

Moral Judgment Toward Individuals in Consensually Non-Monogamous Relationships As A Function of Moral Foundations And Disgust Sensitivity

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Abstract

In 2 experiments we demonstrate how participants perceive individuals in consensually non-monogamous relationships (e.g., polyamory) more negatively compared to those in monogamous relationships, as a function of moral foundation variables and trait-level disgust sensitivity. In Study 1, we experimentally presented participants with vignettes depicting characters in one of two relationship types (monogamous or non-monogamous), after which participants completed character judgments (ethics) and relationship impressions. Participants viewed the characters in a monogamous relationship as more ethical and having higher relationship quality, and these associations were fully mediated by perceptions of the characters as pure, loyal, caring, fair, and honest. Participants high in sensitivity to disgust also perceived the consensually non-monogamous as less ethical and having lower relationship quality compared to participants low in disgust sensitivity. In Study 2, we utilized a victim-blaming paradigm with vignettes in which a character is killed, after which participants are asked to rate who is morally culpable. Participants viewed the non-monogamous character who was killed in the story as more morally culpable, and lower in loyalty and purity, compared to the control condition in which the killed character was monogamous. We discuss these findings in terms of implications for social perception and moral judgment towards consensually non-monogamous relationships.

Keywords: consensual non-monogamy, stigma, moral foundations, ethical judgment, experimental data, mediation

In romantic relationships, social monogamy is common, but many couples choose to engage in some form of consensually non-monogamous (CNM) arrangement, including polyamory, swinging, open relationships, and more (Conley, Mastick, Moors, & Ziegler, 2017; Moors, Mastick, & Schechinger, 2017). These consensually non-monogamous relationships provide benefits to people, such as excitement and intimacy, but they are not without social cost, as some research suggests that people perceive non-monogamous relationships as less healthy (Conley, Moors, Mastick, & Ziegler, 2013). Such social stigma is well-documented but remains unexplained since monogamy-based stigma is rooted in misconceptions about the alleged benefits of monogamous relationships (Conley, Ziegler, Moors, Matsick, & Valentine, 2013) and may be confounded with stigma towards sexual or non-sexually transmitted disease (Conley, Piemonte, Shukla, Mangla, Mateti, & Tariq, 2022). People who hold unfavorable attitudes about CNM also tend to dehumanize these relationships, the effect driven by the perception that these relationships are less moral and demonstrate a lower commitment level between partners (Rodrigues et al., 2021). With this paper, our primary goal is to explain stigma towards consensually non-monogamous relationships through the lens of moral foundations theory (MFT; Graham, Haidt, Koleva, Motyl, Iyer, Wojcik, & Ditto, 2013) and individual differences in sensitivity to disgust. In two studies, we show that participants perceive targets who engage in consensually non-monogamous relationships more negatively in terms of ethical judgment and as having lower relationship quality. We also show how these associations are driven by perceivers' trait levels of disgust sensitivity, and a normative perception that those in consensually non-monogamous relationships are less loyal, pure, and caring, even if they are victims of violence.

Theoretical Overview

Moral foundations theory (MFT) emerged as a useful framework to understand ethical considerations and social judgment, as people routinely base their attitudes toward moral violations by other people (e.g., adultery) on a variety of concerns. According to MFT (Graham et al., 2013), individuals can possess a diverse array of moral concerns that drive moral cognition, but some cultural influences may lead to some moral concerns receiving emphasis over others. These moral concerns include a) Care (promoting compassion and reducing harm to others), b) Equality (promoting equal treatment and reducing inequality), c) Proportionality (promoting rewards or costs that are commensurate with efforts or deeds), d) Loyalty (promoting duty or obligation to social groups and reducing betrayal), e) Authority (promoting respect for leaders, traditions and reducing disrespect), and f) Purity/sanctity (promoting cleanliness/spirituality reducing degradation). While individuals may vary in the extent to which they endorse concerns about these six foundations, they are all relevant to some extent in societies all over the world. The loyalty and purity foundations may be particularly relevant to our understanding of stigma towards individuals in consensually non-monogamous relationships (see Selterman & Koleva, 2015; Selterman et al., 2018).

Alongside MFT, other studies on moral judgment have shown that people's sensitivity to disgust plays a key role in their perceptions of others' violations. Normatively, people may experience disgust or use the language of disgust to express anger or outrage at an array of targets

judged as immoral. Political outgroups/rivals are viewed as “disgusting” (Landy, Rottman, Batres, & Leimgruber, 2021), and trait-like disgust sensitivity may also predict animosity toward immigrants (Aarøe, Petersen, & Arceneaux, 2017). Criminal offenses tend to be described as “revolting” and “sickening”, and criminals are given labels such as “pigs” and “rotten” (Jones & Fitness, 2008). The emotion of disgust initially emerged to motivate aversion towards physical contamination (such as pathogens that could induce illness), but people also describe this emotion as a form of moral aversion toward actions and people viewed as undesirable through the extended disgust model (Inbar & Pizarro, 2022). The same motivation that drives avoiding physical contamination may underpin behavioral, cognitive, and emotional tendencies aimed at reducing moral contamination. In a mock juror setting, individuals with higher disgust sensitivity were more likely to convict a criminal, exhibiting moral hypervigilance against the potential societal contaminant (Jones & Fitness, 2008).

