutral condition ($M = 6.40$; $SE = .40$; $CI [5.60-7.20]$).

Table 2. Summary of correlations by sexual orientation.

		1	2	3	4
Lesbian	Age	–			
	Competitiveness	–.18	–		
	Perceptions of Rivalry	–.03	.22	–	
	Spreading Information	.07	.17	.35**	–
Straight	Age	–			
	Competitiveness	–.11**	–		
	Perceptions of Rivalry	–.09*	.11**	–	
	Spreading Information	–.18**	.15**	.29**	–

* $p < .05$; ** $p < .01$.

Correlations and multiple regression analyses

To determine predictors of the likelihood to convey reputation-harming information, both correlational analyses and hierarchical regression analyses were employed. Results of the correlational analysis, presented in Table 2, illustrate that several significant relationships were found. Of interest is the finding that among lesbians, perceptions of target rivalry were significantly positively correlated with likelihood to spread reputation-harming information. This suggests that among lesbians, greater perceived threat of the target is related to an overall increase in the likelihood of participating in intrasexual competition by conveying reputation-harming information. Similarly, and in concert with previous literature that has examined straight participants, participant competitiveness, and perceptions of target threat were significantly positively correlated with the likelihood to spread reputation-harming information. In contrast, age was negatively correlated with participant likelihood to spread negative information about the target.

A hierarchical multiple regression analysis explored the contribution of participant competitiveness, perceptions of target threat assessed via rivalry scores, sexual orientation, and relationship status (dummy coded) on participants' likelihood to spread reputation-harming information. Assumptions of multicollinearity, homoscedasticity, independent error, and linearity were all met. Further, both Mahalanobis distance and Cook's distance suggested no significant effect of outliers or influential cases. Given findings from previous research (see Reynolds & Baumeister, 2017), competitiveness and target threat were entered as a block on the first step, followed by sexual orientation and participant relationship status as a block on the second step.

Table 3 presents the results of these analyses, which indicate that competitiveness and perceptions of target threat significantly predicted likelihood to spread reputation-harming information,

Table 3. Summary of hierarchical regression model for likelihood to spread reputation-harming information.

		β	t	p	95% Confidence interval estimates	
					Lower	Upper
Step 1	Competitiveness	.115	3.35	.001	.293	1.12
	Perception of Target Threat	.279	8.09	.000	.230	.377
Step 2	Competitiveness	.112	3.23	.001	.269	1.10
	Perception of Target Threat	.284	8.13	.000	.235	.384
	Sexual Orientation	–.036	–.103	.303	–.915	.285
	Single	–.132	–.689	.491	–2.58	1.24
	Dating	–.095	–.663	.507	–2.59	1.28
	Committed Unmarried	–.204	–1.09	.274	–2.97	.846
Married/Civil Union	–.168	–1.38	.167	–3.34	.577	

Sexual orientation was coded at 1 = lesbian, 2 = straight. Relationship status was dummy coded with either 1 or 0 for participation in each group; divorced and widowed relationship status were excluded from the model due to extremely small sample sizes. The overall stepwise multiple regression results indicate at Step 1: $R = .314$; Step 2: $R^2\Delta = .02$, $p < .001$.

accounting for 31% of the variance, $F(2, 768) = 41.87, p < .001$. In the second step, the introduction of sexual orientation and relationship status explained only an additional 2% of the variance, $F(5, 763) = 13.54, p < .001$.

A second hierarchical multiple regression analysis investigated the contribution of participant competitiveness, perceptions of target threat assessed via rivalry scores, and relationship status on participants' likelihood to spread reputation-harming information among lesbian women only. Competitiveness and perceptions of target threat significantly predicted likelihood to spread reputation-harming information among lesbian participants, accounting for 36% of the variance, $F(2, 64) = 4.84, p < .01$. The addition of photo condition and relationship status to the model did not significantly predict likelihood to spread reputation-harming information among this group.

