

## Moral judgment toward relationship betrayals and those who commit them

DYLAN SELTERMAN,<sup>a</sup> AMY C. MOORS,<sup>b,c</sup> AND SPASSENSA KOLEVA<sup>d</sup>

<sup>a</sup>University of Maryland, College Park; <sup>b</sup>Purdue University; <sup>c</sup>Indiana University; and <sup>d</sup>New York University

### Abstract

In three experimental studies (total  $N = 1,056$ ), we examined moral judgments toward relationship betrayals, and how these judgments depended on whether characters and their actions were perceived to be pure and loyal compared to the level of harm caused. In Studies 1 and 2, the focus was on confessing a betrayal, whereas in Study 3, the focus was on the act of sexual infidelity. Perceptions of harm/care were inconsistently and less strongly associated with moral judgment toward the behavior or the character, relative to perceptions of purity and loyalty, which emerged as key predictors of moral judgment across all studies. Our findings demonstrate that a diversity of cognitive factors play a key role in the moral perception of relationship betrayals.

Many contemporary moral norms regarding interpersonal relationships and sexual encounters are compelled by concerns about loyalty (whether someone behaved faithfully to their social group members) and purity (whether someone behaved in a disgusting way). Consider the moral status of betraying a friend or partner. Even if confessing this betrayal causes additional harm to the other person, people may still consider this action more pure or loyal, and more moral, than not confessing. Consider also that sexual infidelity or promiscuity may be perceived as impure and immoral (compared to sexual exclusivity), even if this action does not cause harm to others. Extending a *moral foundations theory* perspective

(MFT; Graham et al., 2013) to the domain of close relationships, we argue that perceived harm is only one of many diverse and distinct factors that play a role in moral judgment of betrayals. Specifically, we posit that loyalty and purity are central moral concerns in sex and relationships and will supersede concerns about perceptions of harm caused to others. In the current studies, we examined moral judgment in specific, realistic scenarios pertaining to friendships, romantic relationships, and sex.

According to MFT (Graham et al., 2013), there are several distinct domains that drive moral cognition: (a) care (reducing harm/suffering to others), (b) fairness (promoting equality/justice), (c) loyalty (responsibility and obligation to social groups), (d) authority (respect for leaders, traditions, and duty), and (e) purity/sanctity (promoting cleanliness/spirituality and aversion to disgusting acts).<sup>1</sup> This theoretical framework has largely

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Dylan Selterman, Department of Psychology, University of Maryland, College Park; Amy C. Moors, Social Science Research and Evaluation Program, Purdue University, and The Kinsey Institute, Indiana University; Spassena Koleva, Stern School of Business, New York University.

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Correspondence should be addressed to Dylan Selterman, University of Maryland, College Park, Department of Psychology, 1147 Biology/Psychology Building, College Park, MD 20742, e-mail: dylan.selterman@gmail.com.

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1. MFT theorists have posited that there may be additional independent moral foundations that have yet to be fully identified or understood, such as liberty (promoting freedom/autonomy).

been applied to abstract moral principles (i.e., “chastity is an important and valuable virtue”; Graham et al., 2011), but recent work has begun to extend this framework to domain-specific processes in close relationships (Koleva, Selterman, Iyer, Ditto, & Graham, 2014; Selterman & Koleva, 2015). One of the fundamental propositions of MFT is that the moral domain is broader than concerns about minimizing harm to others. Specifically, people may perceive some actions as immoral if they violate principles related to other foundations (e.g., purity)—even if no one is perceived to be harmed as a consequence of the action (e.g., receiving a blood transfusion from a disease-free convicted child molester, Graham, Haidt, & Nosek, 2009) or if perceived harm is a less salient factor than purity/disgust (e.g., suicide, Rottman, Kelemen, & Young, 2014a; see Gray, 2014; Rottman, Kelemen, & Young, 2014b).

#### *Purity and loyalty in sexual and relational contexts*

Previous research has demonstrated links between perceptions of purity and moral attitudes toward taboo sexual actions (e.g., homosexual relations, pornography consumption; Koleva, Graham, Ditto, Iyer, & Haidt, 2012). These attitudes have to do with promoting fidelity or sanctity and preventing (perceived) depravity (Haidt, 2012; Haidt, Koller, & Dias, 1993). Those with higher disgust sensitivity (who experience disgust more easily) implicitly perceive same-sex romantic actions as immoral, compared to individuals lower in disgust sensitivity and compared to heterosexual behavior (Inbar, Pizarro, Knobe, & Bloom, 2009). Furthermore, exposure to a disgusting smell causes people to report more negative attitudes toward gay men but not toward other (nonsexually) stigmatized groups, such as African Americans or the elderly (Inbar, Pizarro, & Bloom, 2012). Cleanliness primes cause people to judge sexual norm violations (e.g., a man and his girlfriend having sex on his grandmother’s bed) more harshly than nonsexual violations (e.g., a man places his office mate’s lunch in a sterilized bed pan; Helzer & Pizarro, 2011). Other

work (Selterman & Koleva, 2015) shows that purity concerns are more strongly associated with moral condemnation of relationship violations than concerns about other moral foundations, such as harm and fairness.

Although morality researchers have used *loyalty* to refer to allegiance to large social groups, relationships researchers have also understood *loyalty* as a construct that promotes well-being in dyadic relationships (Rusbult, Zembrodt, & Gunn, 1982). As a synonym for fidelity and devotion, loyalty is a central component of romantic love and commitment (Aron & Westbay, 1996; Fehr, 1988) and sexual exclusivity/monogamy (Conley, Ziegler, Moors, Matsick, & Valentine, 2013; Tsapelas, Fisher, & Aron, 2011), which is infused with moral considerations. There is abundant evidence that individuals are concerned with their partners’ loyalty as a relationship maintenance mechanism (e.g., Finkel, Rusbult, Kumashiro, & Hannon, 2002). In addition, when imagining the ideal mate for a long-term relationship, people tend to prioritize traits related to loyalty and trustworthiness above others, including warmth and friendliness (Koleva, 2011). Simply put, loyalty is a high priority in intimate relationships, although it is not well understood in the context of moral decisions regarding sex, love, and friendship.

#### *Complementary theories of moral judgment*

There are other theoretical accounts of moral behavior and judgment that are important to consider in these relational contexts. *Morality as mind perception* (MMP; Gray & Wegner, 2012; Gray, Young, & Waytz, 2012) suggests that people implicitly and automatically evaluate morally relevant behavior using schematic prototypes of helpful or harmful dyadic interactions. According to this framework, people perceive harm even in objectively harmless actions (Gray, Schein, & Ward, 2014). Moreover, harmless yet disgusting actions (purity violations) automatically activate cognitive schemas of harm, which cause people to judge those actions as immoral. Thus, according to this framework, the perception of a moral agent causing harm to a moral patient

is essential for a behavior to be considered immoral, and actions that cause increased harm will be perceived as more immoral (but see Chakroff, Dungan, & Young, 2013, for evidence that the target of the action may influence whether an action is perceived as harmful or impure).

Two other theoretical perspectives in moral psychology concern morality as it functions to preserve interpersonal relationships, including *relationship regulation theory* (RRT; Rai & Fiske, 2011) and *moral alliance strategies theory* (MAST; Marczyk, 2015). In these frameworks, people judge the morality of actions based on strategic interpersonal motives and not necessarily based on the type of violation. For example, the motive to maintain a relationship may supersede judgments of impurity or harm. RRT posits that key relationship regulation motives include *unity* (care for in-groups), *hierarchy* (respect for authority figures), *equality* (reciprocity and balance), and *proportionality* (calibration of rewards/punishments based on merits). This theory suggests that even with actions involving intentional harm to others, moral judgment can be more or less positive depending on the social-relational context of those actions and that preservation of important relationships underlies the motives to perceive actions as right or wrong. MAST posits that ostensibly harmless actions may simultaneously produce an ongoing, collaborative alliance in which there is guilt by association, and people would condemn actions that may have future negative consequences even if they are harmless in the present. Both of these complementary theories generally suggest that relationship maintenance concerns would supersede concerns about specific actions or moral virtues, although these theories do not appear to be at odds with MFT or MMP.

### *The present studies*

With regard to the relational and sexual actions we examined in the current research, each of the theories summarized above may influence our findings. But generally, we expect that people's perceptions of purity and loyalty are especially likely to underlie moral judgments

regarding relationship and sexuality-specific betrayals. Moreover, we hypothesize that purity and loyalty will be stronger predictors than concerns about harm to others in relational and sexual contexts. That is, we suggest that people may make moral trade-offs, prioritizing some moral concerns over others (Waytz, Dungan, & Young, 2013). These moral trade-offs may, in fact, serve as a mechanism that is useful to sustain and regulate close relationships such as friendships and romantic relationships. In our research, we explore how people perceive confessions and infidelity in moral terms.

