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Perception of Gay Men as Defectors and Commitment to Group Defense Predict Aggressive Homophobia

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Abstract

Homophobia encompasses a variety of attitudes and behaviors with distinct causal paths. We focus on aggressive homophobia, a propensity to feel anger and express aggression toward gay men. We investigated the conjecture that homosexual males might be seen, in recent Western cultures, as defectors from collective group defense. We predicted that consistent with a functional motive to punish and deter free riding, the perception of gay men as defectors would motivate aggression toward gay men. We also predicted that individuals with greater commitment to group defense might show more aggressive homophobia (as these individuals have more to lose from the defection than individuals who are not committed to group defense). Study 1 showed that aggressive homophobia correlated positively with the tendency to implicitly associate gay men with defection from group defense. Study 2 showed that a tendency to punish homosexual males for a theft correlated positively with commitment to group defense. The findings suggest that coalitional psychology might contribute to explaining the existence and quality of certain kinds of social stigma.

Keywords

homophobia, free riders, coalitions, aggression, anger, punishment

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In modern Western cultures, antigay attitudes are commonly associated with rigid notions of gender roles (Herek, 1986), conservative religiosity (Hunsberger & Jackson, 2005; Jäckle & Wenzelburger, 2015), and right-wing authoritarianism and traditionalism (Haddock, Zanna, & Esses, 1993). Here, we focus on an unexplored process that might underlie aggressive homophobia. We propose that people's commitment to the defense of their own groups is an important variable underlying anger at gay men. Specifically, we test whether aggressive homophobia is motivated by people's perceptions of gay men as defectors who do not contribute their fair share to group defense.

Homophobia is a broad construct that denotes a variety of distinct attitudes and cognitions (Herek, 2000). Homophobic attitudes toward gay men and women are often different in tenor, content, and intensity (Katz-Wise & Hyde, 2012). Furthermore, distinct causal pathways may be involved, especially as some antigay attitudes (e.g., disapproval or disgust) involve an avoidance motivation, a desire to minimize contact with the despised individuals, while aggressive attitudes by contrast imply an approach motivation. For example, a recent meta-analysis showed that for studies conducted in the United States, substantial proportions of gays, lesbians, and bisexuals reported physical assault (28%) and assault involving a weapon (17%), higher than the proportions for heterosexuals (Katz-Wise & Hyde, 2012).

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A study of Dutch "gay-bashers" revealed a construal of gay men as weak and effeminate, by men who saw themselves as tough and virile (van der Meer, 2003). Other studies have shown consistent results, which are sometimes interpreted in terms of a conflict between norms of masculinity and men's own dispositions or behavior (Glick, Gangl, Gibb, Klumpner, & Weinberg, 2007; McDermott, Schwartz, Lindley, & Proietti, 2013).

Even though descriptions of stereotypes illuminate some of the representations accompanying homophobia, they raise the question why such representations (e.g., gay men as weak, feminine, promiscuous, or unreproductive) would trigger aggressive motivations. Drawing on a theoretical framework about evolved human capacities for intergroup relations and motivations to avoid defection from collective action, we propose a causal model to explain aggressive antigay attitudes.

Coalitional Psychology, Antidefector Motivations, and Commitment

Coalitional psychology is a set of systems designed to garner support from conspecifics and organize and maintain alliances (Tooby & Cosmides, 1988, 2010). Rival coalitions compete for resources, status, or other goods construed as zero-sum. In coalitional groups, other people's commitment to the common goal is crucial to one's own welfare. As a consequence, each member has an incentive to make defection of others less likely, notably by making it costly. Coalitional psychology involves two features that might be relevant for explaining aggressive homophobia, namely, that (1) an engaged coalitional psychology triggers motivations to detect, expel, and deter free riders and (2) people vary in the extent to which they are prepared to invest in defending those who they perceive as their coalition.

