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Morality and conformity: The Asch paradigm applied to moral decisions

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Morality has long been considered an inherent quality, an internal moral compass that is unswayed by the actions of those around us. The Solomon Asch paradigm was employed to gauge whether moral decision making is subject to conformity under social pressure as other types of decision making have been shown to be. Participants made decisions about moral dilemmas either alone or in a group of confederates posing as peers. On a majority of trials confederates rendered decisions that were contrary to judgments typically elicited by the dilemmas. The results showed a pronounced effect of conformity: Compared to the control condition, permissible actions were deemed less permissible when confederates found them objectionable, and impermissible actions were judged more permissible if confederates judged them so.

Keywords: Moral judgment; Conformity; Asch; Decision making.

Traditional theories of moral psychology endorsed the Kantian view that moral judgments are the outcome of conscious deliberation based on moral rules, an internal "moral compass" (Kant, 1785, 1787; Kohlberg, 1969). However, recent studies have shown that moral judgment can be strongly swayed by seemingly irrelevant contextual factors. People judge actions as more morally wrong if they are primed to feel disgust before making a moral judgment (Schnall, Benton, & Harvey, 2008; Schnall, Haidt, Clore, & Jordan, 2008), while priming positive emotions makes moral transgressions sometimes appear more permissible (Valdesolo & DeSteno, 2006). Marked order effects have also been reported in which the judged moral permissibility of a dilemma varies as a function of the nature of the

dilemmas that preceded it (Nichols & Mallon, 2006), an effect that was replicated among expert moral reasoners (Schwitzgebel & Cushman, 2012).

One contextual factor that has not been adequately investigated is that of *social* consensus on moral decision making. There has been a plethora of research on decision-making conformity and the situations in which it can be induced. Perhaps the most famous are the classic studies conducted by Solomon Asch (1956) using simple visual discrimination. Asch required participants to choose which of three lines of different lengths matched the length of a target line. Participants made decisions in a group context which included six to eight people, and all but one person was a confederate of the experimenter. Over the course of 18 trials the confederates gave correct answers on only 6 trials. Asch found that, while participants made errors on fewer than 1% of trials when deciding alone, they made errors on 37% of trials in the group condition.

Although numerous studies have been conducted since the publication of Asch's classic paper, the majority have as their primary aim identifying the motivations underlying conforming behavior (see Cialdini & Goldstein, 2004, for a review). Three core motivations have been identified: a desire for accuracy, a desire for affiliation, and the maintenance of a positive self-concept. Recent work by Erb and colleagues (Erb, Bohner, Rank, & Einwiller, 2002; Erb, Bohner, Schmalzle, & Rank, 1998) found that the contribution of these factors varies as a function of the individuals' prior beliefs toward the topic under consideration. When people's prior beliefs are strongly opposed to the position held by the majority, conformity is driven by a desire to fit in. But when people hold moderately or no strong prior beliefs concerning the topic, conformity is driven by a belief that the majority view is more likely to constitute an objective consensus.

It is assumed that people violate a norm of rationality when they allow social consensus to override facts. Campbell (1990) argued that yielding to conformity allows error and confusion to spread throughout a group, while independent decision making and resistance to conformity is socially productive because it allows errors to be corrected. Resistance to conformity is therefore considered both moral and rational. It is moral because it reflects adherence to principle, and it is rational because it introduces fact-based judgment into the group decision-making process.

This raises the following question: Can conformity influence something we consider to be an integral part of our identities; namely, morality? Unlike visual decision making where correct answers are clear and unambiguous, moral dilemmas are dilemmas precisely because the correct course of action is unclear. Yet the laws and social institutions of virtually every culture are grounded in moral principles, such as avoiding harm to others and fairness in social transactions (Haidt, 2007). People are expected to rely on culturally

dictated moral principles as well as their own personal moral intuitions when choosing when and whether to aid others in distress, how to judge the culpability of parties involved in wrongdoing or disputes, and which behaviors should be subject to social and legal censure. Our behavior is frequently judged on the basis of whether we acted in accordance with our moral principles, or whether we simply chose to ''go along to get along'', as would be the case if we allowed social conformity to override moral principles. Taking this course of action typically makes one the target of criticism and social censure. An over-reliance on social conformity in guiding one's actions is also the hallmark of conventional (stage 3) moral reasoning in Kohlberg's six-stage theory of moral development; the highest level of moral development (stage 6) is rooted in reliance on moral principles to guide behavior (Kohlberg, 1969).

