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Group Processes Intergroup Relations 2012 15: 725 originally published online 24 April 2012

DOI: 10.1177/1368430212442419

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Group Processes & Intergroup Relations

15(6) 725–743

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DOI: 10.1177/1368430212442419

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Cara C. MacInnis¹ and Gordon Hodson¹

Abstract

Although biases against homosexuals (and bisexuals) are well established, potential biases against a largely unrecognized sexual minority group, *asexuals*, has remained uninvestigated. In two studies (university student and community samples) we examined the extent to which those not desiring sexual activity are viewed negatively by heterosexuals. We provide the first empirical evidence of intergroup bias against asexuals (the so-called “Group X”), a social target evaluated more negatively, viewed as less human, and less valued as contact partners, relative to heterosexuals and other sexual minorities. Heterosexuals were also willing to discriminate against asexuals (matching discrimination against homosexuals). Potential confounds (e.g., bias against singles or unfamiliar groups) were ruled out as explanations. We suggest that the boundaries of theorizing about sexual minority prejudice be broadened to incorporate this new target group at this critical period, when interest in and recognition of asexuality is scientifically and culturally expanding.

Keywords

asexual, sexual minority, prejudice, dehumanization, discrimination

Paper received 23 June 2011; revised version accepted 23 February 2012.

- PENNY: I just have to ask: what’s Sheldon’s deal? . . . Is it girls? Guys? Sock puppets? [laughter]
- LEONARD: Honestly, we’ve been operating under the assumption that he *has* no deal. [laughter]
- PENNY: Oh come on, everybody has a deal.
- WOLOWITZ: Not Sheldon. Over the years we’ve formulated many theories about how he might reproduce [laughter and pause]. I’m an advocate of mitosis [laughter]
- As reflected in this dialogue from the hit American TV show *The Big Bang Theory* (see http://www.youtube.com/watch?v=iYA5cZ__6-w), popular

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culture has become increasingly interested in, and fascinated by, people characterized by a lack of sexual interest in either men or women. Equally apparent from such popular culture excerpts, however, is how mockery and humor are being used in ways that can derogate asexuals or those suspected of being asexual (see Hodson, Rush, & MacInnis, 2010, on humor facilitating group dominance motives). Although renowned sex expert Alfred Kinsey documented the existence of this group, ominously labeling them as "Group X" (Kinsey, Pomeroy, & Martin, 1948), only recently have psychologists become interested in the empirical study of asexuality within the normal (not clinical) range of human sexuality (see Bogaert, 2004, 2006). Our focus is not the psychological experience of asexuality, but rather whether intergroup bias against asexuals exists, and the magnitude of this potential bias relative to bias against other sexual minorities (i.e., homosexuals, bisexuals).

Asexuality as sexual orientation

Asexuality is defined as a lack of sexual attraction to people of either sex (Bogaert, 2004, 2006). Although historically viewed as a pathological symptom or pathology itself (e.g., hyposexual desire disorder, DSM-IV-TR; American Psychiatric Association, 2000), asexuality is more recently operationalized as a category of sexual orientation within the normal range of sexual functioning. Storms' (1980) two-dimensional model of sexual orientation includes *asexual* as one of four sexual orientation categories, with asexuals scoring low on both heterosexual and homosexual attraction/fantasy. In a national probability study, Bogaert (2004, p. 281) found that 1% of people "never felt sexual attraction to anyone at all." Whereas prejudice toward other sexual minority groups (e.g., homosexuals) is studied extensively (see Herek, 2009, 2010), potential bias against asexuals has gone empirically unexplored.

One reason for this gap in the research may be due to the fact that researchers themselves have only recently begun to consider asexuality within the normal variation of human sexuality (as

opposed to handling asexuality as a pathology of clinical interest; Bogaert, 2006). To the extent that asexuality is a sexual categorization, it is also a meaningful *social category*. The advent of the Internet in particular has allowed sexual minority groups to gain visibility and social recognition (see Bargh & McKenna, 2004), including asexuals. Indeed, asexuals are becoming increasingly self-aware and collectively organized as a social category, as evidenced by the establishment of well-populated asexual online communities (e.g., Asexual Visibility and Education Network [AVEN]; <http://www.asexuality.org>) and social networking websites (e.g., Acebook; <http://www.ace-book.net>). As such, a small but emerging minority of the population identifies with an asexual sexual orientation.

With this relatively "new" category of normal-range, minority sexual orientation becoming more organized and salient, it begs the question: do heterosexuals express prejudice toward asexuals as they do toward other sexual minorities (e.g., homosexuals, bisexuals)? After all, heterosexuals tend to consider nonnormative sexual preferences as defective shortfalls, rather than simple differences. Based on this "difference is a deficit" pattern of sexual minority prejudice (Herek, 2010), asexuals might be negatively reacted to by heterosexuals in a manner similar to bias against homosexuals and bisexuals. In fact, asexuals are especially atypical in that, unlike homosexuals and bisexuals, they completely lack sexual desires. Yet this bias potential remains an open empirical question. For instance, heterosexuals might be relatively indifferent toward asexuals, given that asexuality is defined by a *lack* of sexuality, rather than the *possession* of socially deviant sexual desires. Unlike homosexuals or bisexuals, asexuals do not engage in taboo sexual activity, and thus their sexual lives may be considered a personal matter of little intergroup consequence.

On the other hand, there is strong potential that asexuals are targets of considerable intergroup negativity. Fulton, Gorsuch, and Maynard (1999) found religious people to be biased against homosexuals even when described as celibate. In other words, bias against a sexual minority group

can be expressed even when that group does not engage in sexual activities. In this way, opposition to a sexual minority outgroup serves intergroup functions relevant to establishing group dominance (Pratto, Sidanius, Stallworth, & Malle, 1994), maintaining social order, tradition, and security (Altemeyer, 1996), or positively differentiating the ingroup from the outgroup to establish positive intergroup distinctiveness (Tajfel & Turner, 1979), all widely recognized motives underpinning intergroup biases. Moreover, the existing difference-as-deficit approach to understanding sexual minority prejudice (see Herek, 2010) could theoretically be extended to include bias against asexuals as low-status deviants. As in the case of bias against celibate homosexuals, simple membership in a sexual minority group (i.e., a distinct and low-status social category) may suffice to trigger outgroup negativity among heterosexuals generally. This dislike of a “deficient” sexual minority outgroup, like asexuals, is therefore likely exaggerated among ideologically predisposed individuals (e.g., authoritarians).