There is a vast literature concerning attitudes to defectors or free riders, that is, individuals who receive the benefits of collective action without contributing to the collective action. In general, people are prepared to punish defectors. Deserters in warfare are the target for special, harsh, and public sanction (Gat, 2006; Keeley, 1996). Even in peaceful competitive groups, defection triggers strong moral disapproval and punitive sentiment (Price, 2005). In some cases, merely opting out of collective action is strongly moralized (Delton, Nemirow, Robertson, Cimino, & Cosmides, 2013). Consistent patterns have also been observed in economic games (Fehr & Gachter, 2002; Krasnow, Cosmides, Pedersen, & Tooby, 2012).

Another feature of coalitional psychology is individual differences in commitment. People vary in their commitment to collective action, for instance, in the amount they contribute to economic public goods games (Kurzban & Houser, 2001) and to real-life collective actions (Gurven & Winking, 2008). Similarly, there is variability in people's commitment to defending their coalition, be it construed as local, ethnic, national, or otherwise. Such variation is expected as (a) commitment to coalitional defense is unlikely to be the only pathway to higher fitness, (b) specializing for commitment to coalitional defense may come at the cost of being less specialized in other ways, and (c) such trade-offs may not be equal across individuals due to their other traits (Nettle, 2006). Thus, some people readily get in harm's way for the collective, while others are content with reaping the benefits with minimal investment, and most fall somewhere between these extremes.

Hypotheses

Previous research shows that homosexual orientation is associated with recalling feminine behavior in childhood (Bailey & Zucker, 1995) and feminine occupational and hobby interests in adulthood for men (Lippa, 2000). Moreover, regardless of the objective relationships between homosexuality and gender typical behavior, in modern Western cultures, men who have sex with men have been stereotyped as being unconcerned with typical male pursuits, such as violent and risky activities, rough team sports, and physical aggression. They have been characterized as weak and effeminate (Jackson, Lewandowski, Ingram, & Hodge, 1997; Page & Yee, 1985; Plummer, 2001). Even though many gay men have cultivated a counter-stereotypical virile ideal, and many have struggled to be admitted in the armed forces, the stereotype has remained entrenched (Plummer, 2001).

The existence of these culturally specific stereotypes about homosexuals and naturally occurring variation in coalitional defense motivation yields two predictions. (1) Perceiving gay men as having low motivations for coalitional defense might correlate positively with aggressive homophobia. (2) Individuals who are more strongly committed to coalitional defense might display more aggressive punishing attitudes toward gay men than toward straight men.

In addition, across cultures, people construe intergroup rivalry and group defense as primarily male endeavors (Gat, 2006; Manson & Wrangham, 1991; Tiger, 1969; Van Vugt, Cremer, & Janssen, 2007). Therefore, especially males (rather than females) may perceive defection from group defense by males as costly to their welfare. It is, therefore, possible that both predicted correlations might be observed particularly among males. Alternatively, as group defense benefits all group members, both males and females have an interest in group defense being sufficiently maintained. Hence, both males and females might perceive defection from group defense as costly to their welfare. It is, therefore, also possible that both predicted correlations might be observed among both males and females.

To test these hypotheses, we conducted two studies that used diverse methods to measure aggressive homophobia and involved measures of associations between gayness and defection from group defense (Study 1) and commitment to coalitional defense (Study 2).

Study 1

Study 1 was designed to test whether associating gayness with defection from group defense correlated with aggressive homophobia. If anger at gay men is driven by associating gays with

defection from group defense, then anger at gays should be positively correlated with associations of gays with defection from group defense. To assess participants' associations between gayness and defection unbiased by socially desirable responses, we used an implicit association test (IAT; Greenwald, Nosek, & Banaji, 2003).