Discussion

The present study sought to extend existing literature on the denigration of rivals as an indirect competitive mating strategy used by women. Since the evolutionary perspective used to explain intrasexual competition is primarily applicable to straight women, we were particularly interested in establishing whether lesbian women also employ rival denigration as a competitive strategy. Additional factors that may impact a woman's likelihood of sharing reputation-harming information were also examined, including participants' relationship status, level of competitiveness, and the perceived threat of the target. Herein we will discuss the utilisation of negative information sharing as an adaptive strategy for straight and lesbian women, respectively, and the predictive factors for this type of intrasexual competition, based on our current findings.

Although women overall endorsed relatively low rates of information spreading, both straight and lesbian women reported a greater likelihood of conveying reputation-harming information about a target they perceived to be a sexual rival. These findings indicate that denigration is indeed a competitive mating strategy utilised by lesbians, and that lesbian women and straight women may engage in similar mating strategies. This contrasts with previous research (i.e. VanderLaan & Vasey, 2008), suggesting that elements of mate retention behaviour differ by sexual orientation. Instead, the present study suggests that gender is a more salient predictor of competitive mating strategy.

Slut-shaming and sexual orientation

However, factors that predict women's implementation of a denigration strategy may indeed vary dependent on sexual orientation. Most notably, the provocative dress of a target – which is a well-documented predictor of denigration by straight women (see Keys & Bhogal, 2018; Reynolds, 2016; Vaillancourt & Sharma, 2011) – was not associated with denigration outcomes among lesbians. The present study determined that straight participants were more likely to denigrate the reputation of a woman who was dressed provocatively, a condition associated with increased perceptions of rivalry. Lesbian women, in contrast, were no more likely to denigrate the target in the provocatively dressed condition than in the neutral condition – despite perceiving the sexualised target to be more threatening.

Women's punishment of the sexual dress/behaviour of other women is well documented in the literature (see Baumeister & Twenge, 2002; Keys & Bhogal, 2018; Reynolds, 2016; Vaillancourt & Sharma, 2011; Webb, 2015). Clothing and appearance are often used as a heuristic for assessing a woman's sexual permissiveness and associated attributes (Baumeister & Twenge, 2002; Vaillancourt & Sharma, 2011; Webb, 2015); sexually permissive women are perceived as less trustworthy, and more likely to engage in infidelity or mate poaching behaviours (Muggeleton et al., 2018), making them a threat to other women's mating prospects. In this sense, reputational denigration – or in this context, 'slut-shaming' – can be seen as an adaptive strategy. So why would lesbians not strategically denigrate sexualised rivals?

This discrepancy may be explained by the possibility that the perceived benefit of utilising a denigration strategy is lesser than the potential consequences for lesbians. Given that women are less reliant on reputational information when determining the suitability of a potential mate (Buss, 1988; Buss & Schmitt, 1993), those attempting to find a female mate may have less to gain from denigrating the reputation of a rival. In fact, spreading negative information may harm a woman's own reputation, if she is perceived to be untrustworthy, a gossip, disloyal, and so on. This may be of particular risk for lesbian women, given that lesbians have been found to put a high value on honesty and sincerity in a potential partner (Smith et al., 2011). Further, the higher levels of perceived threat associated with the provocative target may also accompany a higher fear of retaliation; given the multitude of negative stereotypes commonly attributed to sexually permissive women (Baumeister & Twenge, 2002; Bourdage et al., 2007; Muggleton et al., 2018) perhaps lesbians viewed a provocatively dressed/threatening rival as having greater capacity and/or willingness to seek revenge. It is possible this imbalance of potential benefits versus consequences deterred lesbian women from engaging in greater levels of denigration towards sexualised targets.

