Intuitive moral judgments are robust across variation in gender, education, politics, and religion: A large-scale web-based study

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Abstract. Research on moral psychology has frequently appealed to three, apparently consistent patterns: 1) Males are more likely to engage in transgressions involving harm than females; 2) Educated people are likely to be more thorough in their moral deliberations because they have better resources for rationally navigating and evaluating complex information; 3) Political affiliations and religious ideologies are an important source of our moral principles. Here, we provide a test of how four factors—gender, education, politics, and religion—affect intuitive moral judgments in unfamiliar situations. Using a large-scale sample of participants (N = 8778) who voluntarily logged on to the internet-based Moral Sense Test (moral.wjh.harvard.edu), we analyzed responses to 145 unique moral and conventional scenarios that varied widely in content. Although each demographic or cultural factor sometimes yielded a statistically significant difference in the predicted direction (e.g., men giving more utilitarian judgments than women; religious individuals giving more deontological/rule-based judgments than atheists), these differences were consistently associated with extremely small effect sizes. We conclude that gender, education, politics, and religion are likely to be relatively insignificant for moral judgments of unfamiliar scenarios. We discuss these results in light of current debates concerning the mechanisms underlying our moral judgments, and especially, the idea that we share a universal moral sense that constrains the range of cross-cultural variation.

Introduction. A wide variety of cultural and demographic factors appear to influence our morally relevant actions. In virtually every society, men commit more crimes, especially violent crimes, than women do. It has often been suggested that gender-based differences in morally relevant behavior and moral decision-making arise early in development, with boys exhibiting a focus on matters of justice, and girls tending to focus on matters of care (Gilligan, 1982; Gilligan & Attanucci, 1988). Of course, trenchant and compelling criticisms have been raised against this sort of perspective (Kohlberg, 1981, 1984; Walker, 1984); but explorations of juvenile delinquency and aggressive behavior appear to bear out the presumption of gender-based differences in the context of moral

behavior and, especially, the likelihood of moral transgressions involving harm to others (Moffitt, Caspi, Rutter & Silva, 2001).

Both educators and developmental psychologists have carried out interventions where children are taught moral reasoning skills. Such interventions often rely on the presentation of hypothetical moral scenarios, or games in which children engage in prosocial activities, followed by a discussion of the morally relevant aspects of a behavior (Hromek & Roffey, 2009; Schiaefli, Rest, & Thomas, 1985). In these cases, researchers have often claimed that moral development critically depends on the presence of teachers who can guide young minds to think clearly and act rationally. In line with this experimental research, it is commonly suggested that the return to moral life after committing a crime crucially depends on moral education (MacPhail, 1989). Similarly, it is often suggested that educators must intervene during a student's medical career to provide information about the importance of care, compassion, and the consideration of alternatives—otherwise it is assumed that problematic behaviors will be evoked by the pressures to succeed (Branch, 2000). In short, across a wide range of domains, differences in education appear to have a significant impact on morally relevant behavior.

Finally, religious and political backgrounds have frequently been treated as critical factors in motivating morally relevant behavior and providing a structure for morally relevant decisions. It is commonly held that religion is necessary, if not synonymous with morality; on this view, scripture provides the source of moral judgments and the impetus for morally commendable behavior. It is often assumed, from this perspective, that the atheist will be unable to live a moral life because atheists have no religious structures to inform them about which actions call for moral blame (e.g., murder, theft), moral praise (e.g., compassionate altruism), and no specifiable reasons to feel guilt or resentment. In line with this age-old perspective, recent experimental evidence suggests that religious experience directly affects morally relevant behavior, as when participants implicitly primed with "God" are more generous in economic games, and less likely to cheat, than neutrally primed participants (Berring, 2006; Randolph-Seng & Nielsen, 2007). Similarly, several studies reveal that conservatives make different moral judgments than liberals, especially where disgust sensitivity fuels differences in attitudes toward hot-button topics like gay marriage and abortion (Haidt & Graham, 2007; Inbar, Pizzarro, & Bloom, 2009).