Method

We recruited 554 U.S. residents via Amazon Mechanical Turk. Participants were compensated for completing the study. Research suggests that samples recruited via Mechanical Turk may yield data of similar quality as data obtained via other methods of recruitment (Buhrmester, Kwang, & Gosling, 2011). Participants completed the study online via Inquisit 4 by Millisecond. Participants were excluded from analysis when they (a) failed to complete both the IAT and the Anger at Gays Scale ($n = 4$), (b) indicated nonheterosexual sexual orientation (this criterion was set a priori because of the hypotheses; $n = 48$), or (c) had more than 10% of response times on the IAT below 300 ms ($n = 21$, this is a standard exclusion criterion for the IAT). This gave $N = 480$ (236 females, 241 males, and 3 participants did not provide demographics; age $M = 36.45$, $SD = 12.52$).

Participants completed a picture IAT (Greenwald et al., 2003) designed to measure the tendency to associate the social category *Straight* with the attribute *Fight* and the social category *Gay* with the attribute *Surrender*. The IAT was administered with the script provided in the Inquisit 4 Task library. This script also computes the measure of association assessed by the IAT: the D score. To assess associations between gay men and defection from group defense (vs. straight men and participation in group defense), we modified the standard script in the following ways: Attribute Label A (standard = good) was changed to *Fight*. Attribute Label B (standard = bad) was changed to *Surrender*. The A attributes were changed to *Protect*, *Powerful*, *Brave*, *Combat*, *Resist*, *Defend*; the B attributes were changed to *Scared*, *Escape*, *Flee*, *Coward*, *Defeat*, *Traitor*. Target Label A was changed to *Straight*; target Label B was changed to *Gay*. The A targets were changed to six pictures of a male and a female in a romantic position (e.g., an embrace); B targets were changed to six pictures of two males in a romantic position. Given these changes, a more positive D score indicates a stronger tendency to associate straight with fight and gay with surrender (and a more negative D score indicates a tendency to associate straight with surrender and gay with fight).

The IAT consisted of seven blocks, in which participants categorized the words and pictures by pressing keys (E and I) with their left and right hand, respectively. In practice blocks, participants had to categorize only words or only pictures by pressing the E and I keys. In the test blocks, participants had to categorize both words *and* pictures by pressing the E and I keys, so that correct categorizations for words and pictures shared a response key (e.g., fight shared a key with straight or with gay). The task consisted of practice blocks (blocks 1, 2, and 5) and test blocks (blocks 3, 4, 6, and 7). To control for order effects, the order of blocks was counterbalanced. For approximately half of the participants, blocks 1, 3, and 4 were compatible (i.e., fight shared the response key with straight, and surrender shared the response key with gay) and blocks 5, 6, and 7 were incompatible (fight shared key with gay; surrender shared key with straight). For the other participants, this order was reversed, so that blocks 1, 3, and 4 were incompatible and blocks 5, 6, and 7 were compatible. The numbers of trials for the seven blocks were always 20, 20, 20, 40, 20, 20, and 40, giving in total 180 trials.

When participants categorized a word or picture incorrectly, a red X would be presented for 200 ms, and participants had to correct their response by pressing the key for the correct category. Participants were not shown their D score after completing the task.

Participants completed a 13-item Anger at Gays Scale designed to measure tendencies to feel anger and express aggression toward homosexual males (see Appendix). To control for order effects, the order in which participants completed the IAT and the Anger at Gays Scale was counterbalanced.

After completing the IAT and Anger at Gays Scale, participants provided their demographics, including their sexual orientation (*heterosexual*, *homosexual*, *bisexual*, or *other*).

Results

The Anger at Gays Scale showed good internal consistency, Cronbach's $\alpha = .82$, $M = 3.70$, $SD = 1.12$, range = 1.00–7.00. The percentage of correct responses on the IAT suggests that most participants completed the task attentively, $M = 91.91$, $SD = 6.41$, significantly better than chance, $t(479) = 143.3$, $p < .001$. Consistent with the stereotype of gay men as weak, D scores were on average higher than zero, $M = 0.24$, $SD = 0.36$, $t(479) = 14.69$, $p < .001$, indicating that participants were more likely to associate straight with fight (vs. surrender) and gay with surrender (vs. fight).

