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Affective disgust predicts blame for gay male homicide victims

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Abstract

For certain crimes there is a tendency in the United States to blame individuals for their victimization. Previous work has shown that affective states can impact blame attribution. Drawing upon this work, the purpose of the current pre-registered research was to examine the relation between affective disgust and victim blame attribution. In Study 1, as participants' (N = 203) level of implicit disgust associations with gay men increased, their tendency to blame a gay male homicide victim also increased, whereas their agreement that the homicide qualified as a hate crime decreased. In Study 2, disgust was experimentally induced by exposing participants (N = 431) to disgusting (e.g., vomit, insects) or neutral images (e.g., mug, stapler). Inducing disgust increased victim blame and decreased perceptions that the homicide constituted a hate crime. However, exploratory mediation analyses in both studies showed that the impact of disgust on hate crime applications is best explained as an indirect effect of victim blame. Taken together, these findings suggest that both individual differences in implicit gay-disgust and situational feelings of disgust may underlie people's perceptions of how blameworthy a victim is for the crime committed against them.

1 | INTRODUCTION

In the case of the *State of Minnesota v. Volk* (1988), Mr. Volk was charged with murder after fatally shooting Mr. Traetow (Nussbaum, 2004). At his trial, Volk claimed that Traetow made an unwanted sexual advance toward him, and that he was so disgusted by the advance that he momentarily lost control of his actions. Cases like this suggest that disgust can be used as a tool to justify anti-gay victim-blaming and illustrate how such claims can have negative consequences. Defendants have been successful in using disgust defenses, like those of Volk, to reduce their sentences—but it is unclear precisely why this defense is effective. Here, we examine the role of disgust in shaping victim blame. We chose to focus on gay men for this investigation, given the history of defendants using victim blame to justify violence against this group (a legal defense known as the "gay panic defense"; Chen, 2000). Furthermore, disgust may be particularly relevant when examining violent acts toward gay men. Hate crimes toward sexual minorities, especially gay men, are on the rise according to recent FBI statistics (Hauck, 2019). Past research has demonstrated that disgust is a common reaction by straight people toward gay men, but not necessarily lesbian women (Embrick et al., 2007; Herek, 1988; Kiss et al., 2020; Tapias et al., 2007). Multiple studies have indicated that disgust is associated with heightened anti-gay bias (Inbar et al., 2009), and that increasing disgust can produce prejudice against gay men and reduce support for their civil rights (Adams et al., 2014; Cunningham et al., 2013; Dasgupta et al., 2009; Inbar et al., 2012). What is more, disgust toward gay men is associated with antigay violence and sexual prejudice (Herek, 2000; Ray & Parkhill, 2020).

1.1 | Affective disgust

The emotion of disgust is theorized to have originated as a defense mechanism to aid humans in avoiding or expelling potentially harmful or contaminated materials (Oaten et al., 2009; Rozin et al., 2008). Rotting foods, bodily liquids, feces, toxins, and poisons—which have a high potential for pathogen and teratogen contamination—typically

induce disgust (Curtis et al., 2011). However, fear of contamination can lead to feelings of disgust extending beyond physical materials and into moral and social domains (Rozin et al., 2008). For example, feelings of disgust can also be evoked by moral violations of norms and taboos, such as stealing from a blind person or interracial relationships (e.g., Rozin et al., 1999; Skinner & Hudac, 2017), leading people to feel disgusted by those who engage in such violations (Russell & Giner-Sorolla, 2013). This is evident in that disgust is typically associated with groups that are viewed as morally deviant, such as gay and lesbian people, prostitutes, and homeless individuals (Cottrell & Neuberg, 2005; Faulkner et al., 2004; Fiske et al., 2002; Russell & Giner-Sorolla, 2011).

However, disgust toward gay men may elicit a different type of threat response relative to other social groups (Cottrell & Neuberg, 2005; Cunningham et al., 2013). That is, while avoidance is a common reaction to most targets of disgust, for straight males who view gay men as a threat to social and masculinity norms, violence may be seen as a more necessary type of enforcement (Pirlott & Cook, 2018; Ray & Parkhill, 2020). In support of this, Ray and Parkhill (2021) found that straight men who endorsed heteronormativity were more likely to have hostile attitudes toward gay men. Furthermore, this relationship was mediated by disgust.

The ways that disgust impacts victim blame may be understood through the Appraisal-Tendency Framework (Lerner & Keltner, 2000, 2001; Lerner & Tiedens, 2006), which suggests two pathways for affect (e.g., disgust) to potentially influence victim blame. The first pathway is through integral disgust, stemming directly from the target themself or relevant judgments and choices (Loewenstein & Lerner, 2003). For example, experiencing fear when faced with a carjacker would be considered an integral affective state, as fear of being physically injured is integral to the experience. In the case of the present discussion, associating feelings of disgust with gay men would be an integral affective state.

However, in many judgments, there are other sources of affect that can also influence outcomes. This is known as incidental affect—when factors elicit affect but are unrelated to the target of judgment (Loewenstein & Lerner, 2003). For instance, listening to music, experiencing bad (or good) weather, and receiving stressful information can affect judgments unrelated to those experiences (Bodenhausen et al., 1994; Forgas & Bower, 1987; Schwarz & Clore, 1983). Incidental disgust—evoked by situational exposure to foul odors or disgusting images—can increase heterosexual participants' implicit and explicit prejudice against gay men (Cunningham et al., 2013; Dasgupta et al., 2009; Inbar et al., 2012). These studies suggest that incidental disgust may lead to negative evaluations of a target, especially if that target already tends to elicit disgust (e.g., gay men). Indeed, both integral and incidental affect can often simultaneously determine how a person reacts to a target and therefore, both can influence judgments (Västfjäll et al., 2016).