Our primary theoretical interest was to examine participants' moral judgments of the characters' actions toward their relationship partners (whether the character behaved ethically toward friends/romantic partners), but we also considered how participants might judge the character (whether the character is an ethical person). This is especially important to consider given that recent research has revealed that people may view someone who commits a harmless yet impure action as having greater potential for future harm. That is, impure actions may cause people to judge the person as generally harmful (see Chakroff, Russell, Piazza, & Young, 2017; Pizarro & Tannenbaum, 2012; Pizarro, Tannenbaum, & Uhlmann, 2012). We also sought to account for the various manifestations of harm/care. We were primarily interested in assessing perceived harm framed in terms of one person (the moral agent) harming another (the moral patient), which is consistent with the bulk of research on dyadic completion for moral judgment (Gray & Wegner, 2012) and is most relevant to moral concerns in close relationships (e.g., friends and lovers). But there are other manifestations of the harm construct, including self-harm, future harm, and care (the inverse of harm). In addition, if people are concerned with the welfare of their relationships (Rai & Fiske, 2011), they may perceive harm to the relationship itself as the catalyst for moral judgment, rather than the partner or self. These may be viable alternative mechanisms for moral judgment toward keeping secrets as research has shown that the burden of keeping a secret can be

harmful to the self and to close relationships (e.g., Critcher & Ferguson, 2014; Uysal, Lin, Knee, & Bush, 2012).

## Study 1

Study 1 utilized vignettes in which the main characters were in a committed, exclusive romantic relationship. One of characters has a sexual affair and then either keeps it a secret or confesses to the partner. We predicted that if the main character confessed this infidelity to the partner, observers (participants) would perceive these actions as more moral even if the confession caused additional emotional harm/suffering to the partner. Previous research has shown that people are more likely to ultimately forgive betrayals if they discover them via direct confession compared to being caught or hearing about it through a third party (Afifi, Falato, & Weiner, 2001). Confessing betrayals may be considered more pure, loyal, and moral (compared to keeping betrayals a secret), even if additional harm is caused or perceived. We also predicted that perceptions of the characters' moral purity and loyalty would mediate this effect.

## Method

### Participants

A volunteer sample of 430 participants was recruited via a large undergraduate psychology course at a large mid-Atlantic research university. For this experiment (and all other studies reported below), we estimated statistical power using a heuristic of  $n > 50$  per cell, developed by Nelson, Simonsohn, and Simmons (2013), and kept data collection open in order to grant all interested students the opportunity to participate for credit.<sup>2</sup> Individuals who failed attention checks ( $n = 7$ ) were excluded from analyses. We conducted all analyses after stopping data collection and after data cleaning. Thus, the final sample in this experiment

consisted of 423 participants (303 women;  $M_{\text{age}} = 19.25$  years,  $SD = 1.88$  years).

### Materials and procedure

Participants were randomly assigned to view one of two vignettes, all of which depict a central character having an affair. In the secret condition, the character kept the affair a secret to spare the partner's feelings and to preserve their relationship. In the confess condition, the character confessed to engaging in the affair, which in turn greatly upset the partner. The full vignettes can be found in Appendix A.<sup>3</sup>

After reading one of the vignettes, participants rated the main character and the character's actions on several dimensions. We included both positively and negatively valenced items. The items to capture moral judgment of the character's actions included: (a) pure, (b) disgusting, (c) loyal, (d) disloyal, (e) caring, (f) harmful, (g) ethical, and (h) immoral. We also included items to assess how much the character's actions specifically harmed or cared for himself (herself) as well as the other character (the partner), how much the character's actions would harm himself (herself) or the partner in the future, and how much the actions harm the relationship. Participants also rated the character, and this included how much they thought the character was pure, disgusting, loyal, disloyal, caring, harmful, ethical, and immoral. Participants also rated how likely they thought it was that the character would harm himself (herself) or others in the future. All items were assessed using Likert scales ranging from 1 (*not at all*) to 7 (*extremely*). An attention check also served as a manipulation check (Did Evan tell Natalie about his affair?) to ensure that participants were paying attention to the key information in the experiment. For this and all other studies reported here, participants answered any items meant to test underlying mechanisms (e.g., perceptions of purity, loyalty, and harm) before they answered questions about the key dependent measures (moral judgment).

2. Following best research practices recommended by Simmons, Nelson, and Simonsohn (2012), we report how we determined our sample size, all data exclusions, all manipulations, and all measures used.

3. The full materials for all studies reported in this article are available upon request.

**Table 1.** Bivariate correlations along with means and standard deviations for moral judgment of actions in Study 1 (N = 418)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Disgusting	—	-.35***	-.32***	.44***	-.30**	.36**	.08	.24***	-.25***	.15***	.26***	.19***	-.30***	.28***
2. Pure		—	.59***	-.51***	.47***	-.27***	.02	-.05	.39***	-.05	-.08	.13***	.50***	-.24***
3. Loyal			—	-.73***	.52***	-.29***	.06	-.03	.44***	-.07	-.13*	-.13**	.47***	-.20***
4. Disloyal				—	-.45***	.37***	.02	.06	-.35***	.14**	.19***	.16**	-.41***	.27***
5. Caring					—	-.35***	.06	-.13**	.64***	-.02	.14**	-.19***	.52***	-.20***
6. Harmful						—	.20***	.42***	-.33***	.21***	.43***	.40***	-.28***	.18***
7. Harmful to the self							—	.15**	.06	.51***	.12*	.16**	.06	.03
8. Harmful to partner								—	-.17***	.22***	.58***	.56***	-.001	.04
9. Caring for partner									—	.05	-.14**	-.19***	.47***	-.15**
10. Harmful to future self										—	.32***	.28***	.02	.03
11. Harmful to partner in future											—	.57***	-.08	.12*
12. Harmful to relationship												—	-.07	.09
13. Ethical													—	-.23***
14. Immoral														—
Mean	5.47	2.17	2.07	5.93	2.94	5.50	4.15	5.54	3.23	4.50	5.22	5.97	2.49	4.80
SD	1.52	1.24	1.25	1.11	1.56	1.41	1.79	1.91	1.64	1.61	1.71	1.44	1.36	1.87

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

**Table 2.** Bivariate correlations along with means and standard deviations for character judgment in Study 1 (N = 420)

	1	2	3	4	5	6	7	8	9	10
1. Disgusting	—	-.43***	-.35***	.46***	-.38**	.35**	.36***	.18***	-.23***	.34***
2. Pure		—	.43***	-.44***	.38***	-.31***	-.32***	-.11*	.45***	-.30***
3. Loyal			—	-.69***	.51***	-.30***	-.26***	-.14	.47***	-.30***
4. Disloyal				—	-.42***	.33***	.30***	.06	-.38***	.36***
5. Caring					—	-.37***	-.33***	-.12*	.52***	-.30***
6. Harmful						—	.60***	.34***	-.29***	.31***
7. Likely to harm others							—	.44***	.27***	.26***
8. Likely to harm self								—	-.08	.18***
9. Ethical									—	-.33***
10. Immoral										—
Mean	4.43	2.60	2.42	5.64	3.96	4.73	4.37	3.37	3.09	4.53
SD	1.70	1.28	1.38	1.17	1.42	1.56	1.63	1.58	1.38	1.56

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

**Table 3.** Means, standard deviations, confidence intervals, and effect sizes for moral judgment based on secret versus confession conditions in Study 1 (N = 417)

Moral judgment	Secret			Confession			<i>d</i>
	<i>M</i>	<i>SD</i>	95% CI	<i>M</i>	<i>SD</i>	95% CI	
Actions pure	1.88	1.07	[1.71, 2.04]	2.44	1.32	[2.27, 2.60]	-.47
Actions loyal	1.81	1.10	[1.64, 1.98]	2.33	1.34	[2.17, 2.51]	-.42
Actions disloyal	6.18	0.96	[6.04, 6.33]	5.68	1.19	[5.53, 5.83]	.46
Actions caring	2.68	1.54	[2.47, 2.89]	3.18	1.52	[2.97, 3.39]	-.33
Actions harmful to partner	4.87	2.26	[4.63, 5.12]	6.20	1.17	[5.95, 6.44]	-.74
Actions harmful to relationship	5.65	1.69	[5.46, 5.84]	6.28	1.06	[6.09, 6.47]	-.45
Actions ethical	2.05	1.08	[1.88, 2.23]	2.91	1.46	[2.74, 3.09]	-.67