The present investigation

Theorists have recently made compelling arguments for the field to expand the narrow normative “window” of prejudices studied by psychologists (see Crandall & Warner, 2005). Documenting bias against Kinsey’s elusive “Group X” would broaden our understanding not only of sexual minority bias but intergroup bias more generally. To the extent that criteria listed below can be established, a strong case for the existence of asexual bias can be meaningfully forwarded.

Criterion 1. Attitudes toward asexuals should be relatively negative

Sexual minority prejudice is defined by *negative* attitudes toward sexual minority groups (Herek, 2009), so attitudes toward asexuals should be relatively negative. We predicted that, relative to attitudes toward heterosexuals (the ingroup), attitudes toward the sexual minority outgroups

(homosexuals, bisexuals, and asexuals) would be negative. Furthermore, attitudes toward asexuals were expected to be particularly negative relative to attitudes toward homosexuals and bisexuals, because asexuals represent a particularly deviant sexual minority group that exhibits no sexual interest toward any sexual target.

Criterion 2. Exaggerated negativity toward asexuals among individuals with negative intergroup predispositions

To the extent that heterosexuals express dislike toward asexuals, this pattern is expected to be magnified among persons ideologically predisposed toward negative intergroup evaluations. If the case, this would suggest that anti-aexual biases are intergroup in nature (i.e., serving intergroup functions).

Right-wing authoritarianism (RWA) and social dominance orientation (SDO) Those relatively high in RWA are more conventional, submit more to authorities, and aggress more against norm violators (Altemeyer, 1996, 1998). Individuals relatively high in SDO endorse ideologies concerning group dominance and intergroup hierarchies (Pratto et al., 1994). Together, RWA and SDO cover the submissive and dominant elements of prejudice and are generally considered the two strongest prejudice predictors (Altemeyer, 1998; Duckitt, 2005). Although both constructs predict prejudice generally, RWA tends to be associated with prejudice toward groups challenging the status quo whereas SDO tends to be associated with prejudice toward low-status groups (Duckitt & Sibley, 2010; see also Hodson et al., 2010). Asexuals fall into each of these categories as a deviant sexual minority of low-status. Moreover, both RWA and SDO predict negative attitudes toward sexual minorities (see Ekehammar, Akrami, Gylje, & Zakrisson, 2004; Whitley, 1999). Thus, increases in RWA and SDO were expected to be associated with more negative attitudes toward asexuals, homosexuals, and bisexuals.

Ingroup identification According to social identity theory (Tajfel & Turner, 1979), individuals derive positive identity from their groups, an outcome achievable by favorably evaluating one's ingroup over an outgroup. Stronger ingroup identification is typically associated with less positive outgroup evaluations. Although commonly considered a situational variable, individuals also differ (i.e., between each other) in the strength of their ingroup identification (e.g., Hodson, Harry, & Mitchell, 2009; Pratto & Glasford, 2008; Spears, Doosje, & Ellemers, 1997). Past research indicates that strong identification with one's heterosexual ingroup is associated with significantly more prejudice toward homosexuals (e.g., Hodson et al., 2009). To the extent that social identity plays a role in prejudice against sexual minorities, we predicted that increased heterosexual identification will be associated with more negative attitudes toward asexual people (as well as toward homosexual and bisexual people).

Religious fundamentalism Religious fundamentalism is characterized by rigid thinking, very strict adherence to religious dogma, and literal interpretations of religious texts (Altemeyer & Hunsberger, 2004). Those higher in fundamentalism are typically higher in several types of prejudice (Hall, Matz, & Wood, 2010), especially toward homosexuals (see Hunsberger & Jackson, 2005). As mentioned previously, fundamentalists even dislike nonsexually active homosexuals (Fulton et al., 1999). We predicted that increased religious fundamentalism would be associated with more negative attitudes toward asexuals, as well as homosexuals, and bisexuals.

Criterion 3. Positive associations between asexual attitudes and attitudes toward other sexual minorities

Attitudes toward one outgroup typically correlate with attitudes toward other outgroups (e.g., see Ekehammar et al., 2004). Especially strong correlations exist when groups share some commonality (Duckitt & Sibley, 2007). Thus, in the current

study, attitudes toward sexual minority groups are expected to be positively intercorrelated as evidence of convergent validity. In order to establish asexuals as a target of sexual minority prejudice per se, attitudes toward asexuals should correlate with attitudes toward well-established targets of sexual minority prejudice: homosexuals and bisexuals (see Herek, 2002, 2009).

Criterion 4. Representing asexuals as less human

Outgroups that bear intergroup bias are often dehumanized, viewed as "less human" or denied full "humanness" (Haslam, 2006; Leyens et al., 2000). Previous research has found evidence of the dehumanization of several groups including Australians and Chinese (Bain, Park, Kwok, & Haslam, 2009), immigrants (Costello & Hodson, 2010; Hodson & Costello, 2007), and Blacks (Goff, Eberhardt, Williams, & Jackson, 2008). Haslam (2006) identifies two *types* of dehumanization, each involving the denial of different aspects of humanness: *uniquely human* and *human nature*. Uniquely human characteristics are those differentiating humans from animals (e.g., refinement, culture). When dehumanized in uniquely human terms, a group is considered animalistic. Human nature characteristics are those considered fundamental to the human species (e.g., warmth, individuality). When dehumanized in human nature terms, a group is considered *machine-like* or *mechanistic* (Haslam, 2006). Within each type of dehumanization, we examine two bases through which a person or group can be dehumanized: *trait-based* (the denial of human traits, such as *polite*; see Bastian & Haslam, 2010) and *emotion-based* (the denial of human emotions, such as *happiness*; see Bain et al., 2009).

For each type of dehumanization we predicted that the normative heterosexual ingroup will be considered the most "human" and asexuals the least human. After all, sexuality has become inextricably linked with "humanness." Both philosophical (see Foucault, 1978) and sociological (see Plummer, 2003) scholars have discussed the

extent to which sexuality has become intimately connected with nearly all aspects of human social life. Human sexuality is thus a socially constructed phenomenon with strong prominence and importance in our lives. Given the strong overlap between sexuality and “humanness,” asexuals were expected to be dehumanized generally, as an atypical, deviant, and low-status outgroup. Given their defining lack of sexual desire, we predicted particularly strong human nature dehumanization, with heterosexuals representing asexuals as cold and machine-like, relatively devoid of fundamental aspects characterizing humanity.