Experiencing disgust can also affect perceptions of transgressions and legal decision-making. One example is that disgust makes people appraise moral transgressions more harshly than if they are not feeling disgusted, even if the moral transgressions are unrelated to the disgusting stimuli (Russell & Giner-Sorolla, 2011). For instance, exposing participants to a repulsive odor led them to impose harsher judgments for moral transgressions (e.g., finding a wallet and not returning it to the owner, falsifying information on a resume; Schnall et al., 2008). Furthermore, participants who are exposed to potentially disgusting stimuli (e.g., graphic crime scene photos) tend to be more punitive toward criminal defendants (Nunez et al., 2016), such that they render more guilty verdicts (Bright & Goodman-Delahunty, 2006; Douglas et al., 1997; Edwards & Mottarella, 2014; Matsuo & Itoh, 2016), deliver harsher sentences (Finkelstein & Bastounis, 2010), and find defendants more liable in civil court cases (Bright & Goodman-Delahunty, 2011).

Taken together, this literature suggests that integral and incident disgust can lead people to react more negatively to gay men and may lead people to judge their transgressions more harshly. However, this literature does not specify whether disgust could be expected to lead to *victim* blame. The following section examines the literature in this area.

1.2 | Affective responses and attributions of blame

Affective states and emotions (e.g., anger) have been shown to influence victim blame (Feigenson et al., 2001; Goldenberg & Forgas, 2012). However, disgust as a causal mechanism for victim blame has yet to be explored. Emotions like disgust can plausibly increase victim blame in two ways. Emotion can bias an individual's judgment and memory in the same direction of the valence of the emotion, a process known as the mood-congruency effect (Feigenson & Park, 2006). Regarding disgust, this means that an individual who is incidentally feeling disgust may be more likely to remember and attend to disgust-related information and more readily recall disgust-related information about a target. Thus, to the degree that a person feels disgusted by a victim, say a gay man, this may lead that individual to more readily remember disgust-related details about their victimization (e.g., if the victim made a romantic pass toward a male defendant).

In addition to coloring judgment and memory, disgust may also be viewed as useful information about a victim's role in their own victimization. The "affect-as-information" heuristic theory posits that feelings can be a source of information when making judgments and decisions (Forgas, 1995; Schwarz & Clore, 1983). Unlike the mood-congruency effect, which suggests that disgust may impact blame by influencing memory, the affect-as-information theory posits that emotions (e.g., disgust) may impact decision-making more directly. When making judgment about blame, a person may use the emotions they are currently experiencing as relevant information to make the judgment (Schwarz, 1990). If a person feels disgusted by a

victim or the situational factors, this may lead the person to interpret their feelings of disgust as indicative of the victim's responsibility for their own victimization. In other words, the person may view their experience of disgust to mean that the victim did something wrong to bring about their victimization. This tendency may be especially common for disgust, which has been found to lead people to feel more certain relative to other emotions (Ortony et al., 1988; Smith & Ellsworth, 1985).

2 | OVERVIEW OF STUDIES

The current studies were designed to investigate what role integral and incidental disgust responses play in judgments of victim blame toward gay men. We examined both integral disgust (i.e., implicit gay-disgust associations) and incidental disgust (i.e., experimentally induced) as they relate to victim blame in the case of a homicide in which the victim is a gay man. Furthermore, we test possible legal implications of this victim blame by examining how these two forms of disgust relate to blame attributed to the defendant and whether the homicide is judged to be a hate crime. Both studies were pre-registered on Open Science Framework prior to the collection of any data.

In Study 1, we investigated the relation between integral disgust (implicit gay-disgust associations) and blame attributed to the victim and defendant, as well as willingness to apply the hate crime statute. We chose to examine implicit disgust because implicit measures are less sensitive to social desirability than explicit measures (Gawronski & De Houwer, 2014). We hypothesized that higher levels of implicit gay-disgust would be associated with greater victim blame. Moreover, we hypothesized that implicit gay-disgust would also be associated with decreased defendant blame and decreased agreement that the homicide constitutes a hate crime.

In Study 2, we sought to examine whether incidental disgust (unrelated to gay men) would increase blame attributed to a gay male victim and reduce agreement that the homicide constitutes a hate crime. Building off prior research demonstrating that incidental disgust increases anti-gay bias (Cunningham et al., 2013; Inbar et al., 2012), we hypothesized that inducing disgust would also increase implicit gay-disgust associations.

3 | STUDY 1

For Study 1, we hypothesized that increased integral implicit gay-disgust would be associated with increased blame attributed to the gay male victim (H1) and decreased blame attributed to the defendant (H2). Our third hypothesis was that increased implicit gay-disgust associations would predict a decreased likelihood of applying the hate crime statute (H3). Materials and data can be found on Open Science Framework and the pre-registration and analysis plan here.

3.1 | Method

3.1.1 | Participants

We set a target sample size of 250 complete responses because, for typical effect sizes observed in social and personality psychology, correlations tend to stabilize around 250 (Schönbrodt & Perugini, 2013). Data collection concluded once we had received complete data from 250 adult U.S. residents through Amazon Mechanical Turk. However, 32 participants were excluded from analysis[5] because they: (a) responded in less than 300 ms on 10% of trials, (b) responded incorrectly on more than 30% of trials, or (c) responded incorrectly on more than 40% of trials in either IAT block (Skinner & Hudac, 2017; Skinner & Rae, 2019). Because people who identify as gay, lesbian, or bisexual likely have different associations with gay men than straight participants, we also excluded an additional 17 participants who did not identify as straight, per our pre-registration.[6] This left us with a total sample of 203 participants (M_{age} = 38.71, SD_{age} = 12.15; 57% women). Most participants identified as White (79%), with the remaining participants identifying as Asian (11%), Black (7%), Native American/Native Alaskan (2%), or choosing other (2%).[7] Seven percent of participants identified as Latinx. Participants were informed that the study was designed to examine the relation between emotions and decision-making, and they received $1.00 in return for their participation. The university's Institutional Review Board approved all procedures and materials.