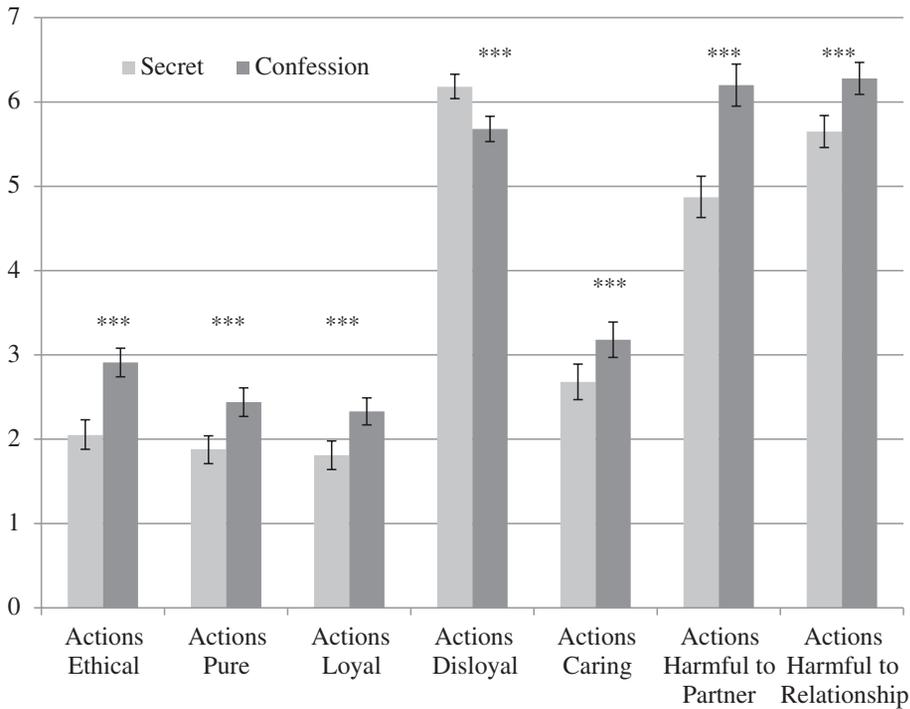
### Results and discussion

Bivariate correlations, along with means and standard deviations for the judgments of actions and character, are displayed in Tables 1 and 2, respectively. We ran two multivariate analyses of variance (MANOVAs), one in which the dependent variables included moral judgment toward the character and another for the character's actions. Below, we report analyses for the judgment of actions first, followed by judgment of character. For both, the independent variable was whether the character confessed or kept the betrayal a secret. For this and all other studies reported, we interpreted results as statistically significant only if they were below the  $p < .05$  threshold and if the 95% confidence intervals for experimental conditions did not overlap.

In the first MANOVA examining judgment of the character's actions, there was a significant omnibus effect for confessing the betrayal,  $F(14, 402) = 10.65$ ,  $p < .001$ , Wilks'  $\Lambda = .729$ . Individual effects were observed for judging the character's actions as ethical,  $F(1, 415) = 46.44$ ,  $p < .001$ ; pure,  $F(1, 415) = 22.38$ ,  $p < .001$ ; loyal,  $F(1, 415) = 19.20$ ,  $p < .001$ ; disloyal,  $F(1, 415) = 22.55$ ,  $p < .001$ ; caring,  $F(1, 415) = 11.33$ ,  $p = .001$ ; harmful to the partner,  $F(1, 415) = 56.42$ ,  $p < .001$ ; and harmful to the relationship,  $F(1, 415) = 20.78$ ,  $p < .001$ . There were no significant effects for judging the character's actions as immoral, disgusting, harmful, harmful to the self, caring for the partner, harmful to the future self, or harmful to the

partner in the future. We had hypothesized that participants would rate the act of confessing as more pure, loyal, and moral compared to keeping the secret. Our hypotheses were supported. Participants rated the character's actions as less ethical, less pure, less loyal, more disloyal, less caring, less harmful to the partner, and less harmful to the relationship in the secret condition compared to the confession condition. Means, standard deviations, and 95% confidence intervals by condition, as well as effect sizes, are listed in Table 3. Figure 1 displays means and 95% confidence intervals for the study conditions and outcomes. In the second MANOVA examining judgment of the character, there was again a significant omnibus effect of confessing the betrayal,  $F(10, 409) = 4.36$ ,  $p < .001$ , Wilks'  $\Lambda = .904$ , and individual effects for participants' judgment of the character emerged as ethical,  $F(1, 418) = 32.29$ ,  $p < .001$ ; immoral,  $F(1, 418) = 9.46$ ,  $p = .002$ ; pure,  $F(1, 418) = 23.12$ ,  $p < .001$ ; loyal,  $F(1, 418) = 12.03$ ,  $p = .001$ ; disloyal,  $F(1, 418) = 15.76$ ,  $p < .001$ ; and caring,  $F(1, 418) = 17.66$ ,  $p < .001$ . There were no significant effects for perceptions of the character as disgusting, harmful, harmful to others, or harmful to the self.

We tested whether perception of the character's purity and loyalty would mediate the association between the characters' actions (1 = secret, 2 = confession) and moral judgment of the character's actions (outcome). For this study and all others in this article, we followed the steps outlined in Hayes (2013;



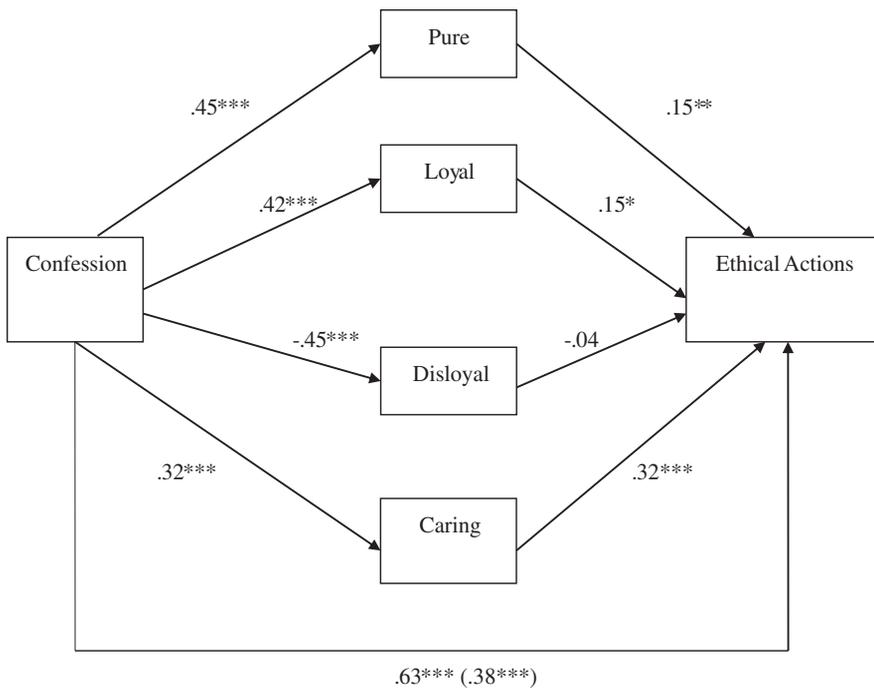
**Figure 1.** Means and 95% confidence interval error bars for moral judgment along with perceptions of the character's actions as pure, loyal, disloyal, caring, harmful to the partner, and harmful to the relationship, broken down by experimental condition (secret, confession) in Study 1.

Model 4), using bias-corrected bootstrapping techniques with 5,000 samples in PROCESS software (designed for SPSS).

The first analysis concerned moral judgment of actions (How ethical are the character's actions?). As shown in Figure 2, perceptions of the character's actions as pure, 95% CI [0.02, 0.15], Sobel  $z = 2.55$ ,  $p = .011$ ; loyal, 95% CI [0.004, 0.15], Sobel  $z = 2.04$ ,  $p = .041$ ; and caring, 95% CI [0.04, 0.20], Sobel  $z = 3.00$ ,  $p = .003$ , together partially mediated the association between the condition and ratings of the character's actions as ethical. Disloyal was not a significant mediator, 95% CI [-0.03, 0.08], Sobel  $z = .68$ ,  $p = .497$ . Contrasts showed that the indirect effects of pure, loyal, and caring were not statistically different from each other. This suggests that each of the three significant mediators independently explained a statistically equivalent percentage of the variance in the overall effect. We did not include perceptions of harm to the partner or the relationship in the mediation model given

that it would not make theoretical sense to predict that participants viewed confessing as more ethical because more harm was caused.

We then ran a mediation model with character judgment (How ethical is the character?) as the outcome. Perceptions of the character as pure, 95% CI [0.04, 0.18], Sobel  $z = 3.06$ ,  $p = .002$ , and caring, 95% CI [0.03, 0.16], Sobel  $z = 2.80$ ,  $p = .005$ , together partially mediated the association between the condition and ratings of the character as ethical. Contrasts showed that these two effects were not statistically different from each other, and the other mediators (loyal and disloyal) did not reach statistical significance. However, a different picture emerged when we ran the mediation model with negatively valenced character judgment (How immoral is this character?) as the outcome. This time, only perceptions of the character as disloyal, 95% CI [-0.17, -0.03], Sobel  $z = -2.40$ ,  $p = .017$ , emerged as a significant mediator, whereas the other three were not significant. Perceptions



**Figure 2.** Mediation model showing perceptions of purity, loyalty, disloyalty, and care in the character’s actions as mediators between experimental condition (secret vs. confession) and moral judgment in Study 1. Standardized beta coefficients are displayed.