Criterion 5. Contact avoidance intentions

An association between increased contact and favorable outgroup attitudes is well established and somewhat bidirectional (Pettigrew & Tropp, 2006). Generally speaking, however, people naturally tend to avoid outgroups they dislike (Hodson, 2011). To the extent that heterosexuals hold biases against sexual minorities, we predicted contact avoidance intentions directed toward asexuals, homosexuals, and bisexuals.

Criterion 6. Discrimination intentions

Discrimination represents the behavioral component of intergroup bias. Given that heterosexuals are biased against sexual minorities generally (see Herek, 2002, 2009, 2010), we predicted that heterosexuals would express intentions to discriminate against asexuals, homosexuals, and bisexuals, denying employment and housing opportunities relative to the dominant heterosexual ingroup.

Criterion 7. Distinguishing anti-asexual bias from singlism (divergent validity)

DePaulo and Morris (2005) introduced prejudice toward single people or “singlism” as a common, problematic, but underrecognized phenomenon. It is possible that bias against asexuals, if established, could simply reflect singlism. On the surface, singlism and anti-asexual prejudices share

commonalities. Singles do not have long-term sexual partnerships, which generates intergroup bias because sex is considered as an essential part of life in contemporary Western societies (DePaulo & Morris, 2005). In fact, committed sexual relationships are widely considered the one “true” peer relationship and the only way to obtain “ideal sex” (in terms of quantity and quality; DePaulo & Morris, 2005). Thus, biases against singles and asexuals may overlap. However, there is a clear operational difference between these social categories. Singles *can* have sex outside of relationships, and likely *have had* or *will have* sex within past/future relationships. Asexuals on the other hand, *do not* and *will not* have sex of their own volition, nor desire to. In addition, most heterosexuals have been single in the past, or fear singlehood in the future, but presumably do not worry about becoming asexual. These fundamental differences between singles and asexuals are expected to differentiate biases against these targets. We predicted that negative attitudes toward asexuals would not simply reflect singlism, but rather a newly identified form of sexual minority prejudice.

Study 1

The goal of Study 1 was to document intergroup bias against asexuals by these criteria using an undergraduate sample.

Method

Participants and procedure Undergraduate students studying various subjects at a Canadian university participated for course participation or CAN\$5.00. Members of sexual minority groups were excluded from analyses, leaving 148 participants (121 women, 27 men, *M* age = 19.91, *SD* = 3.23).

Materials

Demographics Participants provided their age, sex, and sexual orientation (selecting either heterosexual, homosexual, bisexual, or asexual).

Definitions of sexual orientation groups

Before answering the questionnaire, each sexual orientation was explicitly explained (see below).

Heterosexuals: People who are *sexually attracted to those of the opposite sex*, typically engaging in *sexual activity with people of the opposite sex* (e.g., a man who is sexually attracted to women; a woman who is sexually attracted to men).

Homosexuals: People who are *sexually attracted to a member of the same sex*, typically engaging in *sexual activity with people of the same sex* (e.g., a man who is sexually attracted to men; a woman who is sexually attracted to women).

Bisexuals: People who are *sexually attracted to people of both sexes*, typically engaging in *sexual activity with people of both sexes* (e.g., a man who is sexually attracted to both men and women; a woman who is sexually attracted to both men and women).

Asexuals: People who have *no* sexual attraction to either sex (and never have), and typically do not engage in sexual activity with others (e.g., a man that has no sexual attraction to men or women; a woman who has no sexual attraction to men or women).

Attitude thermometers Evaluations of heterosexuals, homosexuals, bisexuals, and asexuals were each tapped with widely used attitude thermometers. These scales, divided into 10° range increments, ranged from 0–10° (extremely unfavorable) to 91–100° (extremely favorable). Higher scores indicate greater liking of the target group.

Right-wing authoritarianism (RWA) Twelve items from the RWA scale (Altemeyer, 1996) were administered, using 7-point scales. After reverse-coding appropriate items, higher scores represent stronger RWA.

Social dominance orientation (SDO) Sixteen items measured SDO (Pratto et al., 1994) on

7-point anchors, with higher scores representing stronger SDO.

Ingroup identification Participants rated: (a) the importance of group membership for their identity; (b) perceived commonality with group members; and (c) attachment to their group (along 11-point anchors). After averaging, higher scores represent stronger ingroup identification (in the analyzed sample, with heterosexuals).

Religious fundamentalism Twelve items tapped rigid religious beliefs (Altemeyer & Hunsberger, 2004) regardless of denomination, on 9-point scales; higher scores represent stronger religious fundamentalism.

Bias toward single people (“singlism”) The Negative Stereotyping of Single Persons Scale (Pignotti & Abell, 2009) taps attitudes toward marriage versus singlehood, perceived consequences of being single, and perceived causes of being single. From the full 30-item version, 15 scale items were administered on 7-point scales; after averaging, higher scores represent greater bias toward singles.

Dehumanization Bastian and Haslam’s (2010) method of measuring trait-based dehumanization was employed. Participants rated the extent to which 20 traits *characterize* each target (heterosexuals, homosexuals, bisexuals, asexuals). There were five positive (broadminded, conscientious, humble, polite, thorough) and five negative (disorganized, hard-hearted, ignorant, rude, stingy) uniquely human traits; and five positive (active, curious, friendly, helpful, fun-loving) and five negative (impatient, impulsive, jealous, nervous, shy) human nature traits. The mean of each trait set was calculated, collapsing across valence¹. Higher scores on uniquely human (or human nature) measures represented a stronger characterization of uniquely human (or human nature) traits.

To measure emotion-based dehumanization (see Leyens et al., 2000), participants rated the extent to which 13 emotions are *experienced by* heterosexuals, homosexuals, bisexuals, and asexuals. Bain et al.

(2009)² previously identified four emotions (one positive, three negative) perceived to be uniquely human (optimism, embarrassment, disgust, guilt), and five emotions (four positive, one negative) perceived to represent human nature (love, desire, happiness, affection, fear); four additional emotions were filler items. As with trait-based dehumanization, means of each emotion set were computed. Higher scores on uniquely human (or human nature) represented greater perceived experience of uniquely human (or human nature) emotions.