3.1.2 | Materials

Implicit gay-disgust

Participants categorized images and words representing the categories "straight" and "gay," and words representing the categories "disgusting" and "pleasant." The IAT image stimuli consisted of simple black silhouettes of male couples (gay) or female-male couples (straight) imposed on white backgrounds, words such as "gay," "straight," etc., and synonyms for disgusting (e.g., gross, nasty, nauseating) and pleasant (e.g., appealing, satisfying, delightful). Category labels appeared in the left and right-hand corners of the computer screen and participants used the "e" and "i" keys (respectively) to make their categorizations. Participants completed two critical blocks, one in which they categorized images representing the category "gay" with the same key as words representing the category "disgusting," whereas images representing the category "straight"

[5]We neglected to include IAT exclusion criteria in our pre-registration. However, because virtually all research utilizing the IAT has some data quality criteria for inclusion, we excluded participants who failed to meet previously established criteria in both Study 1 and Study 2.

[6]We have reported Study 1 analyses including gay, lesbian, and bisexual participants in the supplemental materials. All inferential conclusions were the same with or without this exclusion, unless otherwise noted.

[7]Numbers do not add up to 100% because participants could choose multiple answers.

were categorized using the same key as words representing the category "pleasant." In the other critical block (presented in counterbalanced order), participants categorized concepts using the reverse key pairing. To the extent that a participant was faster to pair "gay" and "disgusting" with the same key (vs. "gay" and "pleasant" with the same key) it could be inferred that the participant had an association between gay men and disgust. Incorrect categorizations prompted a red "X" to appear in the center of the screen and participants were required to correct their categorization to move forward. The IAT for this study was created using iatgen (Carpenter et al., 2018).[8] We adapted our IAT from those used to assess anti-gay bias in previous work (Nicolas & Skinner, 2012; Vilaythong et al., 2010). IAT scores were calculated as recommended by Greenwald and colleagues (2003). Higher *D* scores indicate stronger implicit associations between gay men and disgust.

Case Scenario

Participants read a case scenario (revised from Salerno et al., 2015) that described how the defendant (Michael) met the victim (Jonathan) at a bar one night by chance. The two men were said to have spent the evening drinking together at a bar and that later when they were alone together in a car, the victim insulted the defendant's wife and made a pass at him. The defendant became angered and attacked the victim, killing him. Overall, the case scenario was about a paragraph in length.

Victim and defendant blame

Given our focus on applications to the legal sphere we focused on assessing legal interpretations of blame, as opposed to the conceptualizations of blame used in moral psychology (Malle, 2021). Victim blame was measured using a 7-item scale ($\alpha = 0.94$) created for this study ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*). Scale items included, "*The victim … is to blame for what happened to him*, *is at fault for what happened to him*, *is responsible for what happened to him*, *is not culpable for what happened to him* (reverse scored), *is liable for what happened to him*, *did nothing wrong* (reverse scored), *is guilty for what happened to him*, and *should be held accountable for what happened to him*." The defendant blame scale ($\alpha = 0.96$) substituted "*victim*" and "*happened to him*" with "*defendant*" and "*happened to the victim*," respectively.

Hate crime statute application

Participants were presented with juror instructions which explained conditions for application of the hate crime statute that were modeled after California's *Hate Crime Allegation: Felony Judicial Council of California Criminal Jury Instructions*. Consistent with jury decision-making studies, the instructions were edited so that they would be easier to understand (without the standard opportunity for clarifying questions offered in an actual trial) but were still representative of the original instructions (Elwork et al., 1977; Salerno et al., 2015; Shaked-Schroer et al., 2008). The purpose of the jury instructions was to identify the criteria that must be met to rule in favor of the hate crime statute, such that the defendant had to have committed the crime based on the victim's actual or perceived sexual orientation. Participants were asked to decide if they believed that the hate crime statute applies using a dichotomous yes/no item. The question asked, "Would the hate crime statute apply to this case?" Participants also rated the extent to which they agreed that the homicide in the case scenario constituted a hate crime using a 7-item scale ranging from 1 (*Strongly disagree*) to 7 (*Strongly agree*).

Additional exploratory measures

We also included two exploratory measures assessing: (a) perceived sexual prejudice of the defendant and (b) whether others (i.e., the participants' friends, family, community, etc.) would agree that the homicide constituted a hate crime. We do not report on these measures here as they are beyond the scope of this manuscript, but explanations of the measures and exploratory analyses can be found in Supplemental Materials.

3.1.3 | Procedure

After providing informed consent, participants completed an adapted version of the IAT designed to measure implicit disgust toward gay men (Greenwald et al., 1998). Next, participants read the case scenario and completed measures of blame attributed to the victim and defendant (order counterbalanced). Then, they read jury instructions, indicated whether they would apply the hate crime statute, and rated the extent to which they agreed that the case scenario constituted a hate crime (order of measures counterbalanced).

Lastly, participants provided demographic information and, in an effort to neutralize any lingering feelings of disgust and alleviate any distress caused by reading the case scenario, completed a positive mood induction. This positive mood induction (Velten, 1968) involved reading and reflecting on thirty positive self-affirmations (see OSF materials for full list). In an effort to limit any anxiety that participants may have experienced (about appearing sexually prejudiced) if we were to fully disclose the nature of the study, we did not fully debrief participants. However, participants were told that any anxiety they may have experienced was normal, and they were invited to contact the researchers if they had questions or concerns.