Anger at Gays scores correlated with sex (0 = *female*, 1 = *male*), $r = .23$, $p < .001$. Furthermore, as predicted, Anger at Gays scores correlated positively with IAT D scores, $r = .18$, $p < .001$. To test whether this association was robust to controlling for sex and the order in which the measures were completed, we regressed Anger at Gays scores on D scores, sex, order of measures (0 = *Anger scale first*, 1 = *IAT first*), and all interaction terms (three participants who did not indicate sex were excluded; model adjusted $R^2 = .08$). This revealed a significant effect for D score, $b = 0.91$, $SE = 0.28$, standardized $\beta = 0.29$, $t(469) = 3.27$, $p = .001$. The model also showed an effect for sex, $b = 0.61$, $SE = 0.17$, standardized $\beta = 0.28$, $t(469) = 3.54$, $p < .001$, and an effect for order, $b = 0.33$, $SE = 0.16$, standardized $\beta = 0.15$, $t(469) = 2.01$, $p = .045$, and a marginal order × D score interaction, $b = -0.75$, $SE = 0.39$, standardized $\beta = -0.18$, $t(469) = -1.93$, $p = .054$. No other effects were significant, all $ps > .37$. We computed the simple slopes of D score on Anger at Gays for both task orders (Anger at Gays Scale first, standardized $\beta = 0.29$; IAT first, standardized $\beta = 0.05$, see Figure 1). There was a difference

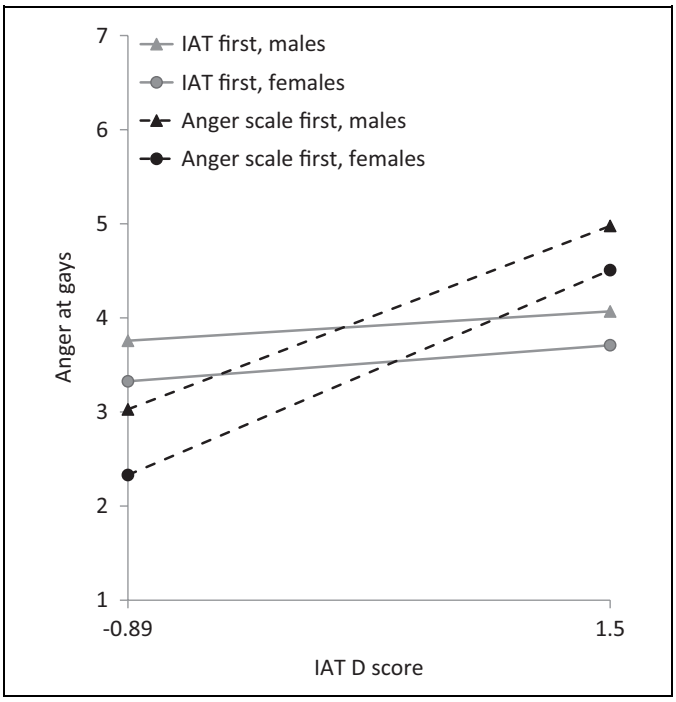

Figure 1. Study 1: Regression slopes for Anger at gays on IAT D scores. Slopes were estimated for participants who completed the Anger at Gays Scale first (dashed black lines) and those who completed the IAT first (solid gray lines) and for male (triangle marks) and female (circle marks) participants. On both axes, the values shown represent the range of values for the variable.

between male and female participants in their Anger at Gays scores (see Figure 1), with men having on average higher scores than females, effect size $r = .16$.