We adopt a different approach to examining the relationship between demographic-cultural variation and the structure of our intuitive moral psychology. In these studies, we ask whether participants with different backgrounds tend to offer divergent judgments about hypothetical and unfamiliar moral scenarios. Using data from a large-scale internet study, with approximately 9000 participants and 145 different moral scenarios, we explore the contribution of gender, education, political affiliation and religion to intuitive moral judgments in these sorts of cases.

Methods.

Participants: Participants voluntarily logged on to the Moral Sense Test (MST) website (http://moral.wjh.harvard.edu) between 2005 and 2009 to take part in several different studies. Though the number of subjects logging on during this period was very high, we focused on a set of scenarios (see below) associated with a sample of 8,778 subjects. Each subject provided demographic and cultural information, and then responded to a series of morally significant scenarios. All of these participants spoke English; the mean age was 32 years (SD = 14.91; Range: 10-99 yrs); and there were more male (61%) than female (39%) participants. All procedures adhered to the policies of the Institutional Review Board of Harvard University.

Materials: The scenarios presented to these participants covered a wide range of different contents and they were presented as 15 distinct sets of scenarios; we focused specifically on data sets from studies that were in print, in review or in preparation, and for which at least one of the three authors had participated in directly. Participants provided judgments for only a single set of scenarios, with the exception of the Moral-Conventional and Pareto cases (see below), for which participants judged two distinct sets of scenarios. The number of scenarios presented differed for each set, and each set of scenarios was designed to assess different aspects of our moral cognition. Specifically, these sets of scenarios examined the relative permissibility of harm caused by actions versus omissions, harm intended as the means to a goal versus harm foreseen as the side effect of a goal, harm involving physical contact with the victim or no physical contact, harm caused by various agents (e.g., human, mechanical, natural), and moral as opposed to conventional transgressions. We collected moral judgments over a total of 145 unique scenarios across the 15 sets of scenarios. Ten of the 15 sets of scenarios asked for moral judgments in the form of a 7-point Likert scale, with some scenarios focused on moral permissibility and others on badness. The remaining 5 sets of scenarios asked for a dichotomous "yes" or "no" response to a single question, for example, "Is it morally permissible for Bill to push the one person in the wheelchair on to the tracks." The full text of each set of scenarios is available online at http://www.wjh.harvard.edu/~mnkylab/moralmethods.html as Appendix A.

The 10 sets of scenarios that required a response on a Likert scale were offered on a 7-point scale anchored at "Forbidden" (1), "Permissible" (4), and "Obligatory" (7). These sets of scenarios fell into 3 distinctive categories (the italicized number in parentheses indicates the number of distinct sets of scenarios for each type of task) as presented in Table 1.:

1. *3 Principles,* **3p,** *(1)*- There was one set of 32 scenarios for the "3 Principles" scenario set. The three principles focused on harms that occurred 1) through either a direct action or an omission of an action, 2) as the means to a goal versus harm foreseen as the side effect of a goal, and 3) involving either physical contact with the victim or no physical contact (Cushman, Young, & Hauser, 2006).

2. *BuildUps,* ***BU,*** *(3)*- There were 10 different scenarios for each of three different "BuildUps" scenario sets (Huebner & Hauser, in prep). The three conditions differed in the specific agent of harm described in the scenarios: 1) a runaway boxcar on a railroad track (*BuildUps.Boxcars)*, 2) a river-raft in danger of being drowned (*BuildUps.RiverRafts)*, or 3) a toxic gas (*BuildUps.Gas*). Participants received all 10 scenarios for one scenario set. For each set of scenarios, participants were randomly assigned to one of two conditions that varied the order in which scenarios were presented. Half of the subjects started with a clear case where action was obligatory because it entailed no cost and a great benefit (e.g., redirecting the boxcar away from five people and onto an empty track), and half started with a forbidden case (e.g., redirecting the boxcar away from an empty main track onto a side track with five people); the intervening cases were presumed to be more difficult as they set up contrasts between harming one and helping many.

