Brief article

Easy on the mind, easy on the wrongdoer: Discrepantly fluent violations are deemed less morally wrong

Simon M. Laham [a,*], Adam L. Alter [b], Geoffrey P. Goodwin [c]

[a] University of Melbourne, School of Behavioural Science, Parkville VIC, Melbourne 3010, Australia
[b] Stern School of Business, New York University, USA
[c] Department of Psychology, University of Pennsylvania, USA

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ABSTRACT

The present experiment tested the hypothesis that discrepancies in processing fluency influence the perceived wrongness of moral violations. Participants were presented with numerous moral violations in easy or difficult to read font. For some violations experienced perceptual fluency was consistent with the fluency associated with previous violations, whereas for others it was more fluent or more disfluent. Results show that, across multiple vignettes, participants rated moral violations that were processed with discrepant fluency as less morally wrong than those processed with discrepant disfluency. The current work highlights the importance of metacognitive experiences in moral judgment and contributes to the emerging literature on the role of experiential factors in moral judgment.

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1. Introduction

People like things that are easy to think about. From judgments of Chinese ideographs (Zajonc, 1968) to pictures of furniture (Reber, Winkielman, & Schwarz, 1998) to collections of dots (Winkielman, Halberstadt, Fazendeiro, & Catty, 2006), the easier a stimulus is to process, the more positively it is evaluated (see Schwarz (2004) for review). So called *processing fluency* – the subjective experience of ease or difficulty associated with a cognitive process (see Alter and Oppenheimer (in press) for a review) – has been shown to influence evaluative judgments in a variety of domains (see Winkielman, Schwarz, Fazendeiro, and Reber (2003), for a review), but no research has yet examined the impact of fluency on moral judgment. The current research addresses this issue by considering the impact of processing fluency on judgments of moral wrongness.

One reason for the neglect of metacognitive experiences, such as processing fluency, in the psychology of

morality is that moral judgment has long been considered a function of deliberative reasoning processes (e.g., Kohlberg, 1969; Piaget, 1932/1965), rather than of intuitive or experiential factors (see Haidt (2008), for a review). Indeed, some have argued that moral judgments may in fact be immune to metacognitive influences because such judgments are heavily dependent on stimulus meaning (Winkielman et al., 2003). Recent theoretical and empirical work, however, has highlighted the importance of experiential factors, such as intuition and emotion in moral judgment (e.g., Haidt, 2001; Schnall, Haidt, Clore, & Jordan, 2008). Despite this recent focus on intuitive processes in the psychology of morality, very little research has considered the impact of *metacognitive* experiences on moral judgment (cf. Laham (submitted for publication)).

Processing fluency can influence judgment in two basic ways (Schwarz, 2004). First, people may use naïve theories about how fluent processing experiences relate to aspects of stimuli or to properties of their own knowledge to inform judgment. In the case of familiarity, for example, people believe that familiar stimuli are easy to process (Schwarz, 2004). Thus, in experimental contexts in which they experience fluency, participants may attribute such

* Corresponding author. Tel.: +61 3 83443974.
E-mail address: slaham@unimelb.edu.au (S.M. Laham).

fluency to the familiarity of the stimulus (e.g., Whittlesea, Jacoby, & Girard, 1990). Similarly, people may believe that truthful statements are easier to process, and thus attribute experienced processing fluency to the truth of a particular statement (Reber & Schwarz, 1999).

Second, fluency elicits positive affect, which can be used as an input into judgment (Winkielman et al., 2003). According to the *hedonic marking hypothesis*, processing fluency automatically elicits a positive affective state which is attributed to the judgmental stimuli at hand (Winkielman et al., 2003). Consistent with this theorizing, research shows that across a wide range of judgments, fluency increases positivity (e.g., Reber et al., 1998; Zajonc, 1968). So, for example, when people are asked to judge the prettiness or ugliness of a target, they give higher prettiness ratings and lower ugliness ratings to targets that are easy to process (Reber et al., 1998). These effects typically hold true even when the stimuli are negative (e.g., Halberstadt, 2006; Zajonc, Markus, & Wilson, 1974). Perhaps not surprisingly, perceivers are more likely to follow this affective route when they make straightforward evaluative judgments (Winkielman et al., 2003).