Future contact intentions Using 8-point scales participants indicated the likelihood of and interest in conversing with members of each sexual orientation group in the future (from Husnu & Crisp, 2010). Items were averaged, with higher scores representing positive future contact intentions.

Discrimination intentions Comfort with renting to and hiring a member from each sexual orientation were tapped on 11-point scales.

Results

Negative evaluations of asexuals (attitudes)

As predicted, attitudes toward heterosexuals (ingroup) were the most positive (see Table 1). Attitudes toward homosexuals, bisexuals, and asexuals were more negative than attitudes toward heterosexuals, revealing a *sexual minority bias*. Within sexual minorities, homosexuals were evaluated most positively³, followed by bisexuals, with asexuals being evaluated most negatively of all groups. Thus, not only are more negative attitudes leveled toward sexual minorities (vs. heterosexuals), but *antiasexual prejudice* is the most pronounced of all.

Exaggerated bias among prejudice-prone individuals

Less favorable attitudes toward each sexual minority group were associated with increases in

RWA, SDO, ingroup (i.e., heterosexual) identification, or religious fundamentalism, as expected (see Table 2). Interestingly, relations between these prejudice correlates and attitudes toward asexuals are similar to relations between these variables and well-established sexual minority attitudes (i.e., attitudes toward homosexuals, bisexuals), despite the latter engaging in same-sex behavior whereas asexuals engage in no (or little) sexual activity. Prejudice-prone individuals, it seems, are biased against sexual minorities due to their deviant status rather than sexual actions *per se*.

Relations between evaluations of asexual people and evaluations of other sexual minorities

Attitudes toward sexual minorities (homosexuals, bisexuals, asexuals) were significantly and positively intercorrelated, suggesting generalized sexual minority attitudes (see Table 2). That is, those liking (or disliking) homosexuals or bisexuals likewise like (or dislike) asexuals. Furthermore, a confirmatory factor analysis supported a single factor of sexual minority prejudice: loadings .94 bisexual, .85 homosexual, .73 asexual.

Dehumanization of sexual minorities

Trait-based dehumanization *Uniquely human* traits were perceived to apply most to heterosexuals and were attributed less to homosexuals and bisexuals than heterosexuals (see Table 1). Asexuals were attributed significantly lower uniquely human traits than any other sexual orientation group. *Human nature* traits were attributed significantly more to homosexuals than heterosexuals, bisexuals, and asexuals. Human nature traits were attributed significantly more to bisexuals than heterosexuals and asexuals, and heterosexuals were attributed significantly more human nature traits than asexuals. Thus, of the four sexual orientation groups, asexuals were perceived to be least “human” in terms of both uniquely human and human nature traits/characteristics.

Table 1. Aggregate-level bias ratings as a function of sexual orientation target (Study 1; university sample)

	Potential range	Omnibus <i>F</i>	<i>df</i>	Hetero	Homo	Bisex	Asex	Antisexual minority (relative to heterosexual)?	Antiasexual? (relative to other sexual minorities)
Attitudes									
Attitude thermometer	0–9	112.27	3, 441	8.09 _a	5.95 _b	5.20 _c	4.70 _d	✓	✓
Dehumanization									
<i>Traits (characteristics)</i>									
Uniquely human	1–7	18.24	3, 441	4.46 _a	4.36 _b	4.33 _b	4.15 _c	✓	✓
Human nature	1–7	143.89	3, 441	4.87 _a	5.09 _b	5.02 _c	4.03 _d	×	✓
<i>Emotions (sensation capability)</i>									
Uniquely human	1–7	15.39	3, 438	4.94 _a	5.18 _b	5.01 _a	4.65 _c	×	✓
Human nature	1–7	279.77	3, 438	5.91 _a	5.96 _a	5.70 _b	3.81 _c	partial ¹	✓
Contact									
Future contact intentions	0–7	29.14	3, 441	5.88 _a	5.35 _b	4.95 _c	5.03 _c	✓	partial ²
Discrimination intentions									
Rent	0–10	19.80	3, 441	9.50 _a	8.92 _b	8.61 _c	9.09 _b	✓	×
Hire	0–10	15.32	3, 441	9.45 _a	9.06 _b	8.76 _c	8.84 _b	✓	×

Note: Omnibus *F*s significant $p < .001$. Within rows, means sharing a subscript do not differ significantly from one another; means not sharing a subscript

differ at $p < .05$. ¹Antibisexual and asexual, but not homosexual; ²Antiasexual relative to homosexual, but not bisexual.

Emotion-based dehumanization A similar pattern emerged regarding perceived emotions experienced by each group. *Uniquely human* emotions were perceived to be experienced most by homosexuals, followed by heterosexuals, and bisexuals; uniquely human emotions were perceived to be significantly least experienced by asexuals relative to all other targets. *Human nature* emotions were perceived to be most experienced by heterosexuals and homosexuals, less by bisexuals (relative to heterosexuals and homosexuals), and experienced the least by asexuals relative to heterosexuals, homosexuals, and bisexuals. As with trait-based dehumanization, asexuals were denied

uniquely human and human nature emotions (see Table 1).

Future contact intentions

Overall, participants indicated greater preference for future contact with heterosexuals relative to sexual minorities. Within sexual minority groups, contact with homosexuals was preferred over contact with bisexuals or asexuals (see Table 1). Again, this demonstrates evidence of antisexual minority bias, and contact least desired with bisexuals and asexuals (equivalently). Of particular interest to the present investigation, contact with asexuals was

Table 2. Correlations among sexual orientation attitudes, prejudice correlates, and singlism (Study 1, university sample)

	1	2	3	4	5	6	7	8	9
1. Asexual attitude thermometer		.69***	.62***	.10	-.43***	-.33***	-.28**	-.26**	-.15
2. Bisexual attitude thermometer			.80***	.20*	-.51***	-.33***	-.29***	-.34***	-.06
3. Homosexual attitude thermometer				.30***	-.58***	-.39***	-.29***	-.35***	-.15
4. Heterosexual attitude thermometer					-.09	-.15	.20*	-.02	-.06
5. Right-wing authoritarianism						.88	.53***	.34***	.67***
6. Social dominance orientation							.86	.02	.24**
7. Ingroup identification								.84	.27**
8. Religious fundamentalism									.94
9. Singlism									

Note: Higher scores on attitude thermometers indicate more positive attitudes; higher singlism scores indicate greater bias. Where applicable, alpha reliability coefficients appear on the diagonal.