3. *Moral-Conventional,* **MC,** *(6)*- There were 17 or 18 unique scenarios for each of three different conditions of the "Moral-Conventional" scenario sets (Huebner,

Lee, & Hauser, in review). For each condition, approximately one half of the scenarios described an action that either violated or conformed to conventional, non-moral, social norms having to do with social etiquette, body sanctity, and social contracts (*M-C.Convention.1, M-C.Convention.2, M-C.Convention.3).* The remainder of the scenarios described an action with distinctly moral relevance having to do with physical and sexual assault, inducing illness, recklessness, and property theft or damage (*M-C.Moral.1; M-C.Moral.2, M-C.Moral.3)*. For each condition, judgments of moral versus conventional scenarios were analyzed separately, resulting in six unique sets of scenarios. Each participant provided judgments for scenarios presented in two of the six possible sets of scenarios, one moral and one conventional.

An additional five sets of scenarios asked participants to provide moral judgments about scenarios by responding to a single question that asked if the action or inaction described in the scenario was morally permissible; for each scenario, participants responded either "yes" or "no." We label these the "Pareto" scenarios because the scenarios were designed to test whether, depending on the source of threat, participants considered cases in which harm to one individual was inevitable (Pareto considerations) to be more permissible than those in which it was evitable (Huebner, Pettit, & Hauser, in review). Examples of each type of scenario are presented in Table 1.

4. *Pareto,* **P,** *(5)* - There were five different sets of Pareto scenarios, each of which included six unique scenarios. The five sets of scenarios differed in the specific agent of harm: a) an out of control wrecking ball (*WreckingBall)*, b) a runaway trolley car on a railroad track (*Trolley)*, c) a traveler involved in a foreign execution (*Traveler)*, d) a violent gang in a rough neighborhood (*RoughNeighborhood)*, and e) a burning house (*Fire)*. Each condition was treated as a unique set of scenarios, and each participant responded to scenarios in two of the five scenario sets.

---Table 1---

Testing Procedure: For each set of scenarios, participants read a general description of the test that they were about to take and were then asked to acknowledge that they understood both the test's nature and content. Participants were then asked to respond to a range of demographic and cultural questions, of which eight were selected for analysis: gender, educational level, current religion, background religion (religion during childhood), number of moral philosophy books read, number of moral philosophy courses taken, level of religiosity, and level of political involvement. For religiosity and political involvement, participants were asked to provide a rating on a 7-point Likert scale. For religiosity, a 1 was labeled "very low religiosity" and a 7 was labeled "very high religiosity." For political involvement, a 1 was labeled "very low involvement" and a 7 was labeled "very high involvement." We included a ninth variable of interest for analysis—no religion (atheists and agnostics pooled) versus some other religious affiliation—based on subjects' reported current religion. We collected information for level of political involvement for 11/15 of the total scenario sets. Information for all other demographic and cultural variables was collected for all 15 sets of scenarios. Finally, participants received instructions for the test; they were then asked to complete the test without interruption, to read through each scenario and associated question once, and to then answer the question based solely on the information provided. With the exception of the

Moral-Conventional and Pareto sets, participants responded only to scenarios presented in a single set of scenarios. For each set of scenarios, each individual scenario was presented on a separate page that contained the scenario on top and the associated question and response buttons below.

Statistical Analyses: Moral judgments were analyzed separately for each of the 15 distinct scenario sets because each contained a unique set of scenarios. We used two types of models for the two different types of questions asked: scaled responses and dichotomous yes/no ratings. For the ten sets of scenarios that asked for scaled responses, we performed linear mixed model ANOVAs with repeated measures to test for between-groups differences driven by the examined demographic and cultural variables. For each analysis we performed Bonferonni corrected post-hoc tests to account for multiple comparisons of the different levels of the demographic and cultural variables tested in the ANOVAs; we also calculated post-hoc observed power analyses and effect sizes for each set of scenarios. The observed power analyses calculated the power of the test assuming the effect size observed in the current sample was equal to the population effect size. The five remaining sets of scenarios asked participants to provide judgments of the permissibility of a harm by responding to a single yes or no question. These dichotomous responses were examined using binary logistic regressions to test whether the demographic and cultural variables had an effect on the overall pattern of responses.