3.2 | Results

Correlations and descriptive statistics for all variables can be found in Table 1. A one-sample *t* test indicated that IAT scores ($M = 0.52$, $SD = 0.38$) significantly differed from zero, $t(202) = 19.69$, $p < .001$. Overall, participants showed a robust association between gay men and disgust.

[8]Iatgen is a tool that allows researchers to administer the IAT via Qualtrics by configuring code based on researcher input that generates a Qualtrics survey containing the desired IAT. Implicit association tests created and implemented by iatgen have been found to produce identical results and intercorrelations as those IATs utilized by other software such as Inquist (Carpenter et al., 2019).

TABLE 1 Descriptive statistics, Pearson's correlations, and *p* values for Study 1 variables

Variables	*M*	*SD*	1	2	3	4	5
1. Implicit gay-disgust	0.52	0.38		0.040	0.347	0.350	0.071
2. Victim blame	3.20	1.57	0.14*		<0.001	<0.001	<0.001
3. Defendant blame	6.03	1.24	−0.07	−0.64**		0.045	<0.01
4. Hate crime dichotomous (1 = yes, 0 = no)	0.40	0.50	−0.07	−0.21**	0.13*		<0.001
5. Hate crime continuous	3.57	2.14	−0.13	−0.34**	0.22**	0.86**	

Note: The values below the diagonal are the correlation coefficients, and the values above the diagonal are the corresponding *p*-values.
*$p < .05$; **$p < .01$

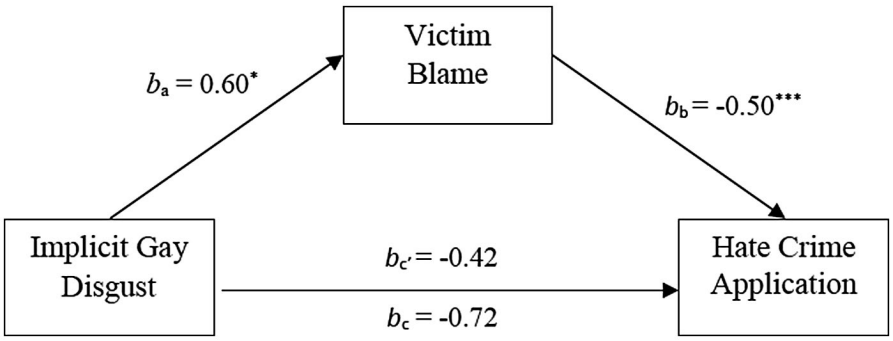

FIGURE 1 Exploratory mediation model. Study 1 mediation model for the effect of implicit gay-disgust on willingness to apply the hate crime statute through victim blame. b_c, the total effect of X on Y when controlling for the mediator (i.e., the mediator is included as a covariate). $b_{c'}$, the direct effect of X on Y when the path through the mediator is included in the model. *$p < .05$, ***$p < .001$

3.2.1 | Victim and defendant blame

A linear regression analysis was used to assess whether implicit gay-disgust predicted victim blame. Results supported our first hypothesis, higher implicit gay-disgust associations predicted increased victim blame ($B = 0.60$, $SE = 0.29$), $t(202) = 2.07$, $p = 0.040$, $\beta = 0.14$, 95% CI [0.03, 1.17]. Results of a sensitivity power analysis showed that we had 80% power to reliably detect a $B \geqq 0.80$. To assess our next hypothesis (H2), we used a linear regression analysis with implicit gay-disgust as the predictor and defendant blame as the outcome. Findings did not support our second hypothesis, as increased implicit gay-disgust associations did not significantly predict defendant blame, ($B = -0.22$, $SE = 0.23$), $t(202) = -0.94$, $p = .347$, $\beta = -0.07$, 95% CI [−0.67, 0.24]. A sensitivity power analysis indicated that we had 80% power to reliably detect a $B \geqq 0.63$.

3.2.2 | Hate crime determinations

Results of a logistic regression analysis indicated that implicit gay-disgust associations did not predict whether participants indicated that the case should be ruled a hate crime ($B = -0.35$, $SE = 0.38$), Wald $\chi^2(1) = 0.88$, $p = .350$, $OR = 0.62$, 95% CI [0.32, 1.22]. A sensitivity power analysis revealed that we had 80% power to reliably detect an OR $\geqq 0.32$. A linear regression analysis with implicit gay-disgust as the predictor and agreement that the homicide constituted a hate crime (the continuous hate crime measure) as the outcome was marginally significant. Increases in implicit gay-disgust associations corresponded with a tendency to decrease agreement that the homicide constituted a hate crime ($B = -0.72$, $SE = 0.40$), $t(201) = -1.82$, $p = .071$, $\beta = -0.13$, 95% CI [−0.47, 0.00].[9] A sensitivity power analysis indicated that we had 80% power to reliably detect a $B \geqq 0.82$.

3.2.3 | Exploratory mediation analysis

We speculated that perhaps implicit gay-disgust only influenced agreement that the hate crime statute would be applied if it also increased victim blame. To address this, we conducted an exploratory mediation analysis using the PROCESS MACRO for SPSS 2.16.3 (PROCESS model 4; Hayes, 2017). Results from 10,000 Bootstrap samples (bias corrected) indicated that victim blame was negatively predictive of hate crime application, $b = -0.50$ ($SE = 0.09$), 95% CI [−0.67, −0.32], $t(200) = -5.47$, $p < .001$. The indirect effect was −0.30 (Bootstrap $SE = 0.15$), Bootstrap 95% CI [−0.60, −0.02]. The confidence interval did not contain zero, indicating that victim blame mediated the effect of implicit gay-disgust on hate crime applications. This suggests that the more participants' implicit gay-disgust facilitated blame toward the victim, the less likely they were to agree that the hate crime statute applied. Moreover, the direct effect of implicit gay-disgust on hate crime application (c') was non-signification, indicating that victim blame accounts for the association between implicit gay-disgust associations and agreement that the hate crime statute applies, $b = -0.42$ ($SE = 0.37$), 95% CI [−1.16, 0.31], $t(200) = -1.13$, $p = .259$ (Figure 1).