*** $p < .001$, ** $p < .01$, * $p < .05$.

desired significantly less than contact with homosexuals, a frequently studied prejudice target group.

Discrimination intentions

Participants were most willing to rent to heterosexuals relative to sexual minorities. Following heterosexuals, participants were most willing to rent to homosexuals or asexuals, and least to bisexuals. The same pattern was observed with regard to hiring decisions (see Table 1). Overall, participants intended to discriminate against sexual minorities (including asexuals), with most bias directed toward bisexuals.

Antiasexual bias and singlism

Importantly, attitudes toward asexuals do not simply reflect negative biases toward single people. In fact, attitudes toward asexuals were not significantly related to singlism (see Table 2). Moreover, relations between RWA, SDO, ingroup identification, or religious fundamentalism and

asexual attitudes remain relatively unchanged after statistically controlling for singlism (partial correlations equal $-.41$, $-.31$, $-.29$, and $-.25$, p s $< .001$, respectively).

Discussion

Empirically, very little is known about asexuality relative to other sexual orientations, and no research has addressed whether asexuals are targets of bias at the group level. Addressing this latter question for the first time, our analysis suggests that antiaseexual prejudice is indeed a sexual minority prejudice, correlating positively with attitudes toward homosexuals and bisexuals. Relative to the heterosexual ingroup, we find compelling evidence of antisexual minority prejudice, with this newly identified bias being particularly extreme. Strikingly, on many key measures (particularly intergroup evaluations, dehumanization, and for the most part, contact intentions), we find significantly more bias against asexuals than other sexual minorities, and discrimination intentions matching that

against homosexuals. Overall, we find clear evidence of a previously unidentified and strong sexual minority prejudice: *antiasexual bias*.

In keeping with this bias being intergroup in nature, those higher (vs. lower) in RWA or SDO expressed particularly strong dislike of asexuals, as they typically do for deviant and low-status groups. In keeping with social identity theory, stronger heterosexual identification was also associated with greater asexual prejudice. This relation between heterosexual identification and favorable evaluations of asexual people became smaller when statistically controlling for RWA and SDO, but remained significant ($r_p = -.19$, $p = .022$). Overall, negativity toward asexuals is marked by an ideological flavor that is clearly intergroup in nature, not a simple indifference toward a nonnormative other. Importantly, although those higher in SDO or RWA expressed greater singlism, their dislike of asexuals was not explained by singlism. Antiasexual bias is a type of sexual minority prejudice distinct from related constructs and rooted in ideological opposition to deviant sexuality (not merely those adopting independent or single lifestyles). That is, antiasexual bias is not merely singlism.

Those higher (vs. lower) in religious fundamentalism also demonstrated less favorable attitudes toward asexual people, despite asexuals being disinterested in sexual relations, a relation that remains after statistically controlling for SDO ($r_p = -.19$, $p = .019$). Upon statistically controlling for RWA however ($r_p = .05$, $p = .548$), or both RWA and SDO ($r_p = .03$, $p = .698$), this relationship reduces to nonsignificance. This latter finding is unsurprising, given that few variables predict prejudice above and beyond RWA and SDO (see Altemeyer, 1998). Further, strong correlations typically exist between RWA and religious fundamentalism ($r = .67$ in the current study), leading Altemeyer and Hunsberger (2004) to consider religious fundamentalism a “religious manifestation” of RWA. Thus, while evaluations of asexuals are more negative among prejudice-prone individuals, asexual prejudice does not have a unique religious component, but rather reflects concerns with status quo and group dominance.

Our dehumanization results are particularly compelling. Asexuals (relative to heterosexuals) were dehumanized with regard to both dimensions (represented as *animalistic*, and particularly as *machine-like*), regardless of whether these assessments were based on traits (i.e., characteristics) or emotions (i.e., sensation capability). Generally speaking, asexual dehumanization was greater than that characterizing other sexual minorities, showcasing this bias as serious and extreme. Sexuality appears to be perceived as a key component of humanness. The dehumanization measures employed did not explicitly reference sexuality, yet asexuals were strongly biased against on these measures. Thus, characteristics/emotions representing humanness are clearly intertwined with sexuality and/or sexual desire.

Limitations

In Study 1 we employed a university student sample containing few men, not allowing the systematic examination of participant sex as a factor. Moreover, students' views of asexuals may not necessarily reflect those of the general population. University students are relatively more liberal (Henry, 2008) and may therefore hold more positive views of sexual minorities than would a community sample. On the other hand, given the prominent role of sexuality in emerging adulthood (see Lefkowitz & Gillen, 2006), sexual activity is highly valued by university students. As such, university students may be more negative toward those forgoing sex (i.e., asexuals) than a community sample. Examining antiasexual bias in a community sample, particularly with a larger percentage of men, represents a critical step in establishing this phenomenon.

Study 2

Study 2 sought to replicate these patterns of bias in a broader online community sample and rule out additional potential confounds (i.e., beyond singlism). By examining a community sample we are able to determine whether antiasexual bias is enhanced or attenuated relative to student

samples, and access a larger proportion of male participants, allowing consideration of sex differences in biases.

We also sought to rule out outgroup familiarity as a potential confound. In Study 2 we tapped attitudes toward a largely unknown sexual orientation group, *sapiosexuals* (those sexually attracted to the human mind). Like asexuals, this group is relatively uncommon and objectively harmless. If attitudes toward this group are significantly less biased than those toward asexuals this would suggest that anti-sexual bias represents more than simply disliking unfamiliar groups. We also explicitly assessed familiarity with each sexual orientation to rule out lack of mere familiarity with asexuals as a confound. Additionally, in Study 2 evaluations of sexual orientation groups were randomized to rule out order effects.

Method

Participants and procedure Participants completed an online survey hosted on surveymonkey.com, with participation entitling access to a CAN\$50.00 draw. Members of sexual minority groups were excluded from analyses, leaving 101 participants (63 women, 34 men, four unspecified, M age = 35.36, SD = 13.63). Most participants resided in Canada or the United States (98%), were nonstudents (70%)⁴, and were employed (66%).

Materials

Materials were identical to Study 1, with the addition of the following materials.

Demographics In addition to Study 1 demographics, participants indicated country of residence, student (vs. nonstudent) status, and employment status.

Definition of sapiosexuals The following definition was added:

Sapiosexuals: People who are sexually attracted to the human mind. They engage in sexual

activity, but find intelligence to be the most arousing quality of their sexual partners.