For the linear mixed model ANOVAs, the demographic and cultural variables were treated as between-subjects factors, and moral judgments for each scenario were treated as within-subject factors. We used a repeated measures design because for all scenario sets, each participant received all the scenarios, which functioned as multiple correlated treatments for each participant. Table 2 presents the different levels of the demographic and cultural variables that were contrasted in the ANOVAs.

The binary logistic regressions tested whether different levels of the demographic and cultural variables of interest (Table 2) had an effect on the overall pattern of yes or no responses for each scenario. The different levels of the demographic and cultural variables were treated as the predictor variables in the regression model and participants' yes or no responses on the scenarios were the binary dependent variable. One level of each demographic or cultural variable was set as the default level, or reference category, in the regression model. The regressions tested the likelihood of a yes response over a no response for each scenario given the impact of each predictor variable relative to its default level. Level of political involvement was included in the regression as a predictor variable for all scenarios except those presented in the Traveler and Trolley sets, for which no information on this variable was collected.

---Table 2---

Results.

1. Scenarios with scaled responses.

Main effects: Linear mixed-model ANOVAs revealed no consistent, large effects of the demographic and cultural variables on the pattern of moral judgments. Table 3 provides a summary of these results, displaying only those variables that yielded a statistically significant between-groups difference following Bonferonni corrected post-hoc tests. A complete table of ANOVA results for each set of scenarios, including those that yielded

no significant effects, is accessible online at http://www.wjh.harvard.edu/~mnkylab/moralmethods.html as Appendix B. Across the ten sets of scenarios, gender, religiosity, no religion versus some religious affiliation, and level of political involvement were more likely to yield significant differences in the overall pattern of moral judgments, with each of these variables yielding significant effects in at least seven of the total ten scenario sets (with level of political involvement significant for five of the eight scenario sets for which this information was collected). The statistically significant differences for all sets of scenarios besides the Moral-Conventional cases were in the direction of males, non-religious persons, and those who were not politically engaged endorsing the utilitarian outcome of harming one individual to save the lives of many others. While there were some statistically significant effects for the remaining demographic and cultural variables, they were infrequent and sporadic, and were significant for no more than three of the ten sets of scenarios.

---Table 3---

Importantly, even in those cases where a demographic or cultural variable yielded a statistically significant difference in the pattern of responses, the effect sizes were extremely low, with no variable accounting for more than 8.6% of total variance in moral judgments on any set of scenarios. Most of these variables accounted for less than 5% of the total variance in participants' responses. That is to say, the vast majority of the variance in moral judgments was accounted for by factors other than the demographic and cultural variables tested here (Figure 1). Figures 2A and 2B present the effect sizes for each variable, with each data point corresponding to that variable's effect size for a single scenario set. Asterisks denote statistically significant effects. Table 4 presents a summary of statistically significant effects and effect sizes.

---Figure 1---

---Table 4---

Post-hoc Contrasts: Post-hoc contrasts were performed to analyze the effects of those demographic and cultural variables that yielded statistically significant between-group differences. Results of the post-hoc contrasts are presented in Table 5. The table excludes variables that yielded non-significant differences following the contrasts. For each contrast, the demographic or cultural group with the higher mean rating on the 1-7 response scale (forbidden to obligatory) is indicated by a "greater than" symbol (>). Males consistently had a higher mean rating than females, indicating that they were more likely to judge the protagonist's action or inaction described in the scenarios as more permissible, thereby being more likely to endorse the utilitarian outcome. Similarly, participants reporting low religiosity (a rating of 1 or 2 on the 1-7 scale) consistently had a higher mean rating than subjects reporting high religiosity (a rating of 6 or 7). Participants who were less religious were also more likely to judge the action or inaction described in the scenarios as more permissible. This same pattern of moral judgments was true of participants reporting low levels of political involvement (a rating of 1 or 2 on the 1-7 scale), who consistently had a higher mean rating on the 1-7 response scale than participants reporting high levels of political involvement (a rating of 6 or 7). Finally, participants with no religious affiliation consistently had a higher mean rating on the 1-7 response scale than participants reporting a religious affiliation, and were also more likely to judge the action or inaction described in the scenarios as obligatory. These effects