Discussion

Thus, consistent with the first prediction, participants who more strongly associated gay with surrender (and straight with fight) reported stronger tendencies to be aggressive toward gay men. However, this correlation was observed only for participants who completed the Anger at Gays Scale prior to the IAT. This order effect might be a false positive (as order effects for IATs and self-report measures are uncommon, see Nosek, Greenwald, & Banaji, 2005) or might be due to participants who completed the IAT first having controlled their responses on the subsequently completed Anger at Gays Scale. It is also possible that completion of the Anger at Gays Scale momentarily increased negative attitudes toward gays among some participants, which in turn could have influenced their responses on the IAT. This might have caused the two measures to be correlated for those who completed the Anger at Gays Scale first. Note that the correlation between scores on the IAT and the Anger at Gays Scale did not differ for male and female participants.

The validity of these findings depends on the validity of the measures used. For both measures used in this study, further research is needed to confirm their validity. For the Anger at Gays Scale, it is unclear to what extent it assesses a construct distinct from general antipathy toward homosexuals. Furthermore, although research suggests that IATs can be valid measures of implicit associations between homosexuality and valence (i.e., pleasant vs. unpleasant; Banse, Seise, & Zerbes, 2001; Smith, 2012), it remains unclear to what extent the IAT used in the current study is a valid measure of implicit associations between homosexuality and defection from group defense. In other words, it is unclear whether the IAT used in this study is a measure of specifically the association with defection from group defense or a measure of the association with general evaluative concepts.

Study 2

Study 2 was designed to test the second prediction that strong commitment to coalitional defense is associated with more punishing attitudes toward gay men. The study involved a vignette describing a theft committed by a homosexual man (test condition) or a straight man (control condition) and was inspired by Lieberman and Linke's (2007) study of the effect of social category on third-party punishment. The vignettes described a theft, so that participants would be able to justify that some punishment was deserved. We predicted that commitment to coalitional defense would predict punishment decisions concerning a homosexual man, more so than punishment decisions concerning a heterosexual man. Specifically, we predicted that commitment to group defense would be positively and more strongly correlated with punishment of a homosexual man than with punishment of a heterosexual man.

Method

We recruited 654 U.S. residents via Amazon Mechanical Turk. Participants were compensated for completing the study. Participants were excluded from analysis when they indicated nonheterosexual sexual orientation ($n = 77$), did not provide the correct answer on the manipulation check question ($n = 65$; see below), or took less than 1 s per item on the Coalitional Defense Scale (and thus likely responded inattentively; $n = 6$). This gave $N = 506$ (171 females, 335 males; age $M = 30.72$, $SD = 9.98$, range = 18–74).

Participants were presented with a vignette, adapted from Lieberman and Linke (2007), about a man who stole US$1,500 and who was described as currently in a homosexual relationship (test condition) or heterosexual relationship (control condition, between-subjects). The vignette read:

> James is a 35 years old salesman. His job pays well and he has no financial problems. He has been seeing his current boyfriend [in control condition: girlfriend] for 3 months, and lives in an apartment in a suburb of a large city. One evening, while at dinner at an expensive local restaurant, James watches as a large party of about 20 people leaves cash on their table for the check and then exits the restaurant. Before the server goes to the table to collect

the money, James walks past the table, secretly takes the $1500 left for the bill, and leaves through the front door without anyone witnessing what he has done. James is now $1500 richer and no one saw a thing.

The participant then answered two questions regarding the appropriate punishment for the offense. One question asked about the appropriate fine (in addition to paying back the money) for this act (eight answer options: US$50, US$100, US$500, US$1000, US$1,500, US$2,000, US$2,500, and US$3,000). One question asked about appropriate jail time (eight answer options: 1 month, 6 months, 1 year, 1 and 1/2 years, 2 years, 2 and 1/2 years, 3 years, and 4 years). As a manipulation check, we included a question about James's relationship (answer options: James had a girlfriend, James had a boyfriend, James had no relationship, and I cannot remember).

After reading the vignette, participants answered the two questions about appropriate punishment. Participants then completed a 12-item Coalitional Defense Scale designed to measure an individual's willingness to defend their groups, at various levels of inclusiveness—family, community, ethnic group, and nation (see Appendix). Finally, participants completed the manipulation check question and provided their demographics (including sexual orientation).