Attitude thermometers Evaluations of sapiosexuals were tapped with an attitude thermometer (see Study 1). Attitudes toward the five sexual orientation groups were measured in random order.

Group familiarity Participants indicated their familiarity with heterosexuals, homosexuals, bisexuals, asexuals, and sapiosexuals (with each group name inserted where appropriate) on a 1 (*none at all*) to 9 (*very much*) scale: "What is your knowledge of the group [insert] (i.e., do you know what it means to be [insert], have you heard of this group before, etc.)?"

Results

Overview of analyses

We first analyze whether the seven bias criteria are met in Study 2. Next, we present new analyses to verify our results; we examine attitudes toward a comparison group, ruling out simple lack of familiarity as the reason asexuals were evaluated most negatively in Study 1. Overall, there were few differences as a function of participant sex⁵; for brevity, the following results collapse across sex.

Negative evaluations of asexuals (attitudes)

Replicating Study 1, a sexual minority bias was demonstrated whereby attitudes toward heterosexuals were the most positive, followed by attitudes toward homosexuals, bisexuals, and asexuals. Within sexual minorities, homosexuals and bisexuals were evaluated equivalently, with asexuals evaluated more negatively than both homosexuals and bisexuals (see Table 3). Again, the pattern of anti-sexual prejudice, relative to the heterosexual ingroup and even relative to other sexual minorities was uncovered. Importantly, this general pattern

Table 3. Aggregate-level bias ratings as a function of sexual orientation target (Study 2, community sample)

	Potential range	Omnibus <i>F</i>	<i>df</i>	Hetero	Homo	Bisex	Asex	Antisexual minority (relative to heterosexual)?	Antiasexual (relative to other sexual minorities)?
Attitudes									
Attitude thermometer	0–9	34.57	4, 400	8.78 _a	6.92 _b	7.02 _b	6.45 _c	✓	✓
Dehumanization									
<i>Traits (characteristics)</i>									
Uniquely human	1–7	4.70	3, 300	4.56 _a	4.45 _{ab}	4.41 _b	4.35 _b	partial ¹	partial ²
Human nature	1–7	27.86	3, 300	4.71 _a	4.74 _a	4.72 _a	4.11 _b	×	✓
<i>Emotions (sensation capability)</i>									
Uniquely human	1–7	5.14	3, 300	5.14 _a	5.19 _a	5.11 _a	4.82 _b	×	✓
Human nature	1–7	53.91	3, 300	5.71 _a	5.65 _a	5.60 _a	4.45 _b	×	✓
Contact									
Future contact intentions	0–7	7.51	3, 297	5.38 _a	5.09 _b	5.04 _{bc}	4.97 _c	✓	partial ³
Discrimination intentions									
Rent	0–10	6.97	3, 297	9.68 _a	8.86 _b	8.97 _b	9.05 _b	✓	×
Hire	0–10	7.95	3, 297	9.63 _a	8.87 _b	8.87 _b	9.00 _b	✓	×

Note: Omnibus *F*s significant $p < .01$. Within rows, means sharing a subscript do not differ significantly from one another; means not sharing a subscript differ at $p < .05$. ¹Antisexual and asexual, but not homosexual; ²Antiasexual relative to homosexual, but not bisexual; ³Antiasexual relative to homosexual, but not bisexual.

of differential evaluation of sexual orientation groups matches that of Study 1, even though attitudes toward each group are more positive in the online (vs. student) sample ($ps < .003$).

Exaggerated bias among prejudice-prone individuals

As in Study 1, less favorable attitudes toward sexual minority groups were associated with increases in RWA, SDO, heterosexual identification, or religious fundamentalism. In one exception, attitudes toward asexuals were not significantly correlated with religious fundamentalism (see Table 4). Overall, associations between attitudes and RWA, SDO, and heterosexual identification corroborate our findings from Study 1: prejudice-prone individuals are more biased toward asexuals, as they are toward other sexual minorities (note that, unlike Study 1, the relation between heterosexual

identification and bias toward asexuals reduces to nonsignificance when statistically controlling for RWA and SDO, consistent with the notion that bias against asexuals is about conventionality, traditionalism, and group dominance).

Relations between evaluations of asexual people and evaluations of other sexual minorities

As in Study 1, attitudes toward sexual minorities were positively intercorrelated (see Table 4) with a confirmatory factor analysis supporting a single factor of sexual minority prejudice: loadings .97 bisexual, .89 homosexual, .76 asexual⁶.

Dehumanization of sexual minorities

Trait-based dehumanization *Uniquely human* traits were perceived to apply most to heterosexuals

Table 4. Correlations among sexual orientation attitudes, prejudice correlates, and singlism (Study 2, community sample)

	1	2	3	4	5	6	7	8	9	10
1. Asexual attitude thermometer		.74***	.66***	.36***	.84***	-.34***	-.30**	-.25*	-.17	-.22*
2. Bisexual attitude thermometer			.84***	.34**	.74***	-.50***	-.41***	-.24*	-.33**	-.28**
3. Homosexual attitude thermometer				.28**	.64***	-.57***	-.51***	-.33**	-.45***	-.26**
4. Heterosexual attitude thermometer					.35***	.21*	.01	.27**	.24*	-.11
5. Sapiosexual attitude thermometer						-.35**	-.29**	-.26**	-.22*	-.20*
6. Right-wing authoritarianism							.89	.49***	.56***	.71***
7. Social dominance orientation								.90	.32**	.24*
8. Ingroup identification									.84	.49***
9. Religious fundamentalism										.93
10. Singlism										

Note: Higher scores on attitude thermometers indicate more positive attitudes; higher singlism scores indicate greater bias. Where applicable, alpha reliability coefficients appear on the diagonal.
 *** $p < .001$, ** $p < .01$, * $p < .05$.

and homosexuals, and attributed less to bisexuals and asexuals than heterosexuals (see Table 3). *Human nature* traits were perceived to apply equivalently to heterosexuals, homosexuals, and bisexuals, with asexuals attributed significantly lower human nature traits than each of the other groups. Thus, evidence of anti-sexual bias was again evident.

Emotion-based dehumanization Both uniquely human and human nature emotions were perceived to be experienced equivalently by heterosexuals, homosexuals, and bisexuals, and experienced significantly less by asexuals relative to each of the other groups. Again, asexuals were relatively denied uniquely human and human nature emotions (see Table 3).