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

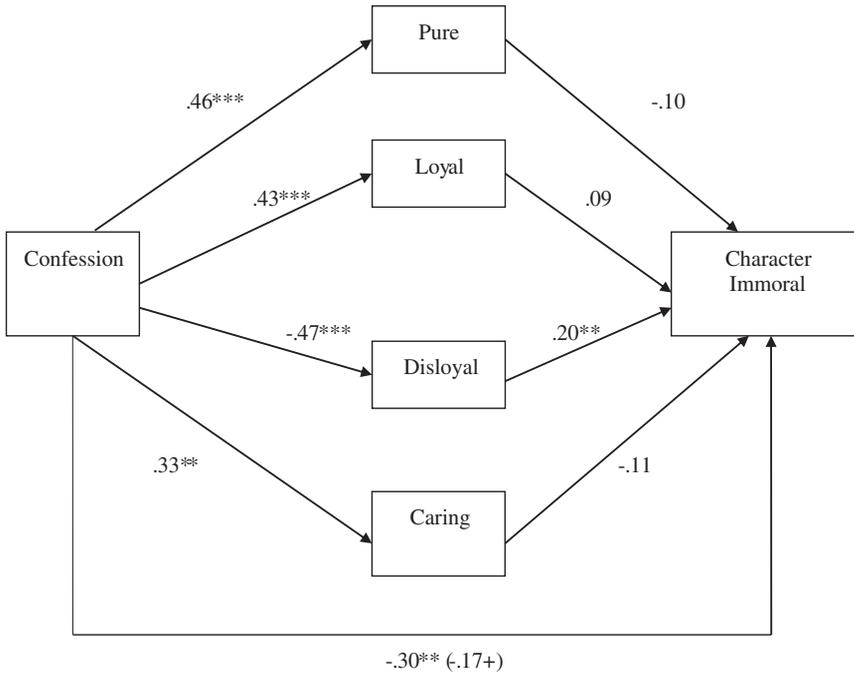
of disloyalty fully mediated the overall effect (Figure 3).

The results of Study 1 indicate that participants considered purity, loyalty, and care when deciding whether the character and the character’s actions were ethical. Statistically, purity, loyalty, and care emerged independently as significant mediators of these effects. However, when considering whether the character was immoral, only disloyalty emerged as a significant mediator. In terms of the purity and loyalty constructs, the differences between these mediation models are likely due to the valence of survey items (positive vs. negative). However, this does not account for the null effects of harm caused. Given that harm is negatively valenced, it is notable that none of these variables emerged as significant when considering judgments of the character as immoral. It is worth noting that although significant differences emerged across the two conditions, in both cases, actions were generally deemed unethical due to the presence of infidelity,

and some harm variables (e.g., actions harmful to the partner) were significantly greater than the scale midpoint in both conditions, indicating that participants viewed a nonzero degree of harm caused in both cases. Still, the key hypotheses in our research concern how moral judgment, along with perceptions of purity, loyalty, and harm, all vary across experimental effects, and this is not diminished by the high baseline of harm in each instance.

**Study 2**

Our goal for Study 2 was to conceptually replicate and extend Study 1. As noted above, in Study 1, both conditions included the character committing infidelity, which was associated with moral condemnation across the board. Thus, in Study 2, we again focused on confession but chose a different relational context, a different action, and a different type of dyad. We utilized friendship vignettes, in which the main character had sex with his (her)



**Figure 3.** Mediation model showing perceptions of the character’s purity, loyalty, disloyalty, and care as mediators between experimental condition (secret vs. confession) and moral judgment in Study 1. Standardized beta coefficients are displayed.

+ $p < .10$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

best friend’s ex-partner and subsequently either kept this a secret or confessed to his (her) best friend. Other studies have shown that this type of behavior is in more of a moral “gray area,” with less consensus from participants regarding whether it is okay or wrong (Selterman & Koleva, 2015). As with Study 1, we predicted that if the character confessed to the friend, participants would perceive these actions as more moral even if the confession caused additional harm/suffering to the friend. We also predicted that perceptions of the characters’ purity and loyalty would mediate this effect.

### Method

#### Participants

A volunteer sample of 418 participants was recruited via a large undergraduate psychology course. We excluded individuals who failed attention checks ( $N = 8$ ) from the analyses. The final sample consisted of 410 participants (282 women;  $M_{\text{age}} = 19.30$  years,  $SD = 1.91$  years).

#### Materials and procedure

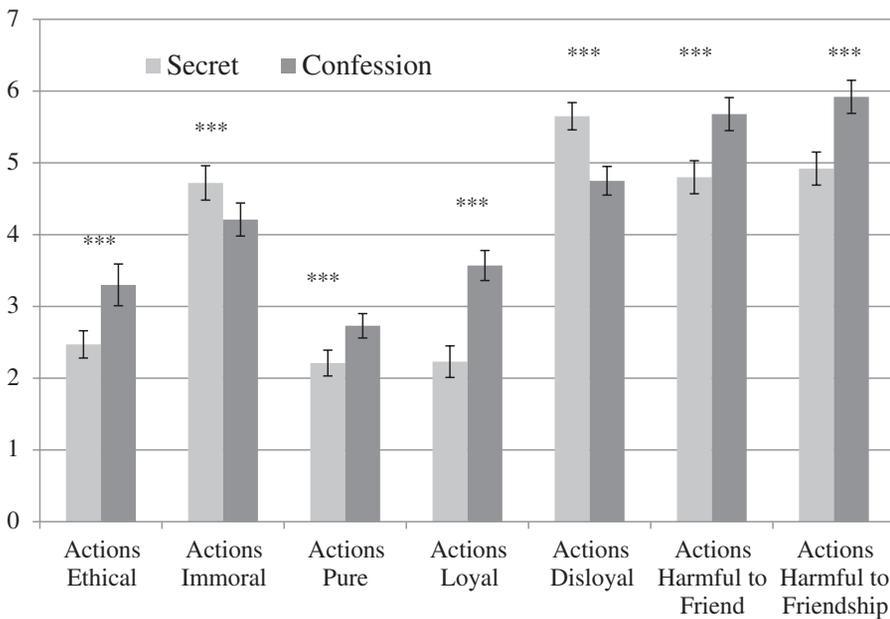
Participants were randomly assigned to view one of two vignettes, which depicted a character who had a sexual encounter with his/her best friend’s ex-partner. In the secret condition, the main character kept his/her actions to himself to spare his/her friend’s feelings. In the confess condition, the character confessed to engaging in sex with his/her best friend’s ex-partner, which in turn upset his/her friend. The vignettes were worded similar to Study 1, and the outcome measures were identical.

#### Results and discussion

We again ran two MANOVAs where the independent variable was whether the character confessed or kept the betrayal a secret, and the dependent variables included moral judgment items. The first MANOVA examined participants’ perceptions of the character’s actions and revealed a significant omnibus effect,  $F(14, 380) = 16.66$ ,  $p < .001$ , Wilks’

**Table 4.** Means, standard deviations, confidence intervals, and effect sizes for moral judgment based on secret versus confession conditions in Study 1 (N = 410)