Disgust is thought to be linked with moral judgment across all moral foundations though some research suggests that it is uniquely related to the purity domain (Wagemans et al., 2017). Prior studies suggest that the purity (alongside disgust) and loyalty foundations, may also play a key role in explaining people’s attitudes and ethical concerns toward sexual behaviors and close relationships. Individual differences in purity concerns predict negative attitudes toward homosexuality and pornography consumption (Koleva, Graham, Ditto, Iyer, & Haidt, 2012). Similarly, disgust sensitivity also predicts moral disapproval of homosexuality (Inbar, Pizarro, Knobe, & Bloom, 2009). Purity concerns are also strongly associated with moral judgment toward sexual and relationship taboos, such as having sex with a friend’s ex-partner, more so than other moral foundations like care or fairness (Selterman & Koleva, 2015). When prompted to consider vignettes depicting secrets and sexual infidelity, participants’ perceptions of the characters’ loyalty and purity mediated their moral judgment, whereas perceptions of the characters’ harmfulness were less salient (Selterman, Moors, & Koleva, 2018). Studies exploring extra-dyadic sexual activity distinguish between infidelity and consensual non-monogamy. However, people may generally conflate them due to the involvement of multiple partners in both relationships and the similar transgression from monogamy. Consistent with infidelity findings, stronger purity beliefs uniquely predicted greater apprehension towards CNM relationships when controlling for other moral decision-making measures and personality traits (Cunningham, Mitchell, & Mogilski, 2022). This, along with moral hypervigilance in situations that involve judging culpability, may lead people to have even less favorable judgments towards those who have been victims of crimes, based on their non-monogamous relationship type.

Threading these ideas together, there is an overlap between the extended disgust model and the moral domain of purity/sanctity, which includes preferences for chastity and spiritual virtuousness (Inbar & Pizarro, 2022). Sensitivity to disgust along with purity and loyalty concerns may underlie people’s moral judgment towards consensually non-monogamous relationships. To test these associations, we formulated two experimental studies which depicted characters in one of two relationship types, monogamous and consensually non-monogamous. For Study 1, we utilized a moral judgment design such that participants rated the characters’ relationship quality and their ethical traits. For Study 2, we utilized a victim-blaming design, again with vignettes depicting characters in one of two relationship types, in which participants judged the culpability of each

character for the killing of an innocent individual. With each study, we assessed participants' perceptions for characters' moral traits using adjective ratings (i.e., "how harmful/pure/loyal is this character?") rather than the standardized scales to measure participants' general, trait-like concerns about various moral questions. This method has been used successfully in prior work on similar research questions (e.g., Selterman et al., 2018), and character ratings are a more direct test of our hypotheses compared with trait questionnaires that measure general concerns. In addition, though we sought to test the role of each moral foundation factor in our studies, we did not see theoretical relevance in the authority/subversion foundation (e.g., deference to political/religious leaders) for our research questions, and did not predict that authority would be salient in the minds of participants as they were evaluating the characters in our stimuli. Thus, items gauging perceptions of authority were not included in our study designs.

In Study 1, we hypothesized that when forming an impression of a fictional couple, participants would judge this couple as having worse relationship quality (H1a), and would show harsher moral judgment (H1b) toward the couple in a consensually non-monogamous relationship, compared to the couple in a sexually exclusive relationship. We hypothesized that these two experimental effects would be independently mediated by participants' perceptions of the couple as impure and disloyal (H2) even while statistically controlling for other moral foundations such as harm and fairness. Finally, we hypothesized that the two experimental effects would be moderated by participants' trait levels of disgust sensitivity, such that those high on this trait would perceive consensually non-monogamous couples even more negatively than those low on this trait (H3).

Study 1 Method

Participants

Participants from this study (717) were recruited from a large research university in the mid-Atlantic. We removed 28 participants who failed an attention check, for a final sample of $N = 689$ participants (453 women, 226 men, 3 another gender), $M_{\text{age}} = 19.54$ years, $SD = 2.61$, 90% heterosexual, 5% bisexual, 2% gay/lesbian, 1% asexual, 51% non-Hispanic white, 9% Hispanic, 16% African American, 20% Asian/Pacific Islander, 5% other ethnicity.

Materials and Procedure

Participants first completed a measure of trait-like sensitivity to disgust (Olatunji, Williams, Tolin, Abramowitz, Sawchuk, Lohr, & Elwood, 2007), which contains items such as "It would bother me to see a rat run across my path in a park." The scale had good reliability in our sample ($\alpha = .86$).¹ Participants were then randomly assigned to view one of two vignettes (available [here](#)), both

¹ Due to human error, data collection had begun before the disgust sensitivity scale was added into the protocol. For this reason, data on disgust sensitivity was only available for 453 participants in the sample.

of which depicted a couple in a happily committed, loving romantic relationship that has lasted for 5 years, with plans of marriage. In the non-monogamous condition, the characters have a mutual agreement that it is okay for them to have other sexual partners and that they are happy with this arrangement. In the control condition, the characters are described as being sexually exclusive.

After reading one of these vignettes, participants rated the main characters' relationship on several dimensions using 1-7 semantic differential scales that included both positively and negatively valenced items. We used 17 items to measure perceived relationship quality: *happy/unhappy*, *loving/unloving*, *warm/cold*, *emotionally secure/insecure*, *sexually safe/risky*, *mature/immature*, *intimate/distant*, *natural/unnatural*, *comfortable/uncomfortable*, *compatible/incompatible*, *attractive/unattractive*, *exciting/boring*, *passionate/dull*, *satisfying/dissatisfying*, *socially acceptable/unacceptable*, *likely/unlikely to use condoms*, and *likely/unlikely to spread STDs to each other*. The 8 items measuring several facets of moral judgment included: *caring/harmful*, *fair/unequal*, *clean/disgusting*, *pure/degrading*, *loyal/disloyal*, *honest/dishonest*, *trustworthy/untrustworthy*, and *ethical/immoral*. We included honesty as an outcome variable because some prior research suggests that perceptions of honesty play a role in moral judgment independent of moral foundations, although honesty is not currently considered a moral foundation (Selterman et al., 2018). Separately, because some research shows that monogamy status produces a "halo effect" around targets (Balzarini, Shumlich, Kohut & Campbell, 2018), we included 3 items that are irrelevant to relationship functioning: *likely/unlikely to take a multivitamin*, *likely/unlikely to pay taxes on time*, *likely/unlikely to floss daily*. We treated outcome variables separately according to moral foundations theory, such that perceptions of the characters' relationships as caring, fair, loyal, pure, honest, and ethical, were all analyzed as distinct variables in our analyses, in addition to the relationship quality and "halo" outcome variables. The 17 perceived relationship quality items had good internal consistency ($\alpha = .93$), while the 3 items for irrelevant "halo" characteristics had adequate consistency ($\alpha = .73$). Two attention checks ("*Please mark '2' for this item*") were used for data quality.