Future contact intentions

Confirming Study 1, heterosexuals indicated preference for future contact with heterosexuals relative to

sexual minorities. Desired future contact with homosexuals and bisexuals were equivalent, and contact with asexuals was even less desired than contact with homosexuals (see Table 3).

Discrimination intentions

A sexual minority bias was evident, whereby participants were most willing to rent to and/or hire heterosexuals relative to homosexuals, bisexuals, or asexuals (see Table 3).

Anti-sexual bias and singlism

In Study 2, less favorable attitudes toward asexuals were related to greater singlism ($r = -.22$), but not so much as to indicate strong conceptual overlap (see Table 4). Furthermore, relations between RWA, SDO, or ingroup identification and favorable attitudes toward asexual people remained significant after statistically controlling

for singlism (partial correlations equal $-.30$, $-.26$, $-.22$, and $ps < .03$, respectively). These findings further corroborate the proposition that biases against asexuals concern their *sexual deviancy* rather than simple biases against those who are relatively independent and not in committed sexual relationships.

Ruling out group familiarity as a confound

As noted previously, bias against asexuals might reflect a bias against a relatively unfamiliar sexual minority, rather than asexuality per se. This potential explanation, however, is not supported. Heterosexuals were not surprisingly the most familiar sexual orientation group ($M = 8.90$). Homosexuals ($M = 8.51$) were less familiar than heterosexuals, followed by bisexuals ($M = 7.92$) ($ps < .001$). Asexuals ($M = 5.80$) were less familiar than heterosexuals, homosexuals, and bisexuals ($ps < .001$). As expected, sapiosexuals ($M = 2.67$) were deemed significantly less familiar than heterosexuals, homosexuals, bisexuals, and most critically, asexuals ($ps < .001$).

Although asexuals were not the least familiar sexual minority target, they were nevertheless the most negatively evaluated. That is, attitudes toward asexuals were significantly more negative than attitudes toward sapiosexuals ($M = 6.81$), $t(100) = 2.24$, $p = .027$. If lack of familiarity were solely responsible for the pattern of group evaluations obtained (see Tables 1 and 3), sapiosexuals would be the most negatively evaluated group. In further evidence that familiarity per se does not explain dislike of asexuals, relations between RWA, SDO, or ingroup identification with asexual evaluations were relatively unchanged after statistically controlling for familiarity with asexuals (partial correlations equal $-.36$, $-.31$, $-.24$, and $ps < .02$, respectively). Prejudice-prone persons, therefore, were not more prejudiced toward asexuals as a result of mere unfamiliarity.

Discussion

Employing an online community sample, the results of Study 2 largely confirm those from the university sample examined in Study 1. Asexuals were evaluated negatively relative to both heterosexuals and other sexual minorities, with order effects not explaining this pattern given the randomized order of evaluations. Notably, asexuals were evaluated more negatively than a very unfamiliar sexual minority comparison group, sapiosexuals. The group lacking sexual desire, rather than the least familiar group, was the target of the most negative attitudes. Again, we provide evidence that anti-aexual bias is a form of sexual minority prejudice, that those prone to prejudice are more prone to anti-aexual bias, and that asexuals are targets of dehumanization, avoidance, and discrimination intentions. Further, we demonstrate that bias toward asexuals is either equivalent to, or even more extreme, than bias toward homosexuals and bisexuals.

Although these results largely corroborate Study 1 some interesting differences emerged. First, mean evaluations of each group were noticeably more positive in Study 2. Interestingly, university students were more negative toward homosexuals, bisexuals, and asexuals than the population in general. This might come as a surprise given university students' reported tendency toward liberalism and lower prejudices toward most other social targets (Henry, 2008). This finding suggests that university-aged students strongly value heteronormative sex, viewing sexual minorities, especially those preferring no sex at all, as deficient. Second, although asexuals were dehumanized on both dimensions (uniquely human and human nature) by the overall sample, sex differences emerged, whereby men represented asexuals as animalistic more consistently than did women (see Endnote 5). There was a strong overall tendency however, as in Study 1, for asexuals to be viewed by both men and women as more machine-like than heterosexuals, homosexuals, or bisexuals. Overall, asexuals are clear targets of bias by heterosexuals.

General discussion

Despite being scientifically identified as “Group X” long ago (Kinsey et al., 1948), asexuals represent a relatively “new” group in contemporary society, presumably due to modern interpretations of asexuality as a sexual orientation within the normal range of human sexuality (Bogaert, 2004, 2006), recent representation in popular media, and online social networking. We have established consistently that asexuals are evaluated negatively (not due to a simple lack of familiarity). Asexuals’ status as a highly atypical and “deficient” (Herek, 2010) sexual minority group seems to be a more likely source of this prejudice. We have established various forms of antiassexual bias (including dehumanization) relative to heterosexuals and, in some cases, other sexual minority groups. Taken together, Studies 1 and 2 confirm the existence of antiassexual bias, in university and community samples, respectively.

Our findings are in keeping with Herek’s (2010) “differences as deficits” model of sexual orientation, where sexual minorities deviating from the norm are considered substandard and deserving of negativity by the majority. This model is gradually becoming less applicable to homosexuals and bisexuals with changes in societal norms (Herek, 2010), consistent with our findings that homosexuals (and in some cases bisexuals) were viewed as equally or more human than the heterosexual ingroup⁷. However, we posit that asexuals fit well within the “differences as deficits” framework. Asexuals are the sexual minority that is most clearly considered “deficient” by heterosexuals. In keeping with this interpretation, themes relevant to maintaining the status quo and group dominance (RWA and SDO, respectively) proved consistently important in predicting antiassexual attitudes, whereas concerns with positive ingroup identity and religious fundamentalism were less uniquely important.

Although antiassexual bias is a clear component of sexual minority prejudice, it is also unique in that it was repeatedly stronger than bias toward other sexual minorities. Most disturbingly, asexuals are viewed as less human, especially lacking in

terms of human nature. This confirms that sexual desire is considered a key component of human nature, and those lacking it are viewed as relatively deficient, less human, and disliked. It appears that asexuals do not “fit” the typical definition of human and as such are viewed as less human or even nonhuman, rendering them an extreme sexual orientation outgroup and very strong targets of bias. Future research can address the mechanisms underlying this tendency.