   Despite the ubiquity and gravity of moral judgment in our everyday lives, scant research exists on the impact of conformity on moral judgment. Crutchfield (1955) tested the impact of majority opinion on judgments in a variety of different domains, including agreement with morally relevant statements such as ''Free speech being a privilege rather than a right, it is proper for a society to suspend free speech whenever it itself is threatened.'' He found that only 19% of participants agreed with such statements when alone, but 58% agreed when confronted with a unanimous group who endorsed the statements. This is surprising given that people have been found to reject and distance themselves socially from morally dissimilar others (Skitka, Bauman, & Sargis, 2005), and should therefore have little desire to conform to the group. Indeed, Hornsey and colleagues (Hornsey, Majkut, Terry, & McKimmie, 2003; Hornsey, Smith, & Begg, 2007) found that participants with strong moral convictions about a social issue expressed stronger intentions to verbally oppose the issue when they believed they held a minority view than when they believed they held the majority view. Importantly, these intentions did not translate to actual behavior. Aramovich, Lytle, and Skitka (2012) assessed participants' prior beliefs concerning the acceptability of torture, along with their prior moral commitments, socio-political attitudes, and other factors. The participants then took part in an allegedly group discussion concerning the use of torture via computer-simulated chat room; the participants believed they were discussing the topic with fellow students. During the simulated group discussion, 80% of participants reported less opposition to torture than they had reported at pretest, but strength of moral conviction about torture was negatively associated with the degree of pro-torture attitude change. Although these results addressed only a single moral topic (i.e., permissibility of torture), they suggest that moral judgment may in fact be susceptible to conformity pressure.

Importantly, a growing number of studies have shown that judged moral permissibility varies systematically with the degree of conflict between morally relevant dilemma features (Greene et al., 2009). Dilemmas describing actions that maximize aggregate benefits ("greater good") while violating no a priori moral rules yield high endorsement rates, and actions that fail to maximize such benefits while simultaneously violating one or more moral rule yield very low endorsement rates. When the two conflict, causing the decision maker to choose between violating moral principles or sacrificing the greater good, low decisional consensus obtains. In these circumstances people are less certain what the morally permissible course of action should be.

In the present study we used a modification of Asch's methods to investigate the impact of social consensus on moral decision making. Participants were asked to render moral judgments for a series of dilemmas either alone or in a group that included three confederates. Unlike Asch's participants, however, our participants rendered judgments by choosing a number from a Likert-type scale that described a range of permissibility ratings, including "uncertain". This allowed greater variability among confederate judgments while still creating confederate consensus. If moral judgment is influenced by social context, then participants' ratings should be swayed in the direction of the confederates' atypical judgments compared to ratings given in the absence of social pressure.

METHOD

Participants

A total of 33 participants were recruited from the University of Illinois Psychology paid-participant website. There were 17 participants (12 female) in the control condition, and 16 participants (9 female) in the experimental condition.

Materials

A total of 12 dilemmas were selected from materials used by Greene, Morelli, Lowenberg, Nystrom, and Cohen (2008). They differed along three dimensions: (a) percent "permissible" judgments, (b) use of personal force, and (c) whether the harm inflicted was intentional or a side effect of the action taken. The latter two constitute deontological criteria that have been shown to influence moral judgment (Greene et al., 2009). According to Greene et al. (2009), an agent applies personal force when the force that directly impacts the other is generated by the agent's muscles and is not mediated by intervening mechanisms that are distinct from the agent's muscular force, such as firing a gun. The vignette names, deontological values, percent "yes"

TABLE 1
Vignette title, deontological features, percent acceptance rates, and judgments given
by confederates for the experiment materials

Vignette	Personal force	Harm	% Yes[a]	% Yes[b]	Confederate judgment
Fillers					
Submarine	No	Intentional	91	80	Permissible
Modified Bomb	Yes	Intentional	90	85	Permissible
Smother for Dollars	Yes	Intentional	7	8	Impermissible
Hard Times	No	Side Effect	9	3	Impermissible
Experimental					
Standard Trolley	No	Side Effect	85	80	Impermissible
Standard Fumes	No	Side Effect	75	67	Impermissible
Vaccine Test	No	Side Effect	79	68	Impermissible
Sacrifice[c]	Yes	Intentional	51	28	Permissible
Safari	Yes	Intentional	22	28	Permissible
Vitamins	Yes	Intentional	35	38	Permissible
Sophie's Choice	No	Side Effect	62	41	Impermissible
Crying Baby	Yes	Intentional	60	40	Permissible

[a]Values reported by Greene et al. (2008).
[b]Values reported by Cummins and Cummins (2012, Exp 1) based on decisions made by UIUC students.
[c]We opted to use Cummins and Cummins (2012) data to classify this vignette because participants in this study were also drawn from UIUC students.