Results and Discussion

Analyses were performed using Jamovi software. The data that support the findings of this study (and Study 2 below) are openly available in OSF at https://osf.io/7rt3k/?view_only=6dbfccf23a4241419df6387e952cad80. We interpreted findings as statistically significant based on both a two-tailed $p < .05$ cutoff and 95% confidence intervals that do not overlap with zero. Consistent with our hypotheses (H1a and H1b), an initial one-way ANOVA test showed that participants who read about the consensually non-monogamous couple rated them as having significantly worse relationship quality $F(1, 650) = 580.13, p < .001$, as well as less ethical $F(1, 650) = 450.62, p < .001$, less caring $F(1, 650) = 554.27, p < .001$, less fair $F(1, 650) = 130.62, p < .001$, less loyal $F(1, 650) = 622.21, p < .001$, less pure $F(1, 650) = 673.51, p < .001$, less honest $F(1, 650) = 228.65, p < .001$, and lower on the irrelevant "halo" variables $F(1, 650) = 135.94, p < .001$, compared to participants who read about the monogamous couple. Means, standard deviations, effect sizes, and confidence intervals can be found in Table 1.

Outcome	CNM		Monogamous		95% CI Mean Difference	<i>d</i>
	Mean	SD	Mean	SD		
Relationship Quality	4.09	1.07	5.83	.83	-1.89, -1.60	-1.82
Ethical	3.83	1.64	6.14	1.15	-2.52, -2.10	-1.63
Caring	3.77	1.56	6.21	1.15	-2.65, -2.24	-1.79
Fair	4.97	1.60	6.15	1.24	-1.40, -.97	-.83
Loyal	3.57	1.71	6.35	1.20	-3.01, -2.57	-1.88
Pure	3.62	1.29	5.96	1.09	-2.52, -2.16	-1.96
Honest	4.69	1.52	6.18	1.07	-1.69, -1.30	-1.13
Halo	4.19	.88	5.07	1.11	-1.03, -.73	-.88

Table 1. Means, Standard Deviations, 95% Confidence Intervals for Mean Differences, and Effect Sizes for Outcome Variables Based on Relationship Status (CNM vs. Monogamous) Conditions in Study 1 ($N = 652$).

We had hypothesized (H2) that the experimental effect of monogamy status for the couple in the vignette (CNM or monogamous) on two key outcomes (perceptions of relationship quality and moral judgment), would be independently mediated by participants' perceptions of the moral foundations purity and loyalty, while controlling for other moral foundations harm and fairness. To test this, we ran two multiple mediation models with bias corrected bootstrapping (1000 samples). The irrelevant halo trait variable was significantly different across experimental conditions, but was not uniquely significant in predicting the outcome variables (relationship quality), and because this was not of theoretical interest based on our hypotheses, we removed it from the final mediation models. This left five remaining variables entered as mediators: *caring*, *fair*, *loyal*, *pure*, and *honest*. Hypothesis 2 was supported. Perceptions of couples as caring $\beta = .14, p < .001$, loyal $\beta = .09, p = .014$, pure $\beta = .30, p < .001$, and honest $\beta = .06, p = .004$ emerged as significant mediators for the experimental effect of couple monogamy status on moral judgment, while fair was not significant $\beta = .00, p = .762$. Using 95% confidence intervals surrounding the unstandardized estimates, we observed that the mediating role for pure was the strongest $b = 1.11$ [.85, 1.42], followed by caring $b = .51$ [.27, .76], loyal $b = .33$ [.08, .61], and honest $b = .23$ [.07, .39]. Together, these factors fully mediated the experimental effect [Total effect $\beta = .63, \mathcal{F} = 21.33, p < .001$; Direct effect $\beta = .03, \mathcal{F} = .95, p = .344$]. The full path model can be found in Figure 1 below.