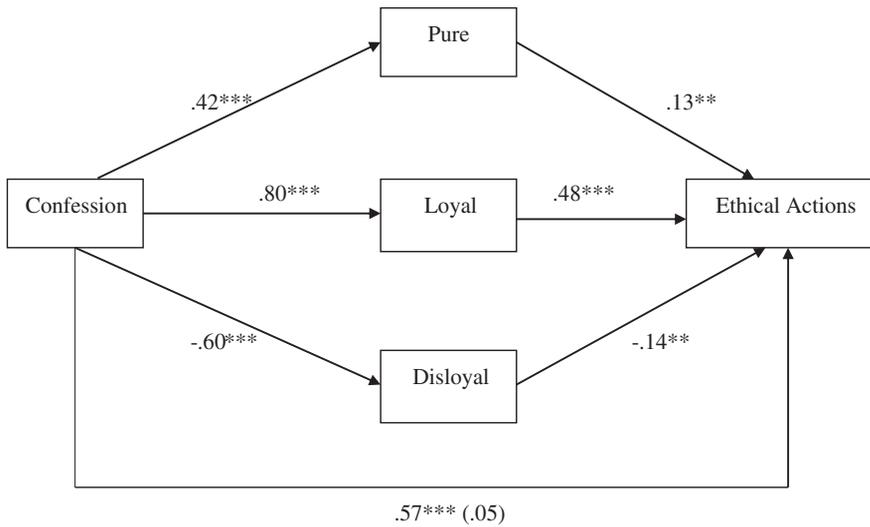
Moral judgment	Secret			Confession			<i>d</i>
	<i>M</i>	<i>SD</i>	95% CI	<i>M</i>	<i>SD</i>	95% CI	
Actions pure	2.21	1.16	[2.03, 2.38]	2.73	1.33	[2.56, 2.91]	-.42
Actions loyal	2.23	1.41	[2.01, 2.44]	3.57	1.67	[3.36, 3.79]	-.87
Actions disloyal	5.65	1.28	[5.46, 5.85]	4.75	1.53	[4.55, 4.95]	.64
Actions harmful to friend	4.80	1.88	[4.57, 5.02]	5.68	1.29	[5.45, 5.91]	-.55
Actions harmful to friendship	4.92	1.95	[4.69, 5.15]	5.92	1.19	[5.69, 6.15]	-.62
Actions ethical	2.47	1.37	[2.28, 2.67]	3.30	1.44	[3.01, 3.49]	-.59
Actions immoral	4.72	1.85	[4.48, 4.95]	4.21	1.50	[3.98, 4.45]	.30



**Figure 4.** Means and 95% confidence interval error bars for moral judgment along with perceptions of the character's actions as pure, loyal, disloyal, harmful to the partner, and harmful to the relationship, broken down by experimental condition (secret, confession) in Study 2.

$\Lambda = .620$ . Individual effects emerged for ethical,  $F(1, 393) = 33.90, p < .001$ ; immoral,  $F(1, 393) = 8.83, p = .003$ ; pure,  $F(1, 393) = 17.82, p < .001$ ; loyal,  $F(1, 393) = 74.97, p < .001$ ; disloyal,  $F(1, 393) = 40.50, p < .001$ ; harmful to the friend,  $F(1, 393) = 29.24, p < .001$ ; and harmful to the friendship,  $F(1, 393) = 37.68, p < .001$ . We had hypothesized that participants would rate the act of confessing as more pure, loyal, and moral, compared to keeping the secret. Our hypotheses were supported:

Participants rated the character's actions as less ethical, more immoral, less pure, less loyal, more disloyal, less harmful to the friend, and less harmful to the friendship in the secret condition compared to the confession condition. Means, standard deviations, 95% confidence intervals, and effect sizes are listed in Table 4. Figure 4 displays means and 95% confidence intervals for the study conditions and outcomes. The second MANOVA examined character judgment and revealed a significant



**Figure 5.** Mediation model showing perceptions of purity and loyalty as mediators between experimental condition (secret vs. confession) and moral judgment in Study 2. Standardized beta coefficients are displayed.

\*\* $p < .01$ . \*\*\* $p < .001$ .

omnibus effect,  $F(10, 394) = 9.48$ ,  $p < .001$ , Wilks'  $\Lambda = .806$ . Individual effects emerged for ethical,  $F(1, 403) = 25.60$ ,  $p < .001$ ; immoral,  $F(1, 403) = 15.05$ ,  $p < .001$ ; pure,  $F(1, 403) = 29.92$ ,  $p < .001$ ; loyal,  $F(1, 403) = 42.40$ ,  $p < .001$ ; disloyal,  $F(1, 403) = 32.84$ ,  $p < .001$ ; likely to cause harm to others in the future,  $F(1, 403) = 16.97$ ,  $p < .001$ ; and likely to cause harm himself in the future,  $F(1, 403) = 23.26$ ,  $p < .001$ .

As with Study 1, we tested whether perception purity and loyalty would mediate the association between the experimental condition (1 = secret, 2 = confession) and moral judgment. As with Study 1, we excluded the variables reflecting greater harm caused by confessing. From an MFT and MMP perspective, it would not be appropriate to predict that these factors would be underlying psychological mechanisms for moral judgment. We ran our first analysis with judgment of actions (How ethical are the character's actions?) as the outcome. As shown in Figure 5, perceptions of the character's actions as pure, 95% CI [0.02, 0.11], Sobel  $z = 2.42$ ,  $p = .015$ ; loyal, 95% CI [0.26, 0.53], Sobel  $z = 6.15$ ,  $p < .001$ ; and disloyal, 95% CI [0.02, 0.15], Sobel  $z = 2.50$ ,  $p = .012$ , together fully mediated

the overall effect. Contrasts revealed that perceptions of the character's actions as loyal was statistically greater than perceptions of purity,  $C = -.33$ , 95% CI [-0.48, -0.19], and disloyalty,  $C = .30$ , 95% CI [0.15, 0.48], whereas the effects of purity and disloyalty were statistically equivalent. When we ran the mediation model with the negatively valenced ratings (How immoral are the character's actions?) as the outcome, only perceptions of the character as disloyal, 95% CI [-0.34, -0.15], Sobel  $z = -4.50$ ,  $p < .001$ , emerged as a significant mediator, whereas purity and loyalty were not significant. As in Study 1, perceptions of disloyalty fully mediated the overall effect.

When considering character judgment (How ethical is the character?), the mediation model revealed that perceptions of the character as pure, 95% CI [0.03, 0.15], Sobel  $z = 2.80$ ,  $p = .005$ ; loyal, 95% CI [0.03, 0.24], Sobel  $z = 2.45$ ,  $p = .014$ ; disloyal, 95% CI [0.03, 0.24], Sobel  $z = 2.50$ ,  $p = .012$ ; and likelihood of harming others in the future, 95% CI [0.02, 0.13], Sobel  $z = 2.33$ ,  $p = .020$ , together mediated the overall effect. Perceived future self-harm was not a significant mediator. Contrasts showed that the mediating variables

were not statistically different from each other. When considering negatively valenced character judgment (How immoral is this character?), the mediation model revealed that perceptions of the character as loyal, 95% CI [0.01, 0.21], Sobel  $z = 1.89$ ,  $p = .059$ ; disloyal, 95% CI [-0.35, -0.11], Sobel  $z = -3.61$ ,  $p < .001$ ; and likely to harm others in the future, 95% CI [-0.18, -0.04], Sobel  $z = -3.01$ ,  $p = .003$ , together fully mediated the overall effect. Perceptions of the character as pure and harmful to the future self were not significant mediators. Contrasts revealed that the effect of loyalty was statistically greater than both the effect of disloyalty,  $C = .31$ , 95% CI [0.13, 0.53], and likelihood of harming others,  $C = .20$ , 95% CI [0.08, 0.34].

### Study 3

In Study 3, we examined people's moral judgment regarding sexual infidelity in its own regard rather than confessing to it. Moral norms for exclusivity in romantic relationships dictate that when partners have a monogamous agreement, they must explicitly change this agreement or end their relationship before pursuing other sexual partners (Battaglia, Richard, Datteri, & Lord, 1998). Despite the general disapproval of extra-dyadic sex across cultures (Buunk & Dijkstra, 2006a), sexual infidelity is common, with one fourth (or more) of adults report having been sexually unfaithful to their monogamous partner (Lehmiller, 2015; Owen, Rhoades, Stanley, & Fincham, 2010; Swan & Thompson, 2016). Consistent with an MFT framework, we predicted that participants would judge a character's actions as less moral if the character had sex with a new partner before formally ending the relationship, compared to ending the relationship first. The former would constitute a sexual infidelity violation that, as shown by Selterman and Koleva (2015), is linked more strongly with moral concerns about purity compared to other concerns (e.g., harm). We also predicted that the effect of judging sexual infidelity as less moral than breaking up first would be mediated by perceptions of purity (Selterman & Koleva, 2015) and loyalty (Finkel et al., 2002; Rusbult et al., 1982) but not

harm caused to the current/former romantic partner.

### Method

#### Participants

We recruited 231 participants and removed data from 8 participants due to failed attention checks, final  $N = 223$  (168 women;  $M_{\text{age}} = 19.39$  years,  $SD = 1.38$  years).

#### Materials and procedure

Participants read one of two vignettes. In one condition, the character ended the relationship with the relationship partner before having sex with a new partner, whereas in the other condition, she had sex with a new partner first and then immediately broke up with the partner (i.e., committed sexual infidelity). After reading a vignette, participants responded to the same dependent measures as Studies 1 and 2. The vignettes can be found in Appendix B.