[9]When non-heterosexual participants were included in the model this effect became statistically significant ($p = 0.019$).

3.3 | Discussion

Our results provide evidence, consistent with our first pre-registered hypothesis, that integral implicit gay-disgust is associated with increased victim blame. We did not find support for our second hypothesis, that implicit gay-disgust is associated with decreased defendant blame. Thus, although participants who were more implicitly disgusted by gay men tended to blame the victim more, this did not coincide with a reduction in blame attributed to the defendant. This finding is not wholly surprising given that participants were explicitly told that the defendant was guilty of the homicide. It may also be the case that gay-disgust associations only predicted victim blame (but not defendant blame) because the IAT was examining reactions to gay men which was the assumed sexual identity of the victim but not defendant.

We also did not find a significant effect of implicit gay-disgust on the dichotomous hate crime outcome measure (H3). We did, however, find that participants who were more implicitly disgusted by gay men reported marginally less agreement that the hate crime statute should be applied. Furthermore, an exploratory mediation analysis provided evidence that implicit gay-disgust associations predict willingness to apply the hate crime statute indirectly, through victim blame. That is, we found that as implicit gay-disgust associations increased, participants' tendency to blame the victim decreased, which predicted increased agreement that the hate crime statute applied to the case.

Although we do not find evidence of a significant direct effect of implicit gay-disgust associations on hate crime application, Hayes and Rockwood (2017) assert that mediation without a statistically significant direct effect of an independent variable (X) on the dependent variable (Y) is possible and meaningful. Specifically, Hayes and Rockwood (2017) posit that the understanding that X can exert an indirect effect on Y through a mediating variable (M) without a direct association between X and Y can be explained by the fact that a total effect is the sum of many different paths of influence. Therefore, results of our mediation analysis suggest that both implicit gay-disgust and victim blame are needed to account for the relation between implicit gay-disgust and agreement that the hate crime statute applies. Taken together, these findings suggest that although participants with high implicit gay-disgust associations did not attribute less blame to the defendant, they did blame the victim more, which in turn, predicted reduced agreement that the hate crime statute applies.

Finally, an exploratory analysis was conducted to test whether there would be differences based on gender for our three main variables (victim blame, continuous hate crime question, and the IAT). Although previous literature has shown that straight men may hold more negative attitudes toward gay men compared to straight women, we found no significant differences based on participant gender (Embrick et al., 2007; Herek, 2000, 2009). These results are reported in the supplemental materials.

4 | STUDY 2

Having established evidence in Study 1 that implicit gay-disgust is associated with victim blame and hate crime determinations, in Study 2 we set out to test whether experimentally inducing incidental feelings of disgust would causally influence these outcomes. We had three pre-registered hypotheses. First, we hypothesized that inducing incidental feelings of disgust would increase participants' implicit gay-disgust associations (H1). Second, we hypothesized that participants who experienced an incidental disgust induction (relative to those in the control condition) would assign more blame to the gay male victim of a homicide (H2) and would express less agreement that the homicide constituted a hate crime (H3). Materials and data for Study 2 can be found on Open Science Framework and pre-registration and analysis plan here.

4.1 | Method

4.1.1 | Participants

We chose to double our Study 1 target sample size ($N = 250$) for this between-subjects ($k = 2$) follow-up study. We recruited 500 adult U.S. residents through Amazon Mechanical Turk. However, 69 participants were excluded from all analyses based on the same IAT exclusion criteria used in Study 1, and an additional 57 participants were excluded because they identified as gay, lesbian, or bisexual.[10] Our final sample of 374 participants ($M_{age} = 39.00$; $SD_{age} = 2.22$; 45% women) was considerably smaller than our target sample size. A sensitivity power analysis indicated that for our primary hypothesis tests (independent samples *t*-tests) we had 80% power to detect an effect size of $d = 0.29$ or larger, with an alpha of 0.05. Most of our sample identified as White (80%), and the remainder identified as Asian (10%), Native American (2%), or Black (9%).[11] Six percent of participants identified as Hispanic or Latino. Participants were told that the study was about emotions and decision-making and were paid $0.75 for their participation.

4.1.2 | Procedure

Participants accessed the study on Qualtrics and provided electronic consent before they were randomly assigned to either the disgust prime condition or the control prime condition. Participants in the incidental disgust prime condition viewed a series of 10 disgust-inducing images (e.g., vomit, roaches), which were taken

[10]We failed to indicate that we planned to exclude gay, lesbian, and bisexual participants in our Study 2 pre-registration. Results including these participants are reported in Supplemental Materials and all discrepancies in inferential conclusions are footnoted in the manuscript.

[11]This total does not add up to 100 as participants were able to select more than one race/ethnicity.