(permissible) judgments from Green et al., (2008), and confederate judgments are displayed in Table 1.

Each vignette was printed on single sheet of paper with a 1–7 rating scale underneath. The labels for the rating scale were (from 1 to 7, respectively) Highly Impermissible, Impermissible, Somewhat Impermissible, Unsure, Somewhat Permissible, Permissible, and Highly Permissible.

Four vignettes served as fillers; confederates always gave ratings that were consistent with the judgment typically elicited by these vignettes (i.e., 6 or 7 for Submarine and Modified Bomb, which people typically judge permissible; 1 or 2 for Smother for Dollars and Hard Times, which people typically judge impermissible). Six of the experimental vignettes fell into two categories. The first contained vignettes that are a majority of people typically judge to be permissible (Standard Trolley, Standard Fumes, and Vaccine Test), and for which the confederates gave atypical judgments (i.e., ratings of 1 or 2). The second contained vignettes that a majority of people typically judge to be impermissible (Sacrifice, Safari, and Vitamins), and for which the confederates gave atypical judgments (i.e., ratings of 6 or 7). Finally, two vignettes were included that typically elicit high disagreement concerning permissibility. Confederates rated one of these

TABLE 2
Examples of vignettes used in the experiment

Filler:	*Submarine:* You are the captain of a military submarine traveling under a large iceberg. An explosion has damaged your oxygen supply and injured one of your crew. The injured crew member cannot survive his wounds. There is not enough oxygen left for the entire crew to make it to the surface. The only way to save the other crew members is to shoot dead the injured crew member so that there will be just enough oxygen for the rest of the crew to survive. Is it morally permissible to kill the injured crew member under the circumstances?
Weak Consensus	*Crying Baby:* Enemy soldiers are approaching your village. You and your townspeople are hiding. Your baby begins to cry loudly, which will surely alert the soldiers to your location. If you cover your baby's face to muffle the sound until the soldiers leave, you will smother him. Is it morally permissible to smother your baby under the circumstances?
Strong Consensus – "Yes"	*Standard Trolley:* A runaway trolley is approaching a fork in the tracks. On the left track are five people. On the right track is one person. If you do nothing the trolley will go left, causing the deaths of five people. The only way to avoid this is to push a switch that will cause the trolley to go right, causing the death of the single person. Is it morally permissible to push the switch under the circumstances?
Strong Consensus – "No"	*Sacrifice:* You, your spouse, and your four children are crossing a mountain range on your return journey to your homeland. You have inadvertently set up camp on a local clan's sacred burial ground. The leader of the clan says if you kill your oldest son with the clan leader's sword, he will let the rest of you live. Is it morally permissible to kill your oldest son under the circumstances?

(Sophie's Choice) as impermissible and the other (Crying Baby) as permissible. Examples of the vignettes are shown in Table 2. Texts for all vignettes can be found by clicking the supplementary materials link provided in Greene et al. (2008).

Procedure

In the control condition the experimenter and participant were seated at a conference table in a private room. In the experimental condition three confederates came into the room around the same time as the real participant and posed as real participants. The confederates were three male graduate students. The confederates took care to sit around the table so that the three of them were in consecutive seats and the real participant was at one end.