### Results and discussion

The first MANOVA examined perceptions of the character's actions based on the infidelity manipulation and revealed an omnibus effect,  $F(14, 199) = 20.63$ ,  $p < .001$ , Wilks'  $\Lambda = .408$ . Significant individual effects emerged for perceptions of the character's actions as ethical,  $F(1, 212) = 133.99$ ,  $p < .001$ ; immoral,  $F(1, 212) = 66.58$ ,  $p < .001$ ; disgusting,  $F(1, 212) = 125.49$ ,  $p < .001$ ; pure,  $F(1, 212) = 92.39$ ,  $p < .001$ ; loyal,  $F(1, 212) = 163.17$ ,  $p < .001$ ; disloyal,  $F(1, 212) = 186.62$ ,  $p < .001$ ; caring,  $F(1, 212) = 178.85$ ,  $p < .001$ ; harmful,  $F(1, 212) = 48.01$ ,  $p < .001$ ; harmful to the self,  $F(1, 212) = 22.24$ ,  $p < .001$ ; caring toward the partner,  $F(1, 212) = 133.84$ ,  $p < .001$ ; and harmful to the future self,  $F(1, 212) = 36.48$ ,  $p < .001$ . As predicted, participants rated the character's actions as more ethical, less immoral, less disgusting, more pure, more loyal, less disloyal, more caring, less harmful, less harmful to the self, more caring toward the partner, and less harmful to the future self in the breakup first condition compared to the sexual infidelity condition. Means,

**Table 5.** Means, standard deviations, confidence intervals, and effect sizes for moral judgment based on secret versus confession conditions in Study 1 (N = 223)

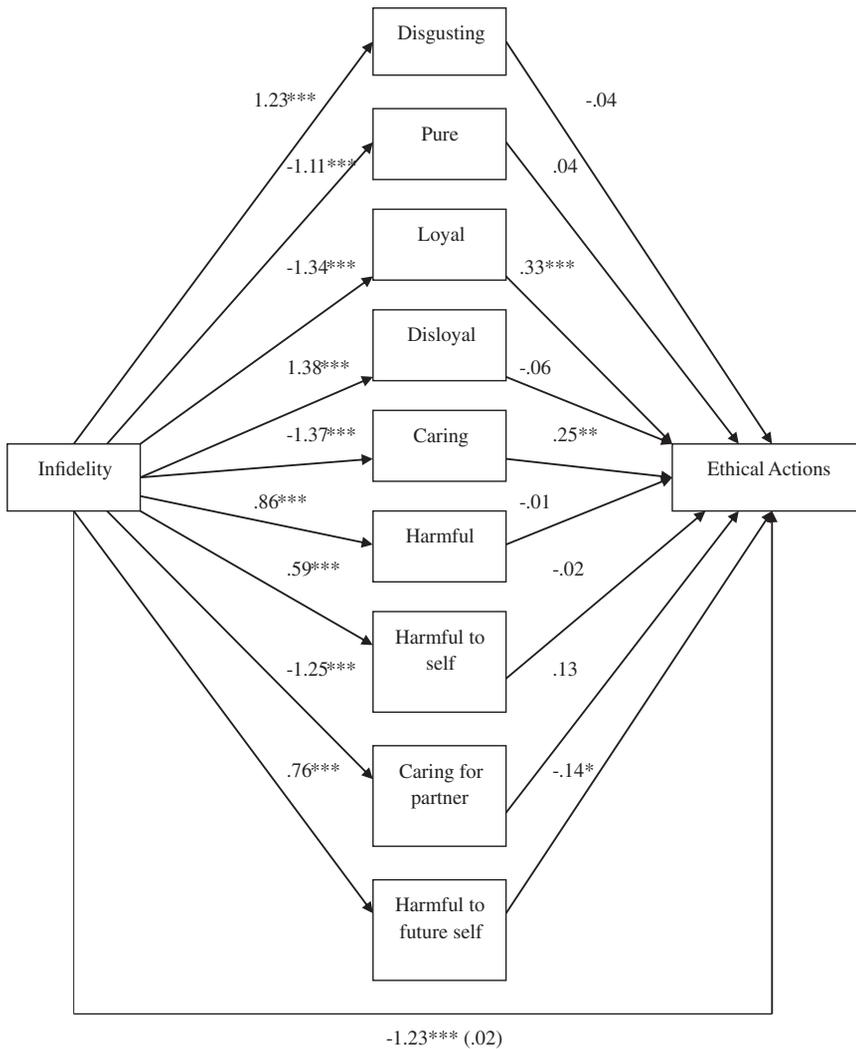
Moral judgment	Breakup first			Infidelity			<i>d</i>
	<i>M</i>	<i>SD</i>	95% CI	<i>M</i>	<i>SD</i>	95% CI	
Actions disgusting	1.88	1.19	[1.62, 2.15]	4.01	1.55	[3.75, 4.27]	-1.54
Actions pure	4.61	1.75	[4.31, 4.90]	2.61	1.26	[2.32, 2.90]	1.34
Actions loyal	5.20	1.67	[4.92, 5.49]	2.61	1.29	[2.33, 2.89]	1.74
Actions disloyal	2.40	1.50	[2.13, 2.68]	5.03	1.31	[4.76, 5.29]	-1.87
Actions caring	5.25	1.35	[5.00, 5.52]	2.79	1.35	[2.54, 3.05]	1.82
Actions harmful	2.54	1.36	[1.85, 2.21]	3.93	1.56	[3.54, 4.08]	-.95
Actions harmful to self	1.87	1.18	[2.26, 2.82]	2.71	1.42	[3.65, 4.20]	-.64
Actions caring to partner	4.92	1.49	[4.64, 5.21]	2.58	1.47	[2.30, 2.86]	1.58
Actions harmful to future self	1.84	1.08	[1.58, 2.09]	2.93	1.51	[2.68, 3.18]	-.83
Actions ethical	5.32	1.49	[5.05, 5.61]	3.01	1.43	[2.74, 3.29]	1.58
Actions immoral	2.35	1.52	[2.05, 2.64]	4.06	1.56	[3.77, 4.35]	-1.11

standard deviations, 95% confidence intervals, and effect sizes are listed in Table 5. Similar results emerged from a second MANOVA examining character judgment based on the infidelity manipulation, with a significant omnibus effect,  $F(10, 212) = 24.71$ ,  $p < .001$ , Wilks'  $\Lambda = .462$ . Significant individual effects emerged for perceptions of the character as ethical,  $F(1, 221) = 162.91$ ,  $p < .001$ ; immoral,  $F(1, 221) = 45.48$ ,  $p < .001$ ; disgusting,  $F(1, 221) = 112.41$ ,  $p < .001$ ; pure,  $F(1, 221) = 79.43$ ,  $p < .001$ ; loyal,  $F(1, 221) = 206.74$ ,  $p < .001$ ; disloyal,  $F(1, 221) = 175.60$ ,  $p < .001$ ; caring,  $F(1, 221) = 120.86$ ,  $p < .001$ ; harmful,  $F(1, 212) = 51.13$ ,  $p < .001$ ; harmful to others,  $F(1, 221) = 69.78$ ,  $p < .001$ ; and harmful to the self,  $F(1, 221) = 23.87$ ,  $p < .001$ .

Our first mediation model in this study examined moral judgment of actions (How ethical are the character's actions?) as a function of condition (1 = breakup first, 2 = infidelity). This revealed that perceptions of the character's actions as loyal, 95% CI [-0.72, -0.21], Sobel  $z = -3.60$ ,  $p < .001$ ; caring, 95% CI [-0.61, -0.07], Sobel  $z = -3.19$ ,  $p = .001$ ; and harmful to the future self, 95% CI [-0.22, -0.02], Sobel  $z = -2.30$ ,  $p = .021$ , fully mediated the main effect (shown in Figure 6). None of the other moral factors (disgusting, pure, disloyal, harmful, harmful to the self,

and caring toward the partner) emerged as significant mediators. Contrasts revealed that the effects of loyalty and caring were statistically similar, but the effect of loyalty was greater than the effect of harm to the future self,  $C = -.33$ , 95% CI [-0.61, -0.07]. When considering negatively valenced items (How immoral are the character's actions?), perceptions of the character's actions as disloyal, 95% CI [0.45, 1.25], Sobel  $z = 5.25$ ,  $p < .001$ , and harmful to the self, 95% CI [0.01, 0.29], Sobel  $z = 2.16$ ,  $p = .031$ , fully mediated this effect, whereas none of the other mediators were significant. A contrast revealed that the effect of disloyalty was greater than the effect of harm to the self,  $C = .73$ , 95% CI [0.32, 1.11].

A similar pattern emerged when considering character judgment (How ethical is the character?). Perceptions of the character as loyal, 95% CI [-0.83, -0.26], Sobel  $z = -4.55$ ,  $p < .001$  and caring, 95% CI [-0.66, -0.34], Sobel  $z = -6.46$ ,  $p < .001$ , fully mediated this effect. A contrast showed that these two variables had statistically similar effects, and none of the other mediators emerged as significant. When considering negatively valenced items (How immoral is the character?), perceptions of the character as disloyal fully mediated this effect, 95% CI [0.24, 0.95], Sobel  $z = 3.46$ ,  $p < .001$ , and none of the other mediators emerged as significant.