were consistent across each of the sets of scenarios for which gender, religiosity, level of political involvement, and no religion versus religious affiliation were statistically significant factors. The results of remaining contrasts were not consistent across multiple scenario sets, and none were significant for more than three of the total ten scenario sets. Once again, however, all of the effect sizes were extremely small even in cases of statistical significance.

---Figures 2A and 2B---

---Table 5---

2. Dichotomous responses

Table 6 presents a summary of results of a series of binary logistic regressions, displaying only those predictor variables that had a statistically significant effect on the likelihood of a yes response. These binary logistic regressions revealed no consistent effects of the predictor variables on the likelihood of a yes response across the 30 different scenarios presented in five scenario sets. Several predictor variables yielded statistically significant effects, but all did so sporadically and none were significant for more than 6 of the 30 total scenarios. It is likely that many of these effects are either spurious or the result of very few individuals representing certain levels of the demographic and cultural variables. For example, the number of Muslims, Buddhists, and Hindus was extremely low compared to the number of Christians and those reporting no religious affiliation. Small sample sizes for several of the predictor variables may also have contributed to extremely high odds ratios for some of the significant effects.

The predictor variable that yielded the highest number of significant effects (6) across multiple scenarios was having a high school education or less. However, the effect of this variable across the six scenarios was inconsistent—sometimes this variable increased the likelihood of a yes response relative to the default level of the variable (having a Master's or Graduate degree), but other times this variable increased the likelihood of a no response relative to the default level; this variation did not correspond to theoretically significant differences among the scenarios. The effects of the other statistically significant predictor variables were similarly inconsistent across multiple scenarios.

---Table 6---

Discussion. As noted above, it has commonly been assumed in moral psychology that moral judgments are likely to depend upon culturally specific considerations and are likely to be sensitive to the effects of gender, education, religion, and politics. It would, of course, be unreasonable to deny that these variables play an important role in many aspects of morally meaningful lives. However, the results that we present in this paper suggest that many of our moral judgments arise from factors that operate rather independently of these variables. To put the point differently, our results suggest that human minds rely on a default set of moral principles that are robustly present across a wide array of demographic and cultural differences; and this holds true for a number of types of moral scenarios, including violations of conventions, moral transgressions, and moral dilemmas. Before discussing the implications of these results, however, we pause to briefly summarize our central findings.

As noted above, most of the background variables that we analyzed yielded

statistically significant but inconsistent effects, and all were associated with extremely small effect sizes. Four of the targeted variables (*religious background*; *education*; *moral philosophy courses taken*; and *moral philosophy books read*) yielded significant effects in only 1 of the 10 sets of scenarios where participants offered a scaled response. The striking thing to notice, here, is that having read books, or having taken courses in moral philosophy failed to elicit any reliable effect on moral judgments. This is all the more surprising given that the sorts of cases that we examined are precisely the sorts of cases that have become standard fare in philosophy courses (although the particular cases that we used were new and unfamiliar). The fact that *education* more broadly failed to have any significant effect on moral judgments suggests that this is not merely an artifact of our having solicited responses from a more educated population. Moreover, although having a high school education or less was the most likely demographic variable to yield an effect in cases where we elicited binary judgments, here too, the effect was inconsistent—arising in only six of the thirty different scenarios examined—and on the basis of our analyses, we see no obvious theoretical reason why a difference should have arisen only in these particular cases.