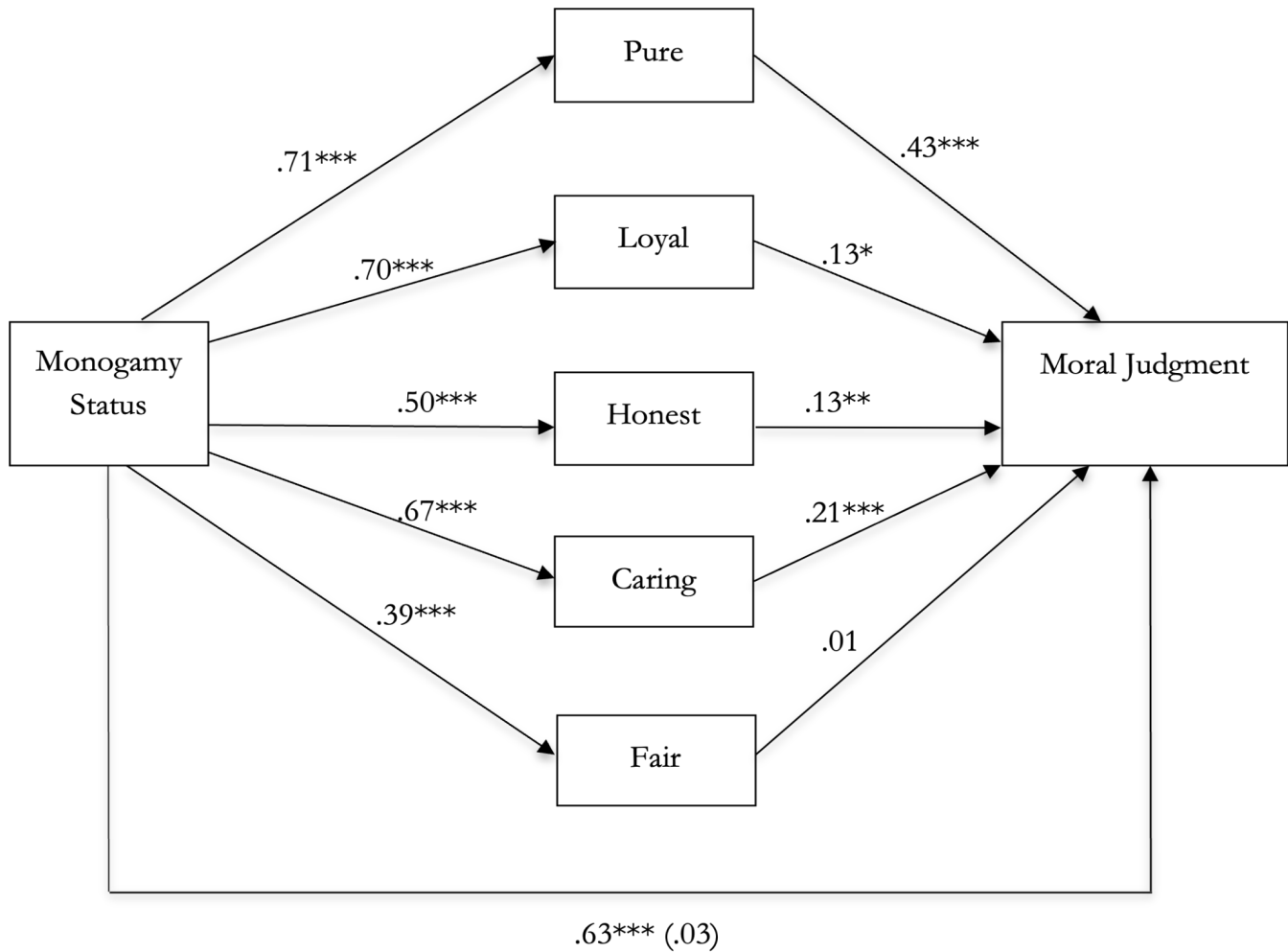


Figure 1. Mediation model showing perceptions of the couple's purity, loyalty, honesty, fairness, and care as mediators between experimental condition (CNM vs. monogamous) and moral judgment in Study 1. Standardized beta coefficients are displayed.

Perceptions of couples as caring $\beta = .20, p < .001$, loyal $\beta = .09, p < .001$, pure $\beta = .21, p < .001$, honest $\beta = .08, < .001$ and fair $\beta = .05, < .001$ all emerged as significant mediators for the experimental effect of couple monogamy status on perceptions of relationship quality. Using 95% CIs surrounding the unstandardized estimates, we observed that the mediating role for pure $b = .54$ [.41, .68] and caring $b = .53$ [.41, .67] were the strongest, followed by loyal $b = .23$ [.09, .36], honest $b = .21$ [.14, .29] and fair $b = .12$ [.08, .18]. Together, these factors fully mediated the experimental effect [Total effect $\beta = .67, \mathcal{Z} = 22.92, p < .001$; Direct effect $\beta = .04, \mathcal{Z} = 1.91, p = .057$]. The full path model can be found in Figure 2 below.