Results

The Coalitional Defense Scale showed good internal consistency, Cronbach's $\alpha = .81$, $M = 4.59$, $SD = 0.89$, range = 1.83–7.00. Histograms showed that responses for fine and jail time were not normally distributed. To control for skewness, responses for fine and jail time were natural log transformed and averaged.

In the control (straight) condition, coalitional defense scores did not correlate with average punishment, $r = .04$, $n = 241$, $p = .54$, 95% confidence interval (CI) [−.087, .165]. Consistent with the hypothesis, in the test (gay) condition, coalitional defense scores correlated positively with average punishment, $r = .20$, $n = 265$, $p = .001$, 95% CI [.079, .311].

As coalitional defense scores correlated with sex (0 = *female*, 1 = *male*), $r = .19$, $p < .001$, we controlled for effects of sex by regressing the average punishment on sex, condition (0 = *gay*, 1 = *straight*), coalitional defense (centered), and all interaction terms. As this model revealed no significant interaction terms for sex, $p > .21$, we computed a second model without the interaction terms for sex. This model (adjusted $R^2 = .03$) showed a significant effect for coalitional defense, $b = 0.10$, $SE = 0.03$, standardized $\beta = 0.23$, $t(501) = 3.65$, $p < .001$, indicating that in the gay condition, coalitional defense significantly predicted punishment. This model also showed a significant effect for sex, $b = -0.09$, $SE = 0.04$, standardized $\beta = -0.11$, $t(501) = -2.42$, $p = .016$. Crucially, the Coalitional Defense × Condition interaction effect was negative, $b = -0.08$, $SE = 0.04$, standardized $\beta = -0.13$, $t(501) = -2.01$, $p = .045$, indicating that in the straight condition, coalitional defense was a weaker predictor of punishment than in the gay condition. The effect for condition was not significant, $b = -0.01$, $SE = 0.03$, standardized $\beta = -0.02$, $t(501) = -.044$, $p = .66$. A simple slope analysis showed that the slope for coalitional defense in the straight condition was not different from zero, $b = 0.02$, $SE = 0.03$, standardized $\beta = 0.05$, $t(501) = 0.89$, $p = .38$ (see Figure 2).

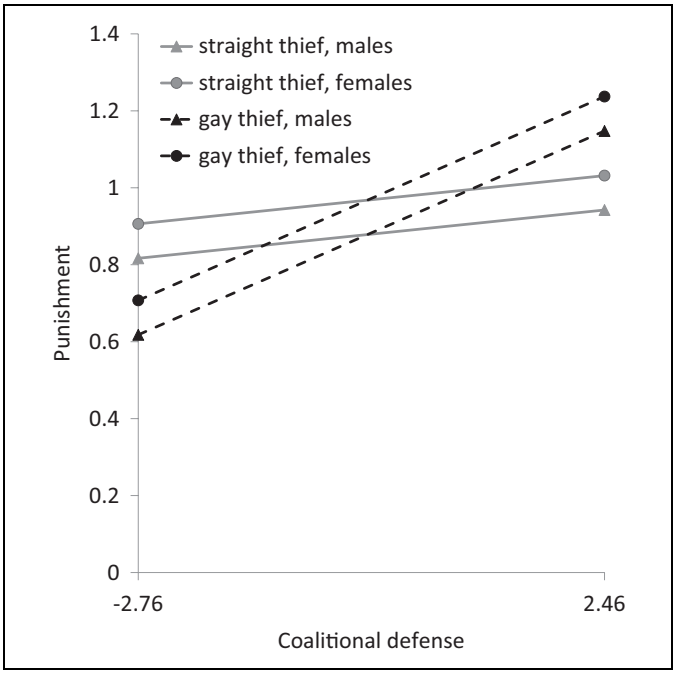

Figure 2. Study 2: Regression slopes for punishment on commitment to coalitional defense. Slopes were estimated for gay (dashed black lines) and straight (solid gray lines) targets and for male (triangle marks) and female (circle marks) participants. Commitment to coalitional defense was centered and the values shown represent the range of values for this variable. Punishment was the average of natural log transformed values for fine and jail time responses.