TABLE 2 Descriptive statistics, Pearson's correlations, and *p* values for Study 2 variables

Variables	*M*	*SD*	1	2	3
Disgust condition					
1. Implicit gay-disgust	0.58	0.35	–	0.011	0.392
2. Victim blame	3.46	1.31	0.184*	–	<0.001
3. Hate crime continuous	3.43	1.87	−0.062	−0.345**	–
Neutral condition					
1. Implicit gay-disgust	0.50	0.37	–	0.010	0.804
2. Victim blame	3.16	1.35	0.188*	–	<0.001
3. Hate crime continuous	3.81	1.90	−0.018	−0.360**	–

Note: The values above the diagonal are the correlations for the disgust condition, and the values below the diagonal are the correlations for the control condition.
*$p < .05$; **$p < .01$; ***$p < .001$.

from the International Affective Picture System (IAPS; Lang et al., 2008) and successfully used to produce incidental disgust in prior research (Skinner & Hudac, 2017). Participants in the control prime condition viewed a series of 10 neutral images (e.g., stapler, mug) that were also taken from the IAPS. To encourage engagement with the images, participants were asked to rate how much they enjoyed each image from 0 (*not at all*) to 100 (*very much*). After rating the neutral ($M = 37.49$, $SD = 21.06$) or disgust ($M = 9.17$, $SD = 9.68$) images, participants were asked to describe the emotions that they felt while viewing the images. This served as a manipulation check for the disgust induction and has been used in previous studies (Skinner & Hudac, 2017). We acknowledge that putting the manipulation check before the dependent variables could potentially influence participant responses. However, given that experiencing disgust was central to our hypotheses we felt it critical to ensure that this manipulation was effective prior to our dependent variables. Moreover, Hauser et al. (2018) argue that placing manipulation checks after the dependent variables may compromise their validity, as participants may no longer recall how they felt at the time of the manipulation or may be less willing to disclose their feelings after completing dependent measures.

Participants then completed the same gay-disgust IAT from Study 1. Next, participants read the case scenario, completed the measure of victim blame, read jury instructions, and rated the extent to which they agreed that the homicide constituted a hate crime. All measures were identical to those used in Study 1. Finally, participants responded to demographic questions, followed by the same positive mood induction and debriefing process as Study 1. Given that our primary focus was victim blame, we chose not to include the measure of defendant blame in Study 2. The dichotomous victim blame measure was also dropped from Study 2 due to the lack of sensitivity of this measure.

4.2 | Results

Correlations and descriptive statistics for all variables can be found in Table 2. A one-sample *t* test indicated that IAT scores ($M = 0.4$, $SD = 0.37$) significantly differed from zero, $t(375) = 28.62$, $p < .001$. Overall, participants showed a robust association between gay men and disgust.

4.2.1 | Experimental manipulation

Manipulation check

Linguistic coding revealed that 99% of participants, out of the 191 people in the disgust condition, used the word "disgust" or a synonym in their description of the emotions they experienced while viewing the images. Conversely, none of the participants in the neutral condition reported experiencing disgust or any other negative emotions.

Effects on key dependent measures

Consistent with our first hypothesis, a two-tailed independent-samples *t* test indicated that the disgust induction increased implicit gay-disgust associations, $t(374) = -2.22$, $p = .027$, $d = 0.22$. Those in the disgust condition ($M = 0.58$, $SD = 0.35$) showed significantly stronger implicit gay-disgust associations than those in the control condition ($M = 0.50$, $SD = 0.37$), $M_{diff} = -0.08$ ($SE = 0.04$), 95% CI [−0.16, −0.01]. In line with our second hypothesis, a two-tailed independent-samples *t* test indicated that the disgust induction significantly increased victim blame ($M = 3.46$, $SD = 1.31$) relative to the control condition ($M = 3.16$, $SD = 1.35$), $M_{diff} = -0.30$ ($SE = 0.14$), 95% CI [−0.57, −0.03], $t(374) = -2.21$, $p = .028$, $d = 0.23$. In line with our third pre-registered hypothesis, participants in the disgust condition expressed significantly less agreement that the hate crime statute applied ($M = 3.43$, $SD = 1.87$) than those in the neutral condition ($M = 3.81$, $SD = 1.90$), $M_{diff} = 0.38$ ($SE = 0.19$), 95% CI [0.00, 0.76], $t(374) = 1.97$, $p = .050$, $d = 0.20$.[12]

[12]When gay, lesbian, and bisexual participants were included in the model this effect became more statistically significant ($p = 0.036$).

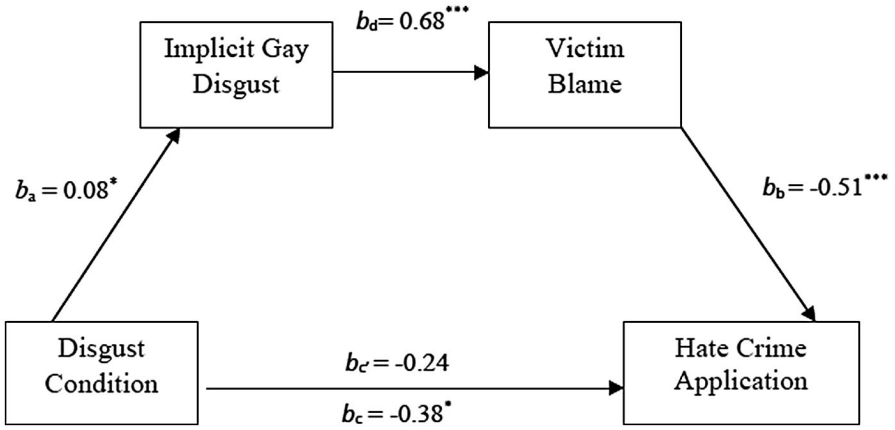

FIGURE 2 Exploratory serial mediation model. Study 2 mediation models for the effect of disgust induction (0 = control, 1 = disgust) on hate crime outcomes through both implicit gay-disgust and victim blame. b_c, the total effect of X on Y when controlling for the mediator (i.e., the mediator is included as a covariate). $b_{c'}$, the direct effect of X on Y when the path through the mediator is included in the model. $^{*}p < .05$, $^{***}p < .001$