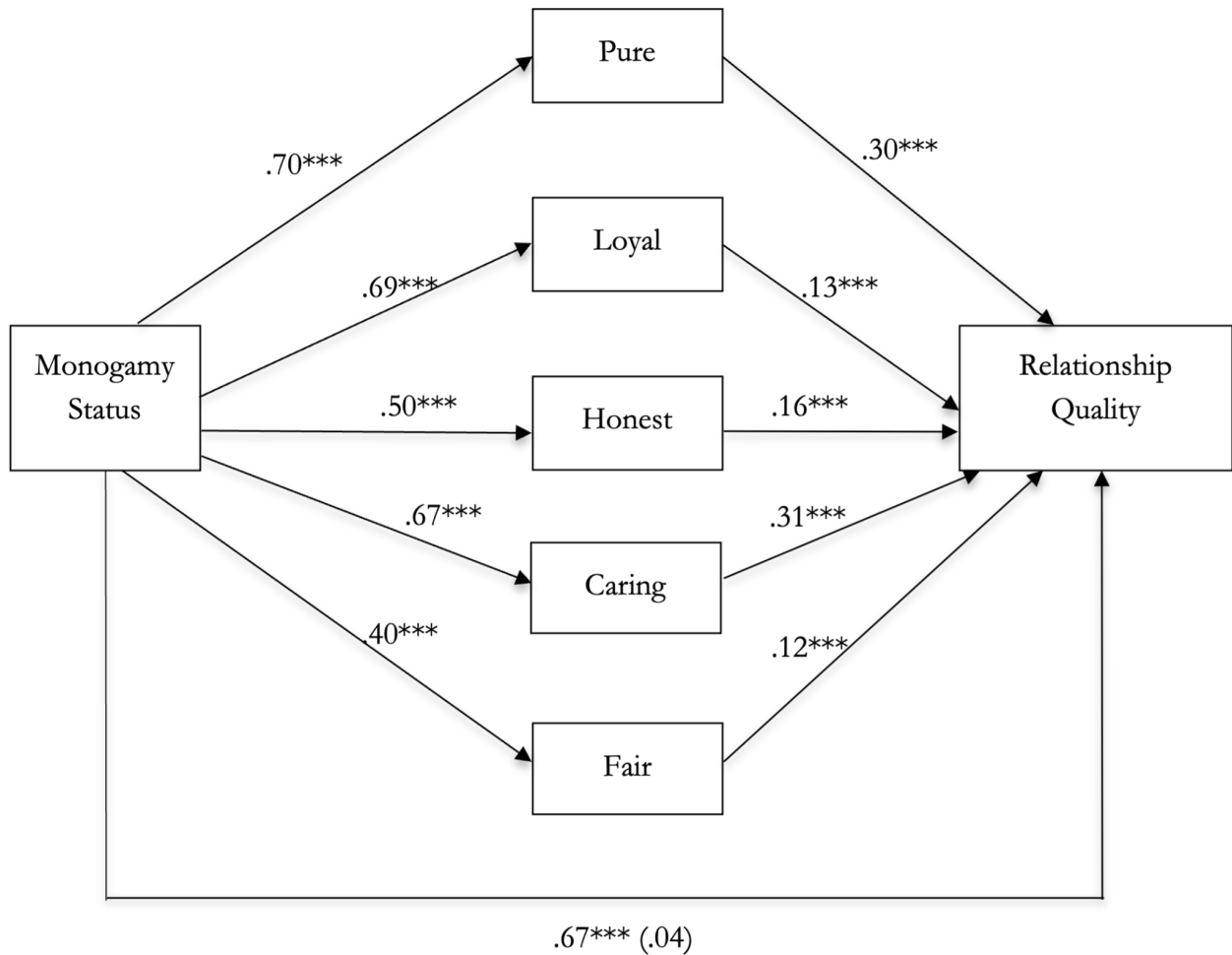


Figure 2. Mediation model showing perceptions of the couple's purity, loyalty, honesty, fairness, and care as mediators between experimental condition (CNM vs. monogamous) and perceptions of relationship quality in Study 1. Standardized beta coefficients are displayed.

We then tested the hypothesis (H3) that the experimental effect of monogamy status for the couple in the vignette (CNM or monogamous) on moral judgment and perceptions of relationship quality would be augmented by participants' trait levels of disgust sensitivity. This hypothesis was supported. Unexpectedly, disgust sensitivity was negatively correlated with both perceptions of relationship quality $r = -.18, p < .001$ and moral judgment $r = -.10, p = .033$. In a simultaneous regression model, the associations between monogamy status $\beta = 1.31, p < .001$ and disgust sensitivity $\beta = -.06, p = .109$ on moral judgment were qualified by a significant interaction $\beta = .32, p < .001$. Simple slopes analyses revealed that, as predicted, the experimental effect was larger at high levels (+1 SD) of disgust sensitivity $\beta = 1.63, p < .001$ compared to low levels (-1 SD) of disgust sensitivity $\beta = .99, p < .001$. Put another way, in the CNM condition, disgust sensitivity was

negatively associated with moral judgment $\beta = -.22, p < .001$ but this association was reversed in the monogamous (control) condition $\beta = .10, p = .034$.

A similar pattern emerged for perceptions of relationship quality. In a simultaneous regression model, the association between monogamy status $\beta = 1.29, p < .001$ and disgust sensitivity $\beta = -.13, p < .001$ on perceptions of relationship quality were qualified by a significant interaction $\beta = .25, p < .001$. Simple slopes analyses revealed that, as predicted, the experimental effect was larger at high levels (+1 SD) of disgust sensitivity $\beta = 1.55, p < .001$ compared to low levels (-1 SD) of disgust sensitivity $\beta = 1.04, p < .001$. Put another way, in the CNM condition, disgust sensitivity was negatively associated with perceptions of relationship quality $\beta = -.25, p < .001$ but no association emerged between disgust sensitivity and perceived relationship quality in the monogamous (control) condition $\beta = -.00, p = .965$. In summary, our hypothesis for the moderating role of disgust sensitivity was supported.

Study 2

In study 2, we sought to build on the results from Study 1 with a different measure of moral judgment through vignettes containing an unrelated but objectively immoral action (robbery and killing), for which participants are asked to judge who is responsible. We surmised that if the characters are depicted as engaged in consensually non-monogamous relationships, participants would hold them responsible to a greater extent compared to characters depicted as sexually exclusive in their relationships. Such moral judgment would reveal a bias against consensually non-monogamous couples even when the behaviors in question are not relevant to their relationships. We hypothesized (H4) that participants would be more likely to hold characters morally responsible in an unrelated death if they were depicted as having a consensually non-monogamous relationship compared to an exclusive one, and (H5) that participants would also perceive consensually non-monogamous characters as less pure, and less loyal compared to the monogamous characters, but not necessarily more harmful.

Method

In the study, participants read about a fictional husband and wife (materials available [here](#)). The story was modeled closely after a vignette developed by Bloyd (1990), based on a story from Dolgoff and Feldstein (1984) as a method to probe victim blaming through the “just world paradigm.” The wife in the story is killed by a thief during a robbery. Participants were randomly assigned to either a condition in which the husband and wife are in a consensually non-monogamous relationship or one in which they are exclusive. After reading the story, participants were asked to rank the characters in order of their responsibility for the wife’s death. This includes the wife herself (named Sue), the husband (named Jeff), and the thief, along with 2 other characters, a ferry captain who refuses entry to the wife before she is killed, and a friend/lover of the wife (named Zach) who kicks her out of his apartment following an argument. Participants also ranked the characters in terms of how harmful, pure, and loyal they were in the story.

Participants from this study (239) were recruited from a large research university in the mid-Atlantic. (72 men, 157 women, 10 unreported), $M_{\text{age}} = 19.54$ years, $SD = 2.02$, 90% heterosexual, 4% bisexual, 4% gay/lesbian, and < 1% questioning or asexual, and 59% non-Hispanic white, 7% Hispanic, 10% African American, 21% Asian/Pacific Islander, and 4% other ethnicity.

Results and Discussion

Analyses were performed using the R software and the “polr” function for ordinal logistic regression within the “MASS” package (Venables & Ripley, 2002). We hypothesized (H4) that participants would rank the husband and wife as more responsible, more harmful, less pure, and less loyal in the consensually non-monogamous condition compared to the exclusive one. We tested this using rank-ordinal regression models, and the hypothesis was supported. Of note, positive values for coefficients in these models should be interpreted as indicating that participants gave *lower* rankings (e.g., fifth-highest as opposed to second-highest) for perceptions of an attribute in the exclusive (i.e., control) condition versus the consensual non-monogamy condition (higher rankings in the non-monogamy condition). In the consensually non-monogamous condition, the wife was ranked higher in terms of responsibility for her death $b = 0.90$, $OR = 2.45$, $t(227) = 3.68$, $p < .001$, 95% CI [0.42, 1.38], higher in harmfulness $b = 0.71$, $OR = 2.04$, $t(224) = 2.88$, $p = .004$, 95% CI [0.23, 1.20], lower in terms of loyalty $b = -1.57$, $OR = 0.21$, $t(212) = -5.86$, $p < .001$, 95% CI [-2.10 -1.05], and lower in terms of purity $b = -2.13$, $OR = 0.12$, $t(214) = -7.50$, $p < .001$, 95% CI [-2.70 -1.58]. The husband was not ranked higher in terms of responsibility $b = -0.16$, $OR = 0.86$, $t(227) = -0.54$, $p = .588$, 95% CI [-0.73, 0.41] or harmfulness $b = 0.04$, $OR = 1.04$, $t(224) = 0.16$, $p = .874$, 95% CI [-0.45, 0.53] but was rated as less loyal $b = -1.25$, $OR = 0.29$, $t(212) = -4.70$, $p < .001$, 95% CI [-1.77, -0.73] and less pure $b = -1.49$, $OR = 0.23$, $t(214) = -5.51$, $p < .001$, 95% CI [-2.03, -0.97] in the consensually non-monogamous condition compared to the exclusive condition.