We conducted an additional analysis to assess the plausibility that the association between coalitional defense and punishment resulted from describing a target with a *different* sexual orientation (i.e., for heterosexual participants, the correlation observed for the gay target could result from the target being gay or from the target having a different sexual orientation than the participant). If coalitional defense predicts punishment of targets with a different sexual orientation, then coalitional defense might predict punishment of heterosexual targets among nonheterosexual participants. Therefore, we included nonheterosexual participants ($n = 570$, some nonheterosexual participants did not pass the other inclusion criteria) and regressed average punishment on participant sexual orientation (0 = *hetero*, 1 = *nonhetero*), sex, condition, coalitional defense (centered), and all interactions between coalitional defense, condition, and participant sexual orientation. This model revealed no significant effects for participant sexual orientation, ps > .18. Simple slopes showed that coalitional defense scores did not predict punishment among nonheterosexual

participants, neither in the gay condition, $b = 0.003$, $SE = 0.07$, standardized $\beta = 0.006$, $t(561) = 0.04$, $p = .968$, nor in the straight condition, $b = 0.04$, $SE = 0.07$, standardized $\beta = 0.10$, $t(561) = 0.56$, $p = .573$.

Note that as in Study 1, we observed no differences between male and female participants in the hypothesized correlation. On average, males had lower punishment scores than females, effect size $r = .11$ (see Figure 2).

Discussion

Thus, consistent with the second prediction, commitment to coalitional defense was associated with more severe punishment of an offender when the offender was described as a gay man. Note that the study has two main limitations that allow for alternative interpretations of the correlation between commitment to coalitional defense and punishment of a gay man.

First, the current study involved a novel self-report questionnaire—the Coalitional Defense Scale. A pilot study that included an 11-item version of the Coalitional Defense Scale provides some support for the validity of the scale. In this pilot study, coalitional defense scores correlated positively with self-report measures of perceived threat to one's coalitions (4 items, e.g., "It will happen someday that someone tries to attack my friends or people close to me," "My country will at some point be under enemy attack"), $r = .28$, $n = 204$, $p < .001$, and perceived costs of insufficient group defense (4 items, e.g., "When people do not join neighborhood watches, their neighborhoods become unsafe," "A country that does not defend itself aggressively will be attacked"), $r = .54$, $n = 204$, $p < .001$. These positive correlations suggest that the Coalitional Defense Scale measures a construct related to motivations to defend one's coalitions from threats. Nevertheless, further research is needed to establish the validity of the Coalitional Defense Scale.

Second, the design of Study 2 was partly correlational (i.e., the identity of the target was manipulated, but commitment to group defense was measured), so it is not certain that participants with higher commitment to group defense indicated preferred harsher punishment for the gay targets because they perceived the gay targets as defecting from group defense. For example, participants with higher commitment to group defense might have preferred harsh punishment of the gay targets because they perceived them as members of an out-group or because they perceived punishment of these targets to be less costly (e.g., they might have perceived gay men as weak and thus less likely to retaliate).

General Discussion

Based on evolutionary models of coalitional psychology, we hypothesized that (1) perceiving gay men as having low motivations for coalitional defense might correlate positively with aggressive homophobia and (2) individuals who are more strongly committed to coalitional defense might display more punishing attitudes toward gay men. Study 1 supported the first prediction by showing that a measure of implicitly associating gay men with defection from group defense correlated positively with self-reported aggressive homophobia. Study 2 supported the second prediction by showing that commitment to group defense correlated positively with punishment motivations directed at gay men. Neither study showed a difference between male and female participants in these correlations. These similar correlations for males and females are consistent with a model in which both males and females are concerned with group defense being maintained. Taken together, the findings suggest that coalitional psychology might contribute to explaining certain aspects of the stigma of homosexuality. Our findings may contribute to an explanation of why homophobia sometimes involves anger or punitive sentiments (rather than disgust and avoidance), and why aggressive homophobia is typically more strongly focused on gays than lesbians (Herek, 1988).