Participants were instructed that they would be asked to make a series of decisions about moral dilemmas for which there were no right or wrong answers. They were told we were interested in their responses to help us choose materials for future research. Folders were distributed which contained the vignettes. The folders given to the confederates had a small mark beside the rating they were supposed to give for each vignette. Confederates were not blind to the experimental hypotheses, and so were trained and instructed to respond according to script, without giving explanation or commentary on their choices. The answers confederates gave were distributed across the extreme end of the appropriate range (i.e., "permissible" could be 6 or 7, and "impermissible" could be 1 or 2). The first vignette was always Submarine, and the confederates gave a typical answer. The remaining sheets were shuffled between sessions. Each vignette was read aloud once and participants were given about 4 seconds to consider the situation. They were then asked to announce their answers aloud in turn as the experimenter recorded their choices. The real participant was always prompted to answer last after all of the confederates had given their answers. It was explained that answers were to be given aloud in order to save time and so that the printed materials could be re-used. After the experiment concluded the purpose of the experiment was explained, including the use of deception. Participants were not queried about their beliefs concerning the true purpose of the experiment prior to debriefing, although the majority spontaneously expressed surprise when informed of the deception, particularly that the graduate students were confederates and not true participants.

RESULTS

If participants' moral judgments were swayed by social consensus, then we would expect that ratings of vignettes typically judged permissible should receive lower permissibility ratings in the group condition than in the control condition, while ratings of vignettes typically judged impermissible should receive higher permissibility ratings in the group condition than in the control condition. To test this prediction, ratings for vignettes that typically yield strong consensus were analyzed separately from those that typically yield weak consensus.

For the strong consensus vignettes, ratings were averaged across the three "impermissible" vignettes (Sacrifice, Safari, and Vitamins), and across the three "permissible" vignettes (Standard Trolley, Standard Fumes, and Vaccine Test). These mean ratings were analyzed via mixed ANOVA using condition (Control or Group) and sex (Female or Male) as between-participant variables, and moral category (Impermissible or Permissible) as repeated measures. The analysis returned a single significant effect,

the interaction of moral category and condition, $F(1, 29) = 23.57$, $MSe = 1.29$, $p < .0001$, $\chi^2 = .45$. Four planned comparisons were conducted.

Looking within groups, the control group did indeed find the vignettes in the permissible category more permissible ($M = 4.45$) than vignettes in the impermissible category ($M = 3.23$), $t(16) = 5.31$, $p < .0001$, Cohen's $d = .80$, thereby replicating the findings of past research using these vignettes. The social context group, however, departed significantly from this oft-replicated consensual pattern: When confederates judged highly impermissible moral transgressions to be permissible, participants also rated them as permissible ($M = 4.37$), and when confederates judged highly permissible vignettes to be impermissible, so did participants ($M = 2.67$), $t(15) = 3.38$, $p < .004$, Cohen's $d = .66$. Comparing vignette ratings across groups also yielded a strong conformity effect: As predicted, vignettes that are typically judged permissible were found to be significantly less so under dissenting social pressure ($M = 2.67$) than when participants made decisions on their own ($M = 4.45$), $t(31) = 4.18$, $p < .0001$, Cohen's $d = .62$. Conversely, vignettes that are normally judged highly impermissible were rated as more permissible when confederates said so ($M = 4.38$) than when participants made decisions by themselves ($M = 3.23$), $t(31) = 2.74$, $p < .01$, Cohen's $d = .62$. These results clearly show that our participants' judgments were strongly swayed by social context, even for vignettes that typically elicit the opposite decision from an overwhelming majority of decision makers.

When reasoning under uncertainty, we would expect that decision makers would be more likely to conform to strong group consensus, and that is what we found when we analyzed the two vignettes that typically elicit low decision consensus. Ratings were analyzed via mixed ANOVA using condition (Control or Group) and sex (Female or Male) as between-participant factors and dilemma (Sophie's Choice and Crying Baby) as repeated measures. The main effect of Dilemma was significant, $F(1, 29) = 6.19$, $MSe = 2.20$, $p < .02$, $\chi^2 = .18$. This effect was modified by an interaction with Condition, $F(1, 29) = 21.67$, $MSe = 2.2$, $p < .0001$, $\chi^2 = .43$. Four planned comparisons were conducted.

Looking first within groups, the control group did indeed give statistically equivalent ratings to Sophie's Choice ($M = 3.53$) and to Crying Baby ($M = 2.76$), $t(16) = 1.54$, $p = .14$. In the social context group the confederates rated Sophie's Choice as highly impermissible and Crying Baby as highly permissible, and participants followed their lead. When deciding among dissenting confederates, participants found Sophie's Choice to be far less permissible ($M = 2.00$) than Crying Baby ($M = 4.75$), $t(15) = 5.46$, $p < .0001$, Cohen's $d = .82$. Comparing group performance on each vignette, participants were found to rate Crying Baby as significantly more permissible when confederates rated it so ($M = 4.75$) than when they made decisions alone ($M = 2.76$), t$(31) = 3.31$, $p < .002$, Cohen's $d = .51$. Conversely, participants

found Sophie's Choice far less permissible ($M = 2.00$) when confederates rated it as impermissible than when they made decisions on their own ($M = 3.53$), $t(31) = 2.66$, $p < .025$, Cohen's $d = .43$. Clearly, our participants' judgments regarding these "ambiguous" moral dilemmas were strongly swayed by social consensus.