In the context of judgments of moral transgressions, the hedonic marking hypothesis predicts a different effect of fluency than does an account that relies on participants' naïve theories linking fluency and truth. The hedonic marking hypothesis predicts that fluently processed moral transgressions will be judged as less wrong than disfluently processed transgressions. In contrast, the naïve theory view predicts that fluently processed transgressions will be judged as more true or probable, which may in turn lead to judgments of increased wrongfulness. We favor the hedonic marking hypothesis in the current context for two reasons. First, as judgments of moral wrongness are inherently evaluative, the hedonic marking hypothesis seems more directly applicable. Second, the effects produced by hedonic marking should occur more generally than the effects produced by naïve theories. The effects of naïve theories, such as that fluency implies truth, should occur only in specific judgmental contexts in which participants make explicit judgements about the particular dimension captured by the theory (in this case, truth or probable truth; Winkielman et al. (2003)). Fluency effects in such situations are thought to operate via two-step models (Winkielman et al., 2003) in which fluency is first elicited, but only becomes diagnostic of a stimulus property if an explicit judgment of that property is required. However, our study did not create this sort of context – participants simply made judgments of the wrongfulness of various moral transgressions, but did not make any explicit judgments about the truth or probability of moral assertions. Thus, for both of these reasons we predict that moral violations will be judged as less morally wrong when they are easy to process (e.g., when text-ground contrast makes them easy to read) than when they are difficult to process.

There is, however, an important qualification to this hypothesis. Although fluency effects on evaluative judgments are pervasive, recent work has highlighted boundary conditions. Across judgmental domains, larger effects on judgments emerge when the fluency of a processing experience deviates from previous processing experience (e.g., Hansen, Dechêne, & Wänke, 2008; Whittlesea, 2004; Whittlesea & Williams, 1998, 2000). Hansen et al. (2008), for example, showed that perceptual fluency significantly enhanced truth judgments only when it deviated from previous disfluent experiences. Such effects of discrepant processing fluency effects have also been found in the domains of familiarity judgments (e.g., Whittlesea & Williams, 1998) and preferences (Willems & Van der Linden, 2006). We thus predicted that moral violations that are processed with discrepant fluency will be judged as less morally wrong than those processed with discrepant disfluency.

2. Method

2.1. Participants

One hundred and seven undergraduate students (77 female, 28 male, 2 gender not reported) participated in this study. Their mean age was 21 years (SD = 3.89 years).

2.2. Procedure and Materials

We adapted a design used by Hansen et al. (2008). Participants completed a questionnaire in which they read six vignettes describing various moral violations: 'Punch' (one man punches another in a bar), 'Flag' (teacher burns Australian flag in class), 'Dog' (family eats its dead dog), 'Deface' (man defaces a memorial), 'Hitler' (man taunts Jewish sports fans with Hitler imitation), 'Kiss' (brother and sister kiss passionately). These were taken from previous research on moral judgment (Goodwin & Darley, 2008; Haidt, Koller, & Dias, 1993). After reading each vignette, they rated the extent to which they agreed with the claim that the protagonist's actions were morally wrong (*1 = not at all; 10 = very much*). These six vignettes were presented in two blocks of three: one block easy to read or fluent, the other, difficult to read or disfluent. These blocks were presented on different pages of a paper and pencil questionnaire. Perceptual fluency was manipulated via text-background contrast (Hansen et al., 2008; Reber & Schwarz, 1999). The fluent vignettes were presented in 12 point Times New Roman font on a white background; the disfluent vignettes in 12 point Times New Roman font on a speckled grey background (Grey-40%, Granite fill effect). For half the participants the first three vignettes were easy to read and the second three difficult. This order was reversed for the other half of the participants. This design yields one vignette of discrepant fluency (vignette 4, preceded by three vignettes of opposite fluency) and two vignettes of equally expected fluency (vignettes 3 and 6, each preceded by two vignettes of similar fluency).[1] To ensure generalizability across vignettes, three moral violations ('Deface,' 'Dog' and 'Kiss') were distributed to these three critical positions using a Latin square. The vignettes in positions 1 ('Punch'), 2 ('Flag') and 5 ('Hitler') served as fillers and were