**Figure 6.** Mediation model showing perceptions of sanctity, loyalty, and honesty as mediators between experimental condition (breakup first vs. infidelity) and moral judgment in Study 3. Standardized beta coefficients are displayed. \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

*Summary of results in Studies 1–3 and supplementary findings*

Across three experimental studies, we examined moral judgments in the context of having sexual affairs, confessing sexual affairs, and friendship boundaries. Specifically, we examined keeping an affair secret or confessing (Study 1), confessing a betrayal to a friend or keeping the secret (Study 2), and sex with a new partner before or after ending a monogamous relationship (Study 3). In Study

1, perceptions of purity, loyalty, and caring were salient (mediating) factors in the context of sexual infidelity when participants judged the character’s actions as ethical. Purity and caring were salient when considering the character to be ethical. Disloyalty was salient when considering the character to be immoral. Study 2 found that purity, loyalty, and disloyalty were salient when considering the character’s actions as ethical, whereas disloyalty was salient when considering the character’s

actions as immoral. Purity, loyalty, disloyalty, and likelihood of future harm to others were salient when considering the character as ethical. Loyalty, disloyalty, and likelihood of future harm also predicted judging the character as immoral, although the effect of loyalty was statistically larger than disloyalty and purity. Study 3 found that both loyalty and harm to the future self predicted judgment of the character's actions as ethical. Disloyalty and harm to the future self both predicted judgment of the character's actions as immoral, but disloyalty was statistically greater than future self-harm. Loyalty and care predicted judgment of the character as ethical, whereas only disloyalty predicted judgment of the character as immoral. In sum, perceptions of loyalty and purity are central to moral reasoning about relationships betrayals, with unique predictive power beyond perceptions of harm caused by such actions.

In addition to the experiments reported above, here, we report supplementary findings from five additional experiments to address some limitations and alternative explanations. Specifically, we addressed participant gender, gender of the protagonist in the vignettes, participant ideology, and honesty while utilizing vignettes nearly identical to the ones reported above. For the sake of conciseness, we will not detail these findings fully in the current manuscript, although more information is available from the authors upon request. These supplementary findings may lay the groundwork for future research.

Research suggests that men and women are judged differentially for similar behaviors in the realm of sex and relationships, also referred to as the *sexual double standard* (Conley, Ziegler, & Moors, 2013; Sakaluk & Milhausen, 2012). Thus, in one experiment, we varied the gender of the character that committed the ethical violation. The effect of protagonist gender (male or female) was not significant for any of the moral judgment outcomes we measured, and no significant interactions emerged. In another experiment, we measured perceptions of the character's honesty along with the other outcome variables. We posited that participants might view an honest declaration of betrayal as more moral in its own right, independent of

the other moral foundations (loyalty, purity). In our experiments examining confessions, although participants perceived the confessing characters to have greater honesty, honesty itself was not associated with the dependent measures of moral judgment, nor was it a significant mediator. Next, we took into account the effect of political ideology on moral judgment. Studies drawing on MFT have shown that social conservatives emphasize the importance of loyalty and purity more than liberals and also have more restrictive attitudes toward sex (Graham et al., 2009). Other research has also shown that liberals have more permissive attitudes toward sexual infidelity compared to conservatives (Buunk & Van Driel, 1989). Therefore, we sought to include participants' political ideology. We found a main effect of this variable on moral judgment, such that increased conservatism was associated with harsher moral judgment. However, political ideology did not interact significantly with the other study variables, suggesting that the pattern of results (i.e., infidelity associated with harsher moral judgment) was the same for both liberals and conservatives. Finally, we took into account participant gender, which was not associated with moral judgment, and no significant interactions emerged in any of the supplementary experiments. This indicates that both male and female participants exhibited moral judgment in similar ways.

## General Discussion

Moral judgment is a core aspect of how people evaluate each other's actions. In the present set of studies, with over 1,000 participants, we examined how people view relational and sexual actions in the context of close relationships. Across three experimental studies, we found that when people considered relationship betrayals, their moral judgments were explained by perceptions of purity and loyalty and, to a lesser extent, harm/suffering caused by the character's actions. Participants viewed the act of confessing a betrayal to be more moral compared to keeping it secret (Studies 1 and 2) despite perceiving greater harm caused (at least in the present) to the

other person. Participants viewed a breakup following sexual infidelity as less moral than a breakup before new sexual activity (Study 3). We tested the robustness of moral judgments regarding loyalty and purity against various manifestations of the harm/care construct (i.e., self-harm, anticipated future self-harm, and relationship harm), and we assessed judgments of the actions and character separately, utilizing positively and negatively valenced items. Across these studies, moral judgments were consistently mediated by perceptions of the character's purity and loyalty, but the effects of care/harm were inconsistent. Perceptions of loyalty emerged as a significant mediator in all three studies, whereas perceptions of purity were significant in Studies 1 and 2. Overall, the loyalty effect appears to be somewhat stronger and more robust, followed by purity and then followed by harm/care. These results help bolster pluralistic perspectives of morality that go beyond the dimensions of harm/care.

Our findings illuminate psychological mechanisms that underlie moral judgment regarding relationship betrayals and extend the framework of MFT (Graham et al., 2013) to an understanding of judgment about common romantic and sexual situations. Results indicate that people may perceive some ethical value to behaving in a way that causes harm toward close others if the actions are consistent with other moral virtues. Thus, confessing a betrayal may constitute a *harmful right*. We did find evidence that care and future harm were also salient when considering confessions, but not consistently so, and in some cases, were overshadowed by the statistically greater effect of loyalty. We also have greater knowledge about why people perceive sexual infidelity to be morally wrong. These judgments are driven in part by perceptions of the character's loyalty and purity, although this finding does not negate the role of perceived harm, which was present to a nonzero degree across all conditions in Studies 1 and 2. But at least in Study 3, the action of infidelity may in fact constitute a *harmless wrong*. We did find evidence that anticipated harm to the future self and caring were also salient in this experiment, but as with the data on confessions, it was not consistently so and was overshadowed

by the statistically greater effect of loyalty.

Our results are also consistent with other research showing that moral judgments about actions and characters (unrelated to close relationships) are based on purity/disgust rather than harm (Rottman et al., 2014a) or immaterial harms (Tannenbaum, Uhlmann, & Diermeier, 2011). Our results are somewhat consistent with RRT (Rai & Fiske, 2011) and MAST (Marczyk, 2015), with both suggesting that moral judgments stem from a desire to regulate interpersonal relationships. Following these accounts, participants may have implicitly or consciously reasoned that the actions illustrated in our vignettes (confessions and sexual restraint) revealed qualities that would make the character a good relationship partner, and this may be tied to perceptions of future wrongdoing. Even harmful actions may be construed as beneficial in a long-term relationship, whereas harmless actions may be perceived as indicating future conflicts. Indeed, we found that participants perceived characters as more moral individuals when they confessed and remained monogamous. However, we found limited evidence that moral judgments were significantly linked to perceptions of future behavior in the characters or the actions in question. Furthermore, we did not find evidence that our manipulations affected the perception of harm to the relationship. It is possible that this null finding emerged because a "relationship" is more symbolic than an actual person, especially monogamous relationships (Conley, Moors, Matsick, & Ziegler, 2013). Other research shows that people tend to give greater moral attention to concrete harms (Gray et al., 2014). Accordingly, a symbolic entity (like a "relationship") may not be the object of perceived harm. It is also possible that participants considered other variables (besides harm) that are relevant to relationship regulation as they considered these scenarios.

We found less support for MMP (Gray et al., 2012). Following this theory, participants would have rated actions or characters as more moral if they caused less harm (or more care). In addition, this theory predicts that if perceptions of purity and loyalty are associated with moral judgment, then they would

also trigger thoughts of harm as well. But as stated above, this pattern did not emerge consistently in our data. We tested for a variety of different iterations of the harm/care construct (broader than the perception of dyadic harm). We did find some limited support for this theory in our data, albeit with some inconsistencies. When considering confessions, care was a salient factor in deciding whether actions were moral in Study 1, but not in Study 2. We found evidence that the perceived likelihood of harming others was a salient factor in character judgment following confessions in Study 2, but this effect did not emerge in Study 1. Furthermore, when this effect did emerge in Study 2, in one instance, it was overshadowed by the effect of loyalty, which was statistically greater. Anticipation of future self-harm was linked with moral judgment only in Study 3, but only when considering actions (not the character as a whole), and this effect of future self-harm was overshadowed by disloyalty in one instance.