Furthermore, participants ranked the ferry captain who refused entry to the wife as less responsible in the consensually non-monogamous condition compared to the exclusive condition $b = -0.79$, $OR = 0.45$, $t(227) = -3.22$, $p = .002$, 95% CI [-1.28, -0.31], and less harmful $b = -0.84$, $OR = 0.43$, $t(225) = -3.21$, $p = .002$, 95% CI [-1.36, -0.33], more loyal $b = 1.18$, $OR = 3.27$, $t(212) = 4.61$, $p < .001$, 95% CI [0.69, 1.69], and more pure $b = 1.97$, $OR = 7.17$, $t(214) = 7.00$, $p < .001$, 95% CI [1.43, 2.53]. The friend/lover character was not ranked higher in terms of responsibility $b = -0.08$, $OR = 0.92$, $t(227) = -0.32$, $p = .750$, 95% CI [-0.57, 0.41] or harmfulness $b = -0.01$, $OR = 0.99$, $t(224) = -0.04$, $p = .965$, 95% CI [-0.58, 0.55] but was rated as more loyal $b = 0.72$, $OR = 2.05$, $t(212) = 2.84$, $p = .005$, 95% CI [0.23, 1.22] and more pure $b = 0.56$, $OR = 1.75$, $t(214) = 2.13$, $p = .034$, 95% CI [0.23, 1.22] in the consensually non-monogamous condition compared to the exclusive condition. Finally, the thief who killed the wife was not ranked more responsible $b = -0.31$, $OR = 0.73$, $t(227) = -0.74$, $p = .462$, 95% CI [-1.17, 0.52] or more harmful $b = 0.18$, $OR = 1.20$, $t(224) = .35$, $p = .725$, 95% CI [-0.84, 1.24] but was rated as more loyal $b = 0.76$, $OR = 2.14$, $t(212) = 2.92$, $p = .004$, 95% CI [.25, 1.27] and more pure $b = 1.24$, $OR = 3.45$, $t(214) = 2.97$, $p = .003$, 95% CI [0.45, 2.10] in the consensually non-monogamous condition compared to the exclusive condition.

As can be seen in Table 2, the thief always received the worst ordinal ranking (most harmful, most responsible, least loyal and least pure). The wife's responsibility ranking fluctuated as this character was rated 4th in the monogamous control condition but 3rd in responsibility in the CNM condition. Conversely, the captain's responsibility rating shifted from 3rd to 4th across conditions, while the friend/lover retained the same ordinal ranking. For harm ratings, the wife and husband did not move in their relative position, though the friend/lover ranking moved from 3rd (monogamous) to 2nd (CNM) and the captain's ranking shifted conversely (2nd to 3rd). The wife's ranking similarly shifted from 2nd to 3rd in loyalty and purity ratings across conditions, while the husband's position also changed in the same direction from 1st to 2nd in purity and loyalty ratings. Conversely, the captain's ranking moved from 3rd (monogamous) to 1st (CNM) for both loyalty and purity across conditions, while the friend/lover rankings remained constant.

Responsibility (Control)	Responsibility (CNM)	Harm (Control)	Harm (CNM)	Loyalty (Control)	Loyalty (CNM)	Purity (Control)	Purity (CNM)
Thief (1.19)	Thief (1.27)	Thief (1.16)	Thief (1.17)	Jeff (1.60)	Captain (2.34)	Jeff (1.59)	Captain (1.81)
Zach (2.51)	Zach (2.55)	Captain (2.14)	Zach (2.34)	Sue (1.89)	Jeff (2.37)	Sue (1.96)	Jeff (2.31)
Captain (3.08)	Sue (3.13)	Zach (2.32)	Captain (2.52)	Captain (3.17)	Sue (2.95)	Captain (2.91)	Sue (3.11)
Sue (3.68)	Captain (3.46)	Sue (4.11)	Sue (3.77)	Zach (4.02)	Zach (3.60)	Zach (3.65)	Zach (3.36)
Jeff (4.54)	Jeff (4.58)	Jeff (4.27)	Jeff (4.20)	Thief (4.32)	Thief (3.74)	Thief (4.88)	Thief (4.41)

Table 2. Rank ordered means on responsibility, harm, loyalty, and purity (1 = highest; 5 = lowest) for 5 characters in the victim blaming vignettes across experimental conditions (Control/Exclusive vs. CNM) in Study 2 ($N = 239$).

These results show that participants deemed the wife more responsible for her death when she was depicted as being in a consensually non-monogamous relationship, compared to a sexually exclusive relationship, whereas the ferry captain was ranked as less responsible in the former condition. Both the wife and husband were ranked as less loyal and less pure when depicted as consensually non-monogamous, whereas the ferry captain, the wife's friend/lover, and even the thief were all rated as more loyal and more pure, compared to when the couple was depicted as monogamous. The wife was also rated as more harmful, and the ferry captain as less harmful, in the consensually non-monogamous condition, though the husband, friend/lover, and thief's harmfulness were not significantly different in that variable across conditions.