DISCUSSION

Our results clearly show a strong conformity effect, indicating that moral decision making is strongly influenced by social context, thereby replicating Asch's seminal finding in a new domain. Given that our participants' moral judgments were so strongly influenced by social consensus, the next important questions are whether this behavior (a) is rational and (b) is itself morally acceptable.

Conformity is considered irrational only if one believes that social consensus should be awarded less weight in decision making than one's own information or beliefs. But according to rational-actor models, people are not necessarily behaving irrationally when they conform if they believe that conformity maximizes the expected value of the decision. Consider the Asch situation from a game-theoretic perspective (Krueger & Massey, 2009; Luce & Raiffa, 1957). Participants are assumed to prefer to speak the truth, but the strength of this preference is modulated by what others do. This yields four possible outcomes that can be ordered in terms of payoffs to the participant. If the participant is purely self-regarding, then the payoff matrix yields the following: Everyone tells the truth > Participant tells the truth but others lie (Positive Resistance) > Everyone lies > Participant lies while others tell the truth (Negative Resistance). Under these circumstances, the dominant choice (the best choice regardless of what other parties do) is to tell the truth. If others tell the truth, the payoff is greater for the participant if he or she tells the truth as well. If others lie instead, the payoff is still greater for telling the truth.

But if we assume that people are a mixture of selfish and other-regarding (benevolent) preferences, the payoff matrix can be modeled as the sum of one's own payoffs and others' payoffs weighted by $1/N$, where N is the number of other people in the group (van Lange, 1999). This yields the following: Everyone tells the truth > Participant tells the truth but others lie (Positive Resistance) = Participant lies while others tell the truth (Negative Resistance) = Everyone lies. Now there is no dominant choice. If others tell the truth, the payoff is greater for telling the truth as well. But if others lie, then the payoffs for being truthful and for going along with the lie are the same.

Why would people choose to go along with the lie rather than tell the truth? One explanation is that pronounced social consensus in a

decision-making context signals the creation of a social norm; that is, an explicit or implicit rule concerning what one is permitted, obligated, or forbidden to do in the current context (Cummins, 1998, 2000, 2005). Deviations from expectation in nonsocial contexts (such as "oddball" detection in visual and semantic tasks) typically elicit activation in neural reinforcement learning circuitry. The same network has been shown to be active when there is conflict with a social norm (Klucharev Hytonen, Rijpkema, Smidts, & Fernandez, 2009). When conforming to a norm, brain regions associated with anxiety or disgust (such as the insula) are active, indicating that conforming comes at an emotional cost (Berns, Capra, Moore, & Noussair, 2010). These error-related neural signals alert the reasoner when a decision that deviates from a particular social norm or a broader social norm that one should both trust others and reciprocate trust that has been placed in oneself.

Another reason why people may conform is that consensus that departs from our own beliefs introduces uncertainty, particularly the suspicion that the consensus "reflect[s] information that they have and we do not" (Banerjee, 1992, p. 798). Conformity can then be viewed as a rational decision under conditions of uncertainty. This is particularly relevant when conformity is modeled as informational cascades (Bikhchandani, Hirschleifer, & Welch, 1992). In cascade models the first person is assumed to have private information while each subsequent person is assumed to have private information plus information about others' decisions. If the first two people agree, then the third concludes that they share the same private information. If that information concurs with their own, the cascade continues on to the next person, and so on. If two consecutive people disagree, however, then this signals that they have different private information. Each person can be thought of as equally weighting their own and other people's judgments. Group consensus that departs from one's own judgment therefore holds sway.

These analyses indicate that conformity can indeed be the outcome of a rational process. But they also just as clearly indicate that rationality and morality are separate, incommensurate criteria. One cannot be reduced to or explained in terms of the other.

CONFLICT OF INTEREST STATEMENT

This research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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