These inconsistencies are notable because both Studies 1 and 2 involved the central act of confessing a betrayal. It is possible that the nonreplicating mediating effects are attributable to the different relationship contexts (confessing after cheating on a romantic partner vs. confessing after having sex with a friend's ex). However, prior research shows that people consistently view both of these actions as immoral (Selterman & Koleva, 2015), so this explanation is less likely. Self-harm was only salient when judging the character's actions in Study 3. However, the notion that people perceive sexual infidelity as morally wrong because it is harmful to the future self is not theoretically tenable because prior work has shown that people typically construe a relationship partner as the harmed victim of infidelity, rather than the self as the victim (Buunk & Dijkstra, 2006b). Research documents people coping with distress of being cheated on, not distress of cheating (e.g., Miller & Maner, 2008). We did consider self-harm to be relevant in terms of the burden of secrecy (e.g., Critcher & Ferguson, 2014; Uysal et al., 2012), but our data do not support the idea that self-harm is morally relevant in this context.

It is possible that some degree of harm must always be present in some form in order to activate moral cognitions, but then, the intensity and direction of the moral judgment may depend on other, more specific, salient factors. As noted in Study 1, there was a degree of harm perceived in both conditions that was statistically above zero. However, we argue (and find support for the notion) that moral judgment varies as a function of a variety of moral factors that go beyond care/harm, even though the baseline level of harm may be high across all conditions. We can consider other examples from utilitarian theory, such as the "trolley dilemma." In such experiments where at least one person will suffer or die in each instance, there is a high baseline level of harm caused, and yet participants' moral judgments vary as a function of other factors.

Another factor relevant to MMP concerns intentionality. Mere suffering is not sufficient to prompt a condemning moral judgment. There must be an intention to cause harm to a suffering victim, and it could be argued that characters exhibiting actions like those in our scenarios do not intend to inflict suffering on their friends or partners. However, we argue that there are multiple types of intentionality. In one instance, characters may intentionally cause harm for the primary purpose of benefiting themselves or deliberately inflicting harm on others. For example, if a thief punches an old lady and steals her purse, this would be intentional and negatively motivated harm, and MMP suggests that people perceive these actions as immoral. But another type of intentional harm is with a more noble purpose, in which harm may be inflicted on a suffering victim but as an unwanted but tolerated side effect. For example, a doctor may give a child a shot, fully knowing that the child will experience pain (therefore, intentional) but also for the purpose of keeping the child healthy. In this sense, the pain caused is not incidental or accidental suffering but acceptable suffering as a negative side effect of something simultaneously intended to help the other. We argue that the types of actions in our models (e.g., confessing infidelity to a romantic partner) are the latter type of intentional harm and that the moral benefits of such actions stem

from other MFT variables, mainly loyalty and purity.

Through our supplementary findings, we were able to rule out some alternative explanations for the pattern of results across these three studies. The rationale to control for honesty was that the confession vignettes contained lies by omission, which could be perceived as immoral, and some have suggested that honesty may be its own unique moral foundation (Graham et al., 2013; Iyer, 2010), but we do not have evidence for this. It is also possible that honesty provides valuable moral information in some, but not all, cases. Honesty may convey valuable information that assists in clarifying moral judgment, or it may add confusion and have other adverse effects that do not assist moral judgment. As an example, if one were to declare honestly that they were planning to cheat on their partner, and then followed through with this behavior, the honesty aspect is less concerning and less valuable than the infidelity aspect. Essentially, being honest about one's own unethical behavior does not transform one into a morally good person.

#### *Limitations and future directions*

Methodologically, the vignettes in these studies provided the opportunity to experimentally examine moral trade-offs (Waytz et al., 2013), under which observers are willing to overlook one moral concern (harm) in favor of prioritizing others (loyalty, purity). This suggests that people are aware, to some degree, of these distinct moral variables and can distinguish between them (on an implicit or conscious level, or both). Future research should investigate how much of this process is automatic or controlled. The vignettes in both studies were meant to mimic every day, realistic actions that occur in the domain of people's social relationships rather than unrealistic thought exercises (e.g., "trolley problems"). This adds external validity relative to previous research given that these types of actions are ones that people typically encounter at some point during their lives. In addition, the scenarios used here are far less "weird" than other scenarios previously used in morality studies

(e.g., having sex with a dead chicken; Koller & Dias, 1993). Critics of MFT have claimed that impure moral violations are often conflated with weirdness (Gray & Keeney, 2015), but we were able to produce realistic relational scenarios in our studies. Nevertheless, they are still hypothetical scenarios (which are commonly used by researchers in this field seeking to understand moral judgment; e.g., Gray et al., 2014), and future research should examine how people form moral judgments as a function of their actual relationship experiences. Despite this limitation, these findings have implications for judgment and behavior in close relationships. We now have more information about how people cognitively conceptualize right and wrong in the context of friendships, romantic relationships, sex, and gender. Perhaps these findings will be useful in an applied context to facilitate dyadic communication and adjustment about morally relevant issues. Such discussions may help friend pairs or couples to successfully resolve conflicts; future research should investigate this further.

#### *Conclusion*

We do not claim that purity or loyalty concerns explain moral judgment regarding *all* relational or sexual violations, or that concerns about harm are irrelevant to moral judgment. Certainly, there are many actions (e.g., domestic violence, sexual assault) in which perceived harm is a catalyst for moral judgment. Our argument is that perceived harm is one of many diverse and distinct factors that play a role in moral judgment and decision making—and that loyalty and purity are central moral concerns in sex and relationships, often superseding concerns about harm. This is consistent with MFT, a pluralistic account of moral judgment, as well as RRT and MAST, which suggest that people's moral judgments are based on motives to preserve and maintain social relationships. Some researchers have argued that the perception of a harmed victim is the cognitive prototype by which people conceptualize immoral behavior (Gray et al., 2014). This perspective explains many phenomena within moral psychology. However,

other psychological templates may apply regarding sexual and relational behavior, and purity and loyalty play a key role in explaining how people arrive at moral judgments toward sexual and relational violations. In conclusion, the current research adds to ongoing and fruitful research regarding the underlying psychological mechanisms involved in moral judgment. Importantly, the current studies extend our knowledge of moral judgments into the context of specific close relationship and sexual contexts that many people experience.

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## Appendix A

We would like you to imagine Evan, a straight man who is in a serious committed relationship with a woman, Natalie. They have been dating for 5 years and have been sexually monogamous (exclusive). Then one day Evan meets another woman whom he feels strongly attracted to, and they end up having sex. Evan uses protection and does not contract any sexually transmitted diseases, so his partner Natalie is not at risk. Furthermore, the other woman is on birth control, and does not get pregnant. Evan loves his partner Natalie, and he feels guilty about his affair. Evan knows that Natalie would be hurt if she found out about it. He wants to preserve their relationship and has no intention of cheating on her ever again.

### *Condition 1 (Secret)*

Evan decides not to tell Natalie about his affair, because he knows that Natalie would be hurt if she found out about it. Evan decides it is better to spare Natalie from having hurt feelings, rather than telling the truth. Natalie never discovers his secret, and the two keep dating as if nothing had happened.

### *Condition 2 (Confession)*

Evan decides to tell Natalie about his affair, even though he knows that Natalie would be hurt if she found out about it. Evan decides it is better to tell the truth rather than spare Natalie from having hurt feelings. Natalie becomes very upset and angry when he tells her. She cries and says she is not sure whether they can keep dating.

## Appendix B

### *Condition 1 (breakup first)*

We would like you to imagine Julia and Mitch, who are in an exclusive (monogamous) and

committed romantic relationship—they have been dating for 1 year. Julia is unhappy with the relationship and is planning to break up. Mitch is currently out of town. Julia decides it would be best to wait until he returns and talk face-to-face, rather than break up over the phone or through email/texting. Before Mitch returns, Julia meets someone new named Scott, whom she feels very attracted to. She decides to wait until she breaks up with Mitch before getting involved with Scott. Mitch returns to town, and immediately Julia ends their relationship (they talk and she breaks up with him). Julia does not tell Mitch about Scott. The next day, Julia and Scott decide to have sex. Mitch never discovers that they had sex. Julia and Mitch never see or speak to each other for the rest of their lives.

### *Condition 2 (infidelity)*

We would like you to imagine Julia and Mitch, who are in an exclusive (monogamous) and committed romantic relationship—they have been dating for 1 year. Julia is unhappy with the relationship and is planning to break up. Mitch is currently out of town. Julia decides it would be best to wait until he returns and talk face-to-face, rather than break up over the phone or through email/texting. Before Mitch returns, Julia meets someone new named Scott, whom she feels very attracted to. Before Julia has the opportunity to break up with Mitch, she and Scott decide to have sex. The next day, Mitch returns to town, and immediately Julia ends their relationship (they talk and she breaks up with him). Julia does not tell Mitch about Scott. Mitch never discovers that they had sex. Julia and Mitch never see or speak to each other for the rest of their lives.