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[1] Although Hansen et al. (2008) used five stimuli to create expectations; we used only two as recent research demonstrates that two consistent trials are sufficient to build an expectation of continuity (Rozin, Rozin, Appel, & Wachtel, 2006).

presented in the same order in all versions of the questionnaire to minimize between condition differences.

After completing moral judgments for all six vignettes, participants rated how difficult it was to read the two types of text (1 = not at all difficult; 5 = very difficult). Finally, participants were debriefed. No one reported awareness of the aims of the experiment or expressed concern that the fluency manipulation influenced their judgments.

3. Results

To examine the effectiveness of the fluency manipulation, participants' ratings of text reading difficulty were subjected to a 2 (Order: fluent first vs. disfluent first) × (2) (Text: fluent vs. disfluent) mixed design ANOVA with repeated measures on the second factor. Participants rated the text with speckled grey background as significantly harder to read ($M = 3.29$, $SD = 1.04$) than the text with the white background ($M = 1.13$, $SD = 0.46$), $F(1, 103) = 379.41$, $p < 0.01$, $\eta_p^2 = 0.79$. Neither the Order main effect nor the Order × Text interaction effect was significant.

We used an analysis strategy similar to Hansen et al. (2008) to examine the impact of fluency on moral judgment. Ratings of moral wrongness were submitted to a 2 (Order: fluent first vs. disfluent first) × (3) (Critical Position: 3rd vs. 4th vs. 6th) mixed design ANOVA. Results revealed a marginal effect of Critical Position, $F(2, 104) = 3.08$, $p = 0.05$, $\eta_p^2 = 0.06$, which was qualified by the predicted and significant Order x Critical Position interaction, $F(2, 104) = 3.28$, $p = 0.04$, $\eta_p^2 = 0.06$. As expected, vignettes for which processing fluency was discrepant (those in position 4) were rated as significantly more wrong when processed disfluently ($M = 8.70$, $SD = 1.78$) than when processed fluently ($M = 7.54$, $SD = 2.47$), $F(1, 105) = 7.92$, $p < 0.01$, $\eta_p^2 = 0.07$. However, vignettes in positions 3 (fluent, $M = 8.68$, $SD = 1.88$; disfluent, $M = 8.74$, $SD = 1.89$) and 6 (fluent, $M = 8.20$, $SD = 2.48$; disfluent, $M = 8.57$, $SD = 2.02$) were not influenced by fluency of processing, $F(1, 105) = 0.02$, $p = 0.88$, $\eta_p^2 = 0.00$ and $F(1, 105) = 0.76$, $p = 0.39$, $\eta_p^2 = 0.01$. These results are summarized in Fig. 1.

To provide further evidence for the hypothesis that discrepancies in processing fluency are necessary for fluency to influence moral judgments, wrongness ratings for the three filler items (positions 1, 2 and 5, for which processing fluency was not discrepant) were compared between conditions. Fluency differences did not influence ratings for any of these vignettes, $Fs < 1.91$, $ps > 0.17$, $\eta_p^2 s < 0.02$.