General Discussion

In two experimental studies, we showed evidence that participants exhibit harsher judgments against characters in consensually non-monogamous relationships, by rating them more negatively in terms of relationship quality and ethical character (Study 1) and by assigning culpability for an unrelated violent crime (Study 2). We also showed evidence that these negative perceptions of people in consensually non-monogamous relationships go hand in hand with perceptions of loyalty and purity, and to a lesser extent, perceptions of harmfulness and honesty. These moral factors mediated the experimental effect of monogamy status on perceived relationship quality and moral judgment. Separately, we observed that participants' judgments and perceptions were even more negative to the extent that they scored high in a trait measure of disgust sensitivity (Study 1). Lastly, we found that participants' lower ratings for consensually non-monogamous characters on moral virtues loyalty and purity resulted in a trade-off that included higher ratings for a violent criminal on those same traits (Study 2).

Taken together, these studies show theoretically meaningful and consistent evidence that people stigmatize others who engage in consensually non-monogamous relationships, in terms of negative social perception (stigma) and ethical judgment, even when such couples are described as happy, and including the assignment of blame for death at the hands of a criminal. Why does such negativity towards consensual non-monogamy exist? One explanation is based on moral foundations theory, which suggests that people have a diverse array of moral concerns. In this set of studies and in previous research, evidence points to loyalty and purity as two moral foundations that may be salient for sexual and relationship ethics. Perceptions of harm and honesty are also salient and still play meaningful roles in character judgment but may be less powerful predictors compared to loyalty and purity, which stand out in part because of their centrality in relationships and sex. This is further supported by the finding that high trait levels of disgust sensitivity predict negative judgment towards consensual non-monogamy.

The implications of this work also extend to the treatment of minorities. There are few social and legal protections for people in consensually non-monogamous relationships. Tangentially, same-sex couples are disproportionately more likely to engage in consensual non-monogamy. There is a history of discrimination and violence toward sexual and gender minorities, including ongoing persecution in many parts of the world. Now, even with legal equality and anti-discrimination protections based on sexual orientation in most Western societies, homonegativity may take the form of stigma towards non-traditional relationship arrangements.

Future research may explore more deeply the underlying reasons why people stigmatize consensual non-monogamy in ways that are connected to these moral concerns. Perhaps generalized perceptions of loyalty, purity, or care are connected to more specific concerns about outcomes from consensual non-monogamy. When people consider whether consensual sexual behaviors are good or correct, they may be reflecting on the bodily functions of sex, which elicit disgust, or the potential for spreading disease. They may also consider the virtue of loyalty, which is commonly assumed to go hand-in-hand with lifelong exclusivity and monogamy, as crucially important for community building. If people presume that others in consensually non-monogamous relationships are disloyal

to their partners by engaging with other partners, they may also presume that these individuals are somehow corrupting broader society. In reality, many of the myths and misconceptions about consensually non-monogamous relationships are not supported by evidence (Conley et al., 2013) and it is monogamy, in fact, that fails to protect people in relationships from negative outcomes such as relationship conflict or illness (Conley et al., 2012; 2023). Future research may also consider how interventions geared toward addressing moral concerns may alleviate relationship or sexual stigma. Successful examples of this can be found in the moral reframing literature (Feinberg & Willer, 2019), which show how people's attitudes and preferences can shift when messaging appeals to their own values. Similarly, future research may profitably study whether the disgust-purity response to others' non-monogamous sexual or relationship types is part of a self-protective mechanism. If the emotional experience of disgust exists in part to stave off pathogens, then a behavior perceived to be morally impure may evoke a sense of personal threat, which would then produce a negative interpersonal response. In our research we observed more negative social ratings and increased victim-blaming, both of which may have stemmed from an ego-protective mechanism. Future research may study this possibility further. A final suggestion for future work would be to compare perceptions of CNM practitioners with adulterers. If those who cheat on their partners are judged as worse than CNM practitioners, and the difference between those perceptions vary as a function of moral foundation attributions, this would suggest that moral foundations operate on a psychological gradient which delineate between good, bad, and worse behaviors, with the worst being a combination of sexual indiscretion plus betrayal. On the other hand, if these groups are judged similarly on moral foundation ratings, it may suggest that people psychologically categorize all forms of non-monogamy as similarly bad in terms of ethical breaches.

In terms of strengths and limitations, our research made use of brief vignettes depicting fictional characters and it is possible that this pattern of results would change if participants had considered acquaintances or celebrities, or viewed longer and more detailed information about such targets over time. This would likely attenuate, but not completely eliminate, the negative stigma towards consensual non-monogamy. And while we asked participants to consider responsibility for an act of criminal killing (Study 2), these results may not generalize to other legal contexts such as jury decisions. These would also make for promising future directions for more research. In addition, our experimental approach allowed for us to isolate monogamy status as the variable that caused participants to judge characters differently, and while this effect was magnified by individual differences in disgust sensitivity, that trait did not override the main effect that manifested across the sample as a whole. Some critics of this methodology have noted the "weirdness" of bizarre thought exercises (e.g., strange paraphilias) and that this confounds a clear relationship between purity variables and ethical judgment (Gray & Keeney, 2015), but the scenarios we utilized in the current studies were plausibly realistic, simulating the types of information people may receive through their social networks or news reports. However, it is still the case that the mediators and outcomes in Study 1 were measured cross-sectionally and we do not have evidence that moral foundations represent a causal link between monogamy status and perceptions of characters. Future research may attempt to establish a causal chain between these variables.

With regards to generalizability, our sample was composed of participants who were generally young adult American college students, and there is reason to suggest that not all psychological mechanisms will generalize to other populations and demographics. However, a strength of Moral Foundations Theory is that it grew out of rigorous cross-cultural anthropological work with data spanning all major world regions (Atari et al., 2023). In all cultures studied, there is evidence that these same moral concerns are present in people's everyday lives, and the directional associations between "binding" foundations (i.e., purity and loyalty) predict more restrictive mindsets toward relationships and sex. This strongly suggests that the general pattern we observed in our data, with participants judging consensual non-monogamy more harshly as a function of purity and loyalty, would likely emerge in other societies, although this should not be a foregone conclusion until independent replications can be completed.