A second possibility is that denigration use may arise from different motivations and/or interpretations of rivalry by each group. There is a compendium of research demonstrating that intra-sexual competition is driven to some extent by the mate selection criteria of the desired sex (Gutierrez et al., 1999; Keys & Bhogal, 2018; Li, Smith, Griskevicius, Cason, & Bryan, 2010). Individuals make desirability judgements about themselves based on the traits a potential partner is believed to want (Gutierrez et al., 1999), and compete more aggressively with rivals who possess these traits. Among straight women, those who possess traits traditionally valued by men are consistently targets of indirect aggression and reputation denigration; women who are physically attractive and dressed provocatively are perceived as threats because these characteristics are highly sought after by straight men (Keys & Bhogal, 2018; Reynolds, 2016; Vaillancourt, 2013). As such, the threat assessments made by our straight participants aligned with what was expected. However, some research has shown that lesbian women place significantly less value on physical attractiveness in a partner than straight men and women do (Russock, 2011; Smith et al., 2011; Smith & Stillman, 2002), which may explain why lesbian participants in the present study were no more likely to denigrate the sexualised target than the neutral one.

The criteria lesbian women use to judge a potential partner – or a potential rival – likely differs from that used by straight women or men (Bailey et al., 1994; Smith et al., 2011). Indeed, the utilisation of different mating criteria based on sexual orientation is evident in some literature (see Deaux & Hanna, 1984; Gonzales & Meyers, 1993; Russock, 2011; Smith et al., 2011). Although certain elements of mating psychology/behaviour (i.e. number of sexual partners, perceived sexual intent of a partner, response to infidelity, and in the present study, competitive mating strategy) appear to be largely determined by gender rather than sexual orientation (Bailey et al., 1994; Howard & Perilloux, 2017; Lawson et al., 2014), lesbian women sometimes demonstrate preferences and behaviours that differ from their straight counterparts (Russock, 2011; Smith et al., 2011; VanderLaan & Vasey, 2008). For instance, Russock's (2011) analysis of personal advertisements found that lesbian women differed from straight women on the same criteria as straight men differed from straight women; both lesbian women and straight men were more interested in younger partners, less interested in seeking resources, and were more likely to offer commitment.

Regarding physical attractiveness, some studies indicate that lesbians prefer partners with more body fat and greater waist-to-hip ratios than the culturally idealised female figure (Cohen & Tannenbaum, 2001; Swami & Tovée, 2006). However, lesbians tend to emphasise the importance of honesty and sincerity as more important than any other personal or physical characteristic (Deaux & Hanna, 1984; Gonzales & Meyers, 1993; Russock, 2011; Smith et al., 2011). This could partially explain why lesbian women were relationally aggressive towards the sexy target, but less threatened by her than straight women – they may have judged her for the stereotyped assumptions associated with an overtly sexual appearance (i.e. infidelity, untrustworthiness), and believed this would make her less appealing to potential mates.

If, as previously suggested, lesbian women utilise a different set of mate selection criteria, it follows that their threat assessments and competitive strategies might also differ. The differential value placed on various mate qualities – and subsequent participation in sexual competition based on these qualities – is particularly salient in the context of disordered eating. Some evidence suggests that disordered eating stems from intrasexual competition, with straight women and gay men (the populations with the greatest incidence of eating disorders) driven to achieve the thin beauty ideal typically valued by men (Abed et al., 2012; Li et al., 2010). Because women (and lesbians, in particular) do not value physical attractiveness as much as men (Bailey et al., 1994; Buss, 1988; Russock, 2011; Smith et al., 2011), individuals seeking a female partner have less inclination to compete in this context. For instance, Li et al. (2010) found that, when exposed to an intrasexual competition cue (an attractive same-sex rival), lesbian women and straight men did not experience the same degree of body dissatisfaction or restrictive eating attitudes reported by straight women and gay men.

Limitations and future directions

There is an important limitation of the current study regarding the impact of social desirability: whether participants' survey responses reflect a genuine potential to disseminate reputational-harming information about a rival woman. Social desirability refers to the tendency of research participants to represent themselves in a favourable light to prevent unfavourable evaluations, which has the potential to confound research results and distort the real relationship(s) among variables (van de Mortel, 2008). Future research in this area may benefit from including a social desirability scale to control for this confound.