Although these analyses suggest that discrepant fluency influences judgments of moral wrongness, they do not make clear whether discrepantly fluent processing decreases perceptions of wrongness or whether discrepantly disfluent processing increases perceptions of wrongness. To address this issue, wrongness ratings for each of the three vignettes in the critical positions were submitted to separate 2 (Processing fluency: fluent vs. disfluent) × 2 [Presence of Discrepancy: no discrepancy (average of positions 3 and 6) vs. discrepancy (position 4)] between subjects ANOVAs. Results from this restructured design were conceptually consistent with those observed by Hansen et al. (2008) for each of the three vignettes. For 'Deface,'
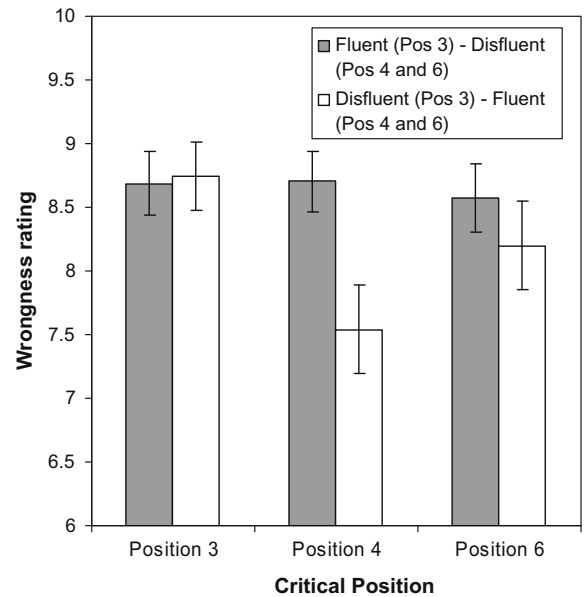

Fig. 1. Wrongness ratings for the experimental vignettes as a function of critical position and order. Discrepancy occurs at position 4 (Pos 4), no discrepancy occurs at positions 3 and 6 (Pos 3 and Pos 6). Error bars represent SEM.

the marginal interaction [$F(1, 103) = 3.35$, $p = 0.07$, $\eta_p^2 = 0.03$], showed that wrongness ratings were lower when the vignette was processed with discrepant fluency ($M = 8.20$, $SD = 1.93$) than with non-discrepant fluency ($M = 9.20$, $SD = 1.33$), $F(1, 49) = 3.75$ $p = 0.06$, $\eta_p^2 = 0.07$, but did not differ for discrepantly disfluent ($M = 9.43$, $SD = 1.09$) vs. non-discrepantly disfluent processing ($M = 9.36$, $SD = 0.98$), $F(1, 54) = 0.05$, $p = 0.82$, $\eta_p^2 = 0.00$. Similarly, for 'Kiss,' the interaction, $F(1, 103) = 3.70$, $p = 0.06$, $\eta_p^2 = 0.04$, suggested that that wrongness ratings were lower when the vignette was processed with discrepant fluency ($M = 7.39$, $SD = 2.64$) than with non-discrepant fluency ($M = 8.47$, $SD = 1.89$), $F(1, 50) = 2.91$ $p = 0.09$, $\eta_p^2 = 0.06$, but did not differ for discrepantly disfluent ($M = 9.05$, $SD = 1.17$) versus non-discrepantly disfluent processing ($M = 8.61$, $SD = 1.92$), $F(1, 53) = 0.84$, $p = 0.36$, $\eta_p^2 = 0.02$. For 'Dog,' the interaction was not significant, $F(1, 103) = 0.22$, $p = 0.64$, $\eta_p^2 = 0.00$, although the means are in the appropriate direction.

4. Discussion

These results provide the first demonstration of the impact of processing fluency on moral judgment. Specifically, discrepant perceptual fluency decreased perceptions of wrongness compared to discrepant disfluency. Further, and consistent with effects of discrepant fluency on truth judgments (Hansen et al., 2008), it seems that this difference is accounted for by fluent processing decreasing, rather than disfluent processing increasing, perceptions of wrongness.