In conclusion, these studies add to a growing literature on perceptions of consensually non-monogamous relationship types. The overall picture is increasingly clear that normative perceptions of such relationship practitioners is negative, and that while this perception is likely unjustified, it may be linked to deep seated ideological beliefs and emotional instincts about social relationships.

Declarations

Funding: N/A

Conflicts of interest/Competing interests: N/A

Availability of data and material: Research materials can be found here:

https://osf.io/zjp6g/?view_only=e3ca433720614da68b50cbb06a1302a0 and the data files can be found here: https://osf.io/7rt3k/?view_only=6dbfccf23a4241419df6387e952cad80

Code availability: N/A

References

- Aarøe, L., Petersen, M. B., & Arceneaux, K. (2017). The behavioral immune system shapes political intuitions: Why and how individual differences in disgust sensitivity underlie opposition to immigration. *American Political Science Review*, 111(2), 277-294.
- Atari, M., Haidt, J., Graham, J., Koleva, S., Stevens, S. T., & Dehghani, M. (2023). Morality beyond the WEIRD: How the nomological network of morality varies across cultures. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/pspp0000470>
- Balzarini, R. N., Shumlich, E. J., Kohut, T., & Campbell, L. (2018). Dimming the “halo” around monogamy: Re-assessing stigma surrounding consensually non-monogamous romantic relationships as a function of personal relationship orientation. *Frontiers in Psychology*, 9, 894.
- Bloyd, J. R. (1990, October). *Blaming the victim*. Presented at the MidAmerica Conference for Teachers of Psychology, Evansville, IN.
- Conley, T. D., Matsick, J. L., Moors, A. C., & Ziegler, A. (2017). Investigation of consensually nonmonogamous relationships: Theories, methods, and new directions. *Perspectives on Psychological Science*, 12(2), 205-232.
- Conley, T. D., Moors, A. C., Matsick, J. L., & Ziegler, A. (2013). The fewer the merrier?: Assessing stigma surrounding consensually non-monogamous romantic relationships. *Analyses of Social Issues and Public Policy*, 13(1), 1-30.
- Conley, T. D., Piemonte, J. L., Shukla, I., Mangla, A., Mateti, N., & Tariq, S. (2022). Monogamy as protection against COVID-19?: Non-monogamy stigma and risk (Mis) perception. *Analyses of Social Issues and Public Policy*, 22(3), 763-793.
- Cunningham, N. C., Mitchell, R. C., & Mogilski, J. K. (2022). Which styles of moral reasoning predict apprehension toward consensual non-monogamy?. *Personality and Individual Differences*, 196, 111732.
- Dolgoft, R., & Feldstein, D. (1984). *Understanding social welfare* (2nd ed.). New York: Longman.
- Feinberg, M., & Willer, R. (2019). Moral reframing: A technique for effective and persuasive communication across political divides. *Social and Personality Psychology Compass*, 13(12), 1-12.
- Graham, J., Haidt, J., Koleva, S., Motyl, M., Iyer, R., Wojcik, S. P., & Ditto, P. H. (2013). Moral Foundations Theory: The Pragmatic Validity of Moral Pluralism. In P. Devine and A. Plant (Eds.) *Advances in Experimental Social Psychology*, Vol. 47, (pp. 55-130). Burlington: Academic Press.
- Gray, K., & Keeney, J. E. (2015). Disconfirming moral foundations theory on its own terms: Reply to Graham (2015). *Social Psychological and Personality Science*, 6(8), 874-877.
- Inbar, Y., & Pizarro, D. A. (2022). How disgust affects social judgments. In *Advances in Experimental Social Psychology* (Vol. 65, pp. 109-166). Academic Press.
- Inbar, Y., Pizarro, D. A., Knobe, J., & Bloom, P. (2009). Disgust sensitivity predicts intuitive disapproval of gays. *Emotion*, 9(3), 435.
- Jones, A., & Fitness, J. (2008). Moral hypervigilance: the influence of disgust sensitivity in the moral domain. *Emotion*, 8(5), 613.

- Koleva, S. Graham, J., Ditto, P., Iyer, R., & Haidt, J. (2012). Tracing the threads: how five moral concerns (especially Purity) help explain culture war attitudes. *Journal of Research in Personality*, 46(2), 184-194.
- Landy, J. F., Rottman, J., Batres, C., & Leimgruber, K. L. (2023). Disgusting democrats and repulsive republicans: Members of political outgroups are considered physically gross. *Personality and Social Psychology Bulletin*, 49(3), 361-375.
- Moors, A. C., Matsick, J. L., & Schechinger, H. A. (2017). Unique and shared relationship benefits of consensually non-monogamous and monogamous relationships. *European Psychologist*.
- Olatunji, B. O., Williams, N. L., Tolin, D. F., Abramowitz, J. S., Sawchuk, C. N., Lohr, J. M., & Elwood, L. S. (2007). The Disgust Scale: item analysis, factor structure, and suggestions for refinement. *Psychological Assessment*, 19(3), 281.
- Rodrigues, D. L., Brooks, T. R., Balzarini, R. N., Moors, A. C., & Lopes, D. (2024). Examining the Role of Mononormative Beliefs, Stigma, and Internalized Consensual Non-Monogamy Negativity for Dehumanization. *Archives of Sexual Behavior*, 1-11.
- Seltermann, D., & Koleva, S. (2015). Moral judgment of close relationship behaviors. *Journal of Social and Personal Relationships*, 32(7), 922-945.
- Seltermann, D., Moors, A. C., & Koleva, S. (2018). Moral judgment toward relationship betrayals and those who commit them. *Personal Relationships*, 25(1), 65-86.
- Venables, W. N., & Ripley, B. D. (2002). *Modern Applied Statistics with S*. Fourth Edition. Springer, New York. ISBN 0-387-95457-0.
- Wagemans, F. M., Brandt, M. J., & Zeelenberg, M. (2019). Weirdness of disgust sensitivity items predicts their relationship to purity moral judgments. *Personality and Individual Differences*, 146, 182-187.