TABLE 3 Path coefficients and indirect effects for mediation models

	Path Coefficients			Indirect effects	
	→ Implicit gay-disgust (IGD)	→ Victim Blame (VB)	→ Hate Crime Determination (HCD)	Unstandardized Estimate (*b*)	Bias-Corrected Bootstrapped 95% CI
Disgust Induction	0.08 (0.04)	0.25 (0.16)	−0.24 (0.27)		
Implicit gay-disgust		0.68 (0.19)	0.14 (0.26)		
Victim Blame			−0.51 (0.70)		
Total				−0.14 (0.08)	[−0.31, −0.01]
C → IGD → VB				0.01 (0.02)	[−0.04, 0.07]
C → VB → HCD				−0.12 (0.07)	[−0.28, 0.01]
C → IGD → VB → HCD				−0.03 (0.02)	[−0.06, −0.00]

Note: Standard errors are in parentheses.

Exploratory mediation analyses

Given that in Study 1 we found that victim blame mediated the relation between implicit gay-disgust associations and hate crime applications, we conducted an exploratory serial mediation analysis (PROCESS model 6) that examined the indirect effect of the disgust induction through implicit gay-disgust and victim blame, to predict hate crime application using the PROCESS MACRO for SPSS 2.16.3 (Hayes, 2017). That is, to the extent that the disgust induction (0 = control, 1 = disgust) increased implicit gay-disgust associations (b_a), it was anticipated to increase victim blame (b_d), thereby decreasing the likelihood of applying the hate crime statute (b_b; see Figure 2 for complete mediation model). Results from 10,000 Bootstrap samples (bias corrected) indicated that the path from the disgust condition (X) to victim blame (M^1) was significant, $b = 0.08$ ($SE = 0.38$), 95% CI [0.01, 0.16], $t(374) = 2.23$, $p = .027$, indicating that participants in the disgust condition showed greater implicit gay-disgust. The path from implicit gay-disgust (M^1) to victim blame (M^2) was also significant, $b = 0.68$ ($SE = 0.19$), 95% CI [0.32, 1.05], $t(374) = 3.66$, $p < .001$, such that the higher implicit gay-disgust predicted greater victim blame. Furthermore, victim blame (M^2) significantly predicted hate crime statute application (Y), $b = -0.51$ ($SE = 0.07$), 95% CI [−0.64, −0.37], $t(374) = -7.25$, $p < .001$. See Table 3 for path coefficients and indirect effects for all mediation models. The direct effect of the disgust condition on hate crime statute application (c′) was non-significant, $b = -0.24$ ($SE = 0.18$), 95% CI [−0.60, 0.12], $t(374) = -1.30$, $p = .194$. The indirect effect was −0.14 (Bootstrap $SE = 0.08$), Bootstrap 95% CI [−0.31, −0.001], indicating that implicit gay-disgust associations and victim blame mediate the effect of the disgust induction on hate crime statute application.

4.3 | Discussion

The findings of Study 2 provided support for all three of our pre-registered hypotheses. Consistent with previous findings (Cunningham et al., 2013; Inbar et al., 2012), we demonstrated that incidental disgust increased integral implicit gay-disgust associations (H1). Participants in the disgust condition (relative to the control condition) were more likely to blame the victim (H2) and less likely to agree that the homicide constituted a hate crime (H3). Furthermore, our exploratory mediation analysis provided an interesting perspective on how implicit gay-disgust associations and victim blame might contribute to real-world jury decision-making. Specifically, it showed that incidental disgust increased implicit gay-disgust, which was associated with increased victim blame, which ultimately predicted decreased agreement that the hate crime statute applies. Like Study 1, the results of our mediation analysis suggest that integral implicit

gay-disgust associations lead to variations in hate crime statute application through victim blame.

5 | GENERAL DISCUSSION

The current studies examined the relations between integral and incidental disgust, victim blame attribution, and hate crime determinations. Overall, there was a positive association between the conceptual categories of disgust and gay men on the IAT. That is, the average participant score on the IAT was above zero indicating that participants associated gay men with disgust. This is consistent with previous work demonstrating a relationship between disgust and gay men (Embrick et al., 2007; Herek, 1988; Kiss et al., 2020; Tapias et al., 2007). Across two studies we found evidence that the disgust experienced by participants—whether that be integral implicit gay-disgust associations or situationally induced (incidental) disgust—predicted victim blame and hate crime determinations. Specifically, results suggest that participants' feelings of disgust may increase their perceptions of how blameworthy a victim is for his own victimization, and in turn, decrease agreement that the hate crime statute applies. Our pre-registered hypotheses were that there would be a direct effect of implicit gay-disgust associations (Study 1) and disgust induction (Study 2) on hate crime statute application. Indeed, we did find modest support for these hypotheses. Yet, exploratory mediation analyses suggest that these findings may be better explained as indirect effects through victim blame. In other words, implicit gay-disgust associations predict greater victim blame, which is associated with reduced agreement that the hate crime statute applies.

Our findings are consistent with prior work indicating that people may rely on their emotional responses (e.g., anger) when making judgments regarding victim blame (Feigenson et al., 2001; Goldenberg & Forgas, 2012). Yet, our research makes a unique contribution to the literature by being the first to examine the role of disgust in victim blame attributions. Specifically, our research contributes to the literature by demonstrating that people are more likely to ascribe blame to victims who represent groups that they implicitly associate with disgust. It is also critical to point out that in criminal trials jurors are required to determine whether the emotions of the defendant could have reasonably contributed to their behavior during the commission of the crime (Dubber, 2002). Specifically, jurors are instructed to make determinations from the viewpoint of the defendant. Since defendants may explicitly report feeling disgusted by a gay victim (as is the case with the gay panic defense; Nussbaum, 2006), jurors may empathize with the defendant and envision themselves feeling that same emotion. In fact, our findings may be an underestimate of these effects given that we did not explicitly mention disgust in the case scenario or encourage participants to take the viewpoint of the defendant.