As mentioned above interpretation of the findings is tentative as both studies involved correlational designs and employed novel measures that have not been rigorously validated. Therefore, further research is needed to show that the observed correlations are genuine and—more importantly—to show that the perception of gay men as defectors from group defense and individual's commitment to group defense have causal effects on aggressive homophobia.

The current research involved online studies with residents of one Western country. Further research is needed to assess whether the current findings generalize to other populations. A possible avenue for further investigation is whether similar findings are observed across cultures that feature similar (or different) representations of homosexual men. The current theory predicts aggressive homophobia specifically for cultures where homosexuality is stereotypically associated with traits indicating low group defense motivations. Even though instances of sex between men are found across cultures and have probably occurred throughout human evolution, homosexual practices only sometimes define a social category. For example, in certain cultures, engagement in homosexual acts is part of initiation rites (Herdt, Apple, & Annin, 1981). In other cultures, engaging in homosexual acts is thought to be specific to a category of people. Such is the case for the *berdaches* of North America (Callender, 1983) and for gays in modern Western societies (Shepard, 2009). Further research could explore the specific cultural and historical contexts that might have given rise to concerns about coalitional defense driving an aggressive motivation toward gay men.

Finally, a large literature has documented the stereotypes about gays and correlations between these stereotypes and various religious, political, and moral attitudes. The current findings provide tentative correlational support for an explanation of antigay attitudes in terms of culturally specific representations and evolved human capacities for managing within-coalition cooperation and between-coalition competition.

Appendix

Items of the Anger at Gays Scale:

1. Gay men sometimes make me feel angry.
2. Gay men often annoy me.
3. Some gay men just need to be taken down a peg or two.
4. I would probably get angry if a gay man made fun of me.
5. I have a male homosexual friend.*
6. I have sometimes made derogatory remarks about gay men.
7. I have sometimes used words like ''faggot'' or ''queer.''
8. I have never made jokes about gay men.*
9. I rather socialize with gay men than with straight men.*
10. If a gay man cuts in line in front of me, I would let it pass.*
11. If a gay man insulted me, I would probably not say anything about it.*
12. If a gay man gets in my face, I tell him to back off.
13. If a gay man would be making too much noise in a movie theater, I would tell that loudmouth to shut up.

(Items were rated on 7-point scale from 1 = *strongly disagree* to 7 = *strongly agree*; starred items were reverse scored.)

Items of the Coalitional Defense Scale:

1. If a mugger assaulted me, my spouse, my children, or my siblings, I would be prepared to fight him.
2. If a robber assaulted my friends or people close to me, I would try to fight him back.
3. If someone assaulted members of my community, my race, or my ethnic group, I would be ready to strike back.
4. If my country was under attack, I would be prepared to put my life at risk to defend it.
5. If a burglar broke into my house, I would protect myself rather than attack him.*
6. Even if it was dangerous, I would defend my friends or people close to me against aggressive people.
7. I would risk injury to defend members of my community, my race, or my ethnic group against attack.
8. If my country was in critical danger, I would leave my job and help with the war effort.
9. My friends and people close to me can count on me if they are in danger.
10. I am prepared to spend a lot on protecting my home against burglars.
11. I am not prepared to risk injury just to protect my community, my race, or my ethnic group.*
12. I don't mind paying taxes if the money is used to make our military stronger.

(Items 1–9 were rated on a 7-point scale with 1 = *certainly not*, 4 = *not sure*, 7 = *certainly yes*. Items 10–12 were rated on a 7-point scale with 1 = *strongly disagree*, 4 = *neither agree nor disagree*, 7 = *strongly agree*. Starred items were reverse scored.)

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