Despite this criticism, the current investigation was conducted solely online and ensured anonymity of participant identity. Given the nature of the online environment, participant motivation to respond in a socially desirable manner may therefore have been reduced. However, the question remains whether participants perceived the spreading of reputation-harming information as a strategic behaviour (e.g. to increase sexual appeal) or as form of non-strategic relational aggression (e.g. gossip – with the aims of securing social bonds and openness between friends within a group; Dunbar, 2004), as well as whether or not participants assumed that the information would remain confidential after dissemination.

Further research is needed to determine how women of various sexual orientations interpret threat and how this corresponds to subsequent aggression. It is unclear precisely what about the target in this study was considered particularly threatening to participants, although initial findings suggest that overtly sexualised clothing and appearance are threatening to both straight and lesbian women, though lesbian women perceived overall lower levels of threat than straight women. More research is also needed to determine what partner traits are most valued by lesbian women, and whether possession of these traits increases perceived threat of a target (and/or sexual attraction towards that target). Future studies may wish to examine whether a target's adherence to typical mate selection criteria leads to competitive aggression across orientations – for example, if lesbian women are more likely to compete with a woman perceived as very sincere, or who adheres more closely to lesbian appearance preferences regarding body size and style.

This study may be limited in its generalisability due to the small sample of lesbian women and exclusion of more diverse sexual orientations. Future researchers may wish to include bisexual or pansexual women, as their threat interpretations and competitive strategies may differ from those of lesbians and straight women. In addition, it would be useful to include different types of manipulations, assessing other target characteristics that may be of importance in a partner for different groups of people (i.e. honesty, masculinity/femininity, wealth/status, intelligence). Likewise, an important point to consider when conducting future research is the extent to which lesbians display or are interested in partners who display sex-typical characteristics and behaviours (i.e. 'butch' vs. 'femme' lesbians). Perhaps the degree to which lesbian women identify as feminine also influences

their denigration strategies. Researchers may want to include a measure assessing the degree to which participants identify as 'lesbian femme' or 'lesbian butch.' We did not, unfortunately, measure gender expression of participants in this study, nor participant attraction to difference in the gender expression of potential mates.

A final limitation of this study is that the target's sexual orientation was not explicitly stated, although she was described as having cheated on her last boyfriend to straight participants and her last girlfriend to lesbian participants. Given the lack of explicitness, lesbian participants may have been tasked with trying to decipher the target's sexuality – as bisexual, lesbian, sexually fluid, or straight – by utilising visible gender stereotype congruity as a heuristic (i.e. mental shortcuts; Gigerenzer & Gaissmaier, 2011). It is, therefore, possible that Veronica's orientation was perceived as not fitting the stereotypical presentation of a lesbian woman, or lacking conformity to stereotypical lesbian appearance norms (Huxley, Clarke, & Halliwell, 2011, 2014), leading some lesbian participants to assume she was a bisexual woman or not a 'true' lesbian. This is potentially problematic to our data due to discrimination against bisexual individuals in both gay and straight communities (Hayfield, Clarke, & Halliwell, 2014). Veronica's ambiguous orientation may also have affected whether lesbian participants viewed her as a potential partner or as a potential rival.

Conclusion

Overall, our findings extend existing literature on intrasexual competition among women, highlighting the influence of sexual orientation on engagement in indirect competitive strategies. Lesbian women and straight women in the present study displayed similar levels of competitiveness, implying that both groups are equally predisposed to compete for a sexual partner. Our findings, and those of others, suggest that lesbian and straight women may engage in similar competitive mating behaviour, but are driven to compete on different fronts; the characteristics deemed desirable in oneself and threatening in a rival may vary depending on the gender and sexual orientation of a desired partner.

With respect to competitor derogation specifically, our findings suggest that intrasexual competition is indeed directed by the sex of a desired mate, with gender and orientation-specific mate selection criteria giving rise to different threat assessments. These results suggest that straight and lesbian women may both engage in competitor derogation as their primary strategy, but to varying degrees and based on different perceptions of sexual rivalry. Likewise – and perhaps an area for future research – straight and lesbian women may seek to increase their own sexual appeal and/or limit the appeal of their rivals using distinct methods.

Disclosure statement

No potential conflict of interest was reported by the authors.

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