The effects of our disgust induction are particularly important given that jurors may be exposed to potentially disgusting stimuli during criminal trials. For example, during trials for violent crimes jurors may be shown graphic photographs of crime scenes, bodily injuries, and/or post-mortem exams (Bandes & Salerno, 2015; Salerno, 2017), which are known elicitors of disgust (Haidt et al., 1994). These types of offenses could also include sexual violence and/or descriptions of sexual acts, which also tend to elicit a disgust response (de Jong et al., 2013; Tybur et al., 2010). There are many reasons why it would be challenging to protect juries from disgusting stimuli during a trial and this is not necessarily something that can be addressed in the criminal justice system. However, there are potential steps that could be taken to reduce incidental disgust. For example, courts could instruct jurors to not let their emotions prejudice their judgments. This is not uncommon—judges routinely instruct juries that they should avoid letting their emotions affect their judgment (Phalen et al., 2021)—and evidence suggests that these types of instructions may be effective at reducing the effect of bias on jury decision-making (Kraus & Ragatz, 2011).

5.1 | Strengths, limitations, & future directions

A key strength of our work is that we used two different designs (correlational and experimental) to allow for clear relational and cause-effect conclusions about an important psychological issue in the context of the United States. Moreover, the case study used was modeled after a real crime. Our study also makes the unique contribution of measuring implicit gay-disgust associations, whereas past work has relied upon explicit measures. Furthermore, our study contributes to the literature on disgust toward gay men by examining a new detrimental potential outcome (e.g., victim blame), and the real-world implications this could have (application of the hate crime statute). Given that hate crimes against gay men are on the rise, this research is timely and important (Hauck, 2019). However, mock jury experiments can never truly replicate the experience of sitting in on an actual jury, thus our studies are subject to the usual criticisms associated with mock jury paradigms, such as the absence of a jury selection phase or jury deliberation (Diamond, 1997; Salerno & Diamond, 2010). Relatedly, although we recruited from the general pool (adult U.S. residents) that juries are drawn from, we did not restrict participation to U.S. citizens or apply other exclusionary criteria that exist in some jurisdictions. Furthermore, we did not ask about previous experience sitting on juries, criminal convictions, or other potentially jury-relevant criteria.

Another consideration is how completion of the IAT may have impacted participant responses to subsequent measures. Given that we were interested in capturing integral disgust associated with gay men—paired with knowledge of the sensitivity of the IAT to situational influences (e.g., disgusting photos)—we felt that this order was necessary. Nonetheless, it is always possible that completion of one measure influences responses to subsequent measures, which could result in demand or socially desirable responding.

Our study focused exclusively on gay male victims; therefore, our results are generalizable only to judgments toward this population. Future research is needed to test this process with other types of victims. For example, it may be the case that in any instance

where an individual has integral emotions of implicit disgust toward the victim, results might be similar given that in both mediation models greater implicit gay-disgust associations predicted increased victim blame. Although inducing incidental feelings of disgust also increased victim blame, it did so by increasing implicit feelings of disgust. To the degree that people have implicit feelings of disgust toward other common targets of disgust, such as prostitutes or homeless individuals, it is plausible that this would result in increased blame for the victim. Alternatively, previous research has shown that disgust toward gay men tends to elicit a hostile threat response (vs. other targets of disgust), especially for straight men who strongly endorse heteronormativity and masculinity norms (Pirlocott & Cook, 2018; Ray & Parkhill, 2020, 2021). Therefore, it could be the case that disgust only predicts victim blame for gay men.

Future studies should also consider examining the role of disgust sensitivity in victim blame. Greater disgust sensitivity—experiencing disgust more readily than others—has been associated with more negative reactions to gay men, foreigners, heavyweight individuals, and people with physical disabilities (Hodson & Costello, 2007; Inbar et al., 2009; Park et al., 2003, 2007). For example, among people who are relatively high in disgust sensitivity, the effects of incidental and integral disgust may be amplified. Furthermore, future studies should consider the potential moderating role of sexual prejudice. Past research has demonstrated a positive relationship between disgust and sexual prejudice toward gay men (Cunningham et al., 2013; Kiss et al., 2020; Ray & Parkhill, 2020). Therefore, it may be the case that those high in sexual prejudice experience more disgust toward gay men and therefore blame the victim more.

It is also worth noting that there is debate within the field of psychology regarding the validity of the IAT. For example, Schimmack (2021) has criticized the IAT based on limited evidence that it predicts meaningful behavioral outcomes (or does so any better than explicit measures). Still, even these critiques have acknowledged the value of indirect measures like the IAT for assessing socially sensitive attitudes (e.g., gay-disgust associations). Finally, a substantial number of participants failed to meet inclusion criteria for the IAT, which reduced statistical power. Several of our sensitivity power analyses indicated that our studies were underpowered to reliably detect the observed effects, thus future work with even larger samples will help in better understanding the robustness of the effects observed here.

6 | CONCLUSION

Overall, the current research provides support for the notion that disgust can increase victim blame and impact legal decision-making. Our research expands and further contributes to this literature in the following ways. Our research is the first to account for the impact of disgust on attributions of victim blame. Second, our research makes an applied contribution by demonstrating that disgust may have real life repercussions for the perpetrators of these crimes. That is, perpetrators of crimes may be held less accountable if the victim is thought to play a role in their victimization.

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SUPPORTING INFORMATION

Additional Supporting Information may be found online in the Supporting Information section.

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