These results contribute to emergent work on the role of experiential factors in moral judgment. Recent work

has emphasized the role of emotions (e.g., Schnall, Haidt et al., 2008; Wheatley & Haidt, 2005) and contextual primes (e.g., cleanliness: Schnall, Benton, and Harvey (2008); Schnall, Haidt et al. (2008)) in judgments of moral wrongness, yet has remained largely silent on metacognitive experiences. The current results suggest that the phenomenology of processing experiences also contributes to moral judgment.

The current results support the hedonic marking hypothesis (Winkielman et al., 2003) over plausible alternatives. According to this hypothesis, a fluently processed stimulus elicits positive affect which is then attributed to the particular stimulus at hand. Moreover, the current results suggest that discrepant *fluency* influences judgment, rather than discrepant disfluency. One may have hypothesized a priori that *disfluency* might influence the perceived wrongness of violations by triggering moral reasoning processes that could either temper or strengthen wrongness judgments. Alter, Oppenheimer, Epley, and Eyre (2007) demonstrated that disfluency decreases reliance on intuitive defaults and prompts systematic reasoning. In the context of moral judgment, initial intuitions about the wrongness of an action might be revised under disfluency, which prompts people to reconsider their intuitions (Alter et al., 2007). Indeed, recent intuition-based models of moral judgment imply that initial intuitions are the primary drivers of moral judgment and that subsequent reasoning often acts to justify initial judgments (Haidt, 2001). The current results, however, highlight the importance of discrepant fluency rather than discrepant disfluency in the context of moral judgment. Of course, one may argue that discrepant fluency diminishes reliance on analytic or systematic processing, which leads people to overlook evidence that a violation is wrong. Recent work, however, demonstrates that disfluency triggers systematic reasoning rather than fluency diminishing reliance on such reasoning (Alter et al., 2007).

Although the direct, hedonic marking hypothesis is favored in the current context over potential mediatory routes (e.g., via truth), an intriguing possibility is that fluency may influence moral judgments via different routes under different judgmental conditions. In cases in which only evaluative responses of wrongness are required, such as the current context, fluency effects may operate via the affective route specified by the hedonic marking hypothesis. However, if one is also asked to consider truth or familiarity, fluency may exert an indirect effect on moral judgment via these judgment dimensions. An examination of potential multiple routes of fluency effects on moral judgment should be a focus of future work.

Although the design of the current study permits generalizability across a range of morally-laden vignettes, other questions of generalizability remain. Moral violations may occur in different moral domains (Haidt, 2008; Shweder, Much, Mahapatra, & Park, 1997). We focused primarily on purity violations, but the question remains: do similar fluency effects hold for judgments in other domains such as autonomy, community or ingroup loyalty (Haidt, 2008)? We suspect that they will, given that recent work suggests that even specific emotions (which are intrinsically related to specific moral domains, Rozin, Lowery, Imada, & Haidt, 1999) may have domain general effects on moral judgment (Schnall, Benton et al., 2008). Given that processing fluency is often a function of content-free processing dynamics rather than stimulus-specific content, we predict moral domain general effects for fluency.

A related issue concerns the impact of fluency on moral judgments other than wrongness. As Monin, Pizarro, and Beer (2007) rightly observe, moral reactions or wrongness judgments are but one kind of many in the moral domain. Fluency may also influence judgments of the moral goodness or permissibility or certain actions, as well as moral dilemma resolution, moral temptation and meta-ethics (Goodwin & Darley, 2008). Although Laham (submitted for publication) demonstrated subjective ease of retrieval effects on judgments and behaviors related to the moral circle, the broader question of the extensiveness of metacognitive effects in the moral domain is one for future research.

A final, yet important question is whether similar effects emerge for different kinds of processing fluency. We considered perceptual fluency in the current study, but similar results should hold for conceptual fluency, based on priming, prototypicality and so on (see Alter and Oppenheimer (2008, in press)). Nevertheless, in extending the scope of fluency effects to moral judgment, the current research takes an important step in demonstrating that subtle processing dynamics can have important implications for meaningful moral judgments.

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