Of interest, we also uncovered an interesting finding with regard to the dehumanization of homosexuals, rated as equally human (or more human) than heterosexuals on virtually all dehumanization measures (see Tables 1 and 3). Whereas others have argued that homosexuals are dehumanized, particularly in animalistic terms (e.g., Herek, 2009), we find that homosexuals are considered particularly high in human nature traits (e.g., fun-loving) and uniquely human emotionality (e.g., optimism) in Study 1, and equivalent to heterosexuals on both types of traits and emotions in Study 2. Given the common stereotypes of homosexuals as artistic and emotional (see Elfenbein, 1999, on the origin of these stereotypes), contemporary methods to assess outgroup dehumanization generally may not be sensitive enough (or even appropriate) to measure dehumanization of homosexuals⁸. Future research can follow up on this issue of homosexual dehumanization, and the broader question of dehumanization of sexual minorities.

Implications

Asexuals arguably pose little objective threat and do little harm to others. Asexuality is operationalized as the *absence* of sexual attraction, and rationally speaking, should not be linked to strong bias. Although it is not overly surprising that asexuals are regarded as more mechanistic and lacking some key qualities of human nature, it makes no “sense” to characterize these individuals as dislikeable, avoidable, or less desirable as tenants or employees. We share Crandall and Warner’s (2005) position that (ir)rationality of a bias is

largely irrelevant in establishing a bias. Rather, presenting evidence that this group is (negatively) differentiated on attitude, dehumanization, contact intention, and discrimination intention measures is strong evidence that bias against this group exists.

We also share Crandall and Warner's (2005) call for researchers and theorists to broaden the range of outgroup targets we examine in order to fully comprehend prejudice as a psychological phenomenon. As these authors suggest, social scientists typically study bias against a group once expressions of bias against that group (e.g., Blacks) begin to move from being normatively acceptable to normatively unacceptable. Following this caveat, we advocate that bias against asexuals becomes a focus of attention by scientists at this critical time point where interest in asexuality is cresting and becoming discussed in popular culture (see first part of this article). Although the stated proportion of asexuals in society is likely underrepresented, even if we take the 1% estimate at face value these numbers are not terribly discrepant from the proportion of homosexuals (see Laumann, Gagnon, Michael, & Michaels, 1994) or Muslims in many countries (e.g., see "Mapping the Global Muslim Population," 2009). Yet prejudices against each of these targets are researched extensively and well established. To this point, the small relative size of a minority group should not mark its investigation as "specialized" or "applied" (Crandall & Warner, 2005). Rather, uncovering these newly identified and unique biases speaks to a bigger picture concerning intergroup dominance and negativity. Drawing attention to this bias *before* it becomes socially unacceptable to express (see Crandall & Warner, 2005) can encourage the field to understand this bias and implement strategies for intervention.

Funding

This work was supported by the Social Sciences and Humanities Research Council of Canada (Grant 410-2007-2311) to the second author.

Notes

1. Because dehumanization is theoretically independent of valence (see Leyens et al., 2000), we collapsed across valence for simplicity (and due to the

limited numbers of each valence represented in the emotion-based measures).

2. Based also on Paul Bain (personal communication, April 5, 2011)
3. Analyses collapse across sex given the underrepresentation of male participants. However, homosexuals were evaluated more negatively by men than women ($p = .01$) (see also Kite & Whitley, 1996). No sex differences on attitudes toward bisexuals or asexuals were found. Additionally, the pattern of differential group evaluations was the same for men and women.
4. Results were virtually identical whether students were included or excluded from the analyses.
5. As in Study 1, homosexuals were evaluated more negatively by men than women ($p = .02$). Unlike Study 1, in Study 2 men (vs. women) evaluated heterosexuals ($p = .02$) and asexuals ($p = .05$) more negatively than women. In Study 2 interactions between sexual orientation and participant sex were examined. On virtually all measures the interaction was not significant, with two exceptions: uniquely human trait-based ($F[3, 285] = 2.64, p = .050$) and uniquely human emotion-based dehumanization ($F[3, 285] = 3.08, p = .028$). Men showed clear anti-sexual bias, attributing uniquely human traits more to heterosexuals, homosexuals, and bisexuals than asexuals. Women showed anti-sexual bias on this measure only relative to heterosexuals. On uniquely human emotion-based dehumanization, men displayed strong anti-sexual bias generally, but especially toward asexuals. Women perceived uniquely human emotions to be experienced the most by homosexuals and heterosexuals (equivalently), and by bisexuals and asexuals significantly less than homosexuals (but equivalently to heterosexuals).
6. On the advice of an anonymous reviewer, we conducted canonical correlations in Studies 1 and 2, with sexual minority (homosexual, bisexual, and asexual) attitudes as dependent variables and individual differences (RWA, SDO, religious fundamentalism, and ingroup identification) as independent variables. In Study 1, this produced one canonical correlate ($r = .61, p < .001$) with the following coefficients: homosexual attitudes ($-.97$), bisexual attitudes ($-.87$), asexual attitudes ($-.77$), RWA (.95), SDO (.65), religious fundamentalism (.62), and ingroup identification (.50). In Study 2, this also produced one canonical correlate ($r = .78, p < .001$) with the following coefficients: homosexual attitudes ($-.99$), bisexual attitudes

(-.81), asexual attitudes (-.53), RWA (.87), SDO (.80), religious fundamentalism (.71), and ingroup identification (.46). These analyses confirm that attitudes toward asexuals are part of a general sexual minority prejudice, which is predicted by (correlated) prejudice-relevant individual differences. We thank the reviewer for this suggestion.

7. Although “humanizing” sexual minorities is clearly not treating differences as deficits, it may nonetheless represent bias through the endorsement of positive stereotypes. Similar to ambivalent sexism (see Glick & Fiske, 1996), positive stereotypes of homosexuals (e.g., artistic, effeminate) may facilitate prejudice, isolating homosexuals from high-powered “masculine” roles in society.
8. Homosexuals might fall outside of the dominant dehumanization theories and conceptualization, akin to how they do not fit neatly into the warmth–competence quadrants in the stereotype content model (Fiske, Cuddy, Glick, & Xu, 2002; but see refined analysis of homosexual subgroups in Clausell & Fiske, 2005). Alternatively, this finding could reflect a measurement issue linked to the reliance on high culture and emotionality in measuring dehumanization. The latter possibility is likely in light of anecdotal evidence of animalistic perceptions of homosexuals; consider a Polish physician who directs his homosexual patients to a veterinarian (Colin, 2007).

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