What, then, of the broader effects of religious background? Here, we find an effect that is more systematic and more theoretically interesting. *Current religion* elicited significant differences in responses for two of the three sets of conventional transgressions; and both *religiosity* and *religious affiliation* had a significant effect on judgments for all three sets of conventional violations. But the presence of this particular effect is precisely what is to be expected on the basis of the long tradition in moral psychology that has examined the moral and conventional realms as distinct domains (Smetana, 2005; Turiel, 1983, 1998, 2005). Indeed, conventional violations have notoriously been more susceptible to demographic variation—and we would have expected *a priori* that people who were more religious would be more likely to moralize conventional transgressions. Reported levels of political engagement also yielded a significant effect for each set of conventional cases, but similar considerations apply m*utatis mutandis*. Somewhat more surprisingly, religious affiliation yielded a significant effect for each of the 3 sets of moral cases (in **MC**), and levels of political engagement had a significant effect for 2 of the 3 sets of moral cases (in **MC**). Here, however, it is important to note that the size of this particular effect was extremely small; each of these variables accounted for less than 3% of the total variance for each of the relevant sets of scenarios.

Finally, it is important to note that reported gender had a significant effect in nine out of the ten sets of moral scenarios for which participants offered a scaled response. Yet, although this effect was reliably present, the size of the effect was, for each set of scenarios, extremely small; in six sets of scenarios, reported gender accounted for 2% or less of the total variance, with the effect in the remaining three sets of scenarios explaining between 2.7% and 5.2% of the total variance. The effects of reported gender on judgments where participants were asked to provide a binary response were far more sporadic, yielding a statistically significant effect in only four out of the thirty different scenarios that we examined. Moreover, these effects were spread across three distinct types of scenarios, with no obvious theoretically interesting reasons why these scenarios would elicit these particular differences. Together, these data suggest that even though there might be some slight differences in the patterns of moral judgment about unfamiliar scenarios that are offered by self-identified men and women (Fumagalli et al., 2009), this effect is likely to be incredibly small and quite trivial in comparison to the overwhelming similarities in patterns of judgments that are likely to be elicited by these unfamiliar moral scenarios.

Indeed, on the basis of this large and diverse sample, and noting the wide range of scenarios that we examined (ranging in content from violations of non-moral conventions, to moral transgressions, to moral dilemmas), we suggest that the effects of education, religion, gender, and political engagement are likely to be small, sporadic, and typically less interesting than the cross-demographic similarities that are elicited by unfamiliar moral dilemmas. To bring out the striking nature of this finding, consider the fact that reading long moral scenarios can take up to ten seconds, and our participants were given an unlimited amount of time to respond to the scenarios. Consequently, if differences in reasoning styles evoked by differences in education, religion, or gender were present, they should have elicited robust differences in moral judgments. This should have held true especially in those cases where the scenarios that we examined targeted principles that have been explicitly shown to be available to conscious reflection (Cushman et al., 2006). Thus, given that demographic and cultural variables are so often supposed to play an important role in our moral psychology (including their undeniable effects on morally salient behavior), we must ask: Why, given the large sample sizes and high power to detect an effect, didn't we find a reliable pattern of meaningful differences in moral judgments as a result of these background variables?

It is possible that the sample that we examined is so homogeneous that it has eliminated the possibility of meaningful variation in moral judgments. Our participants were drawn from a largely *Western* sample, they were fairly well *Educated* (even where they had not yet finished high-school), they were largely from *Industrial* countries, they were relatively *Rich* from a global perspective, and they were likely to have largely *Democratic* values—in short, our participants were just WEIRD relative to much of the world (Jones, 2009). This is likely to be true, and this fact may turn out to be significant in coming to a broader understanding of the role of demographic and cultural variables in structuring the cognitive strategies that are deployed in making moral judgments. However, even if the failure to evoke a consistent pattern of results in light of demographic and cultural factors turns on this feature of our sample, the lack of a result is still striking in light of the claims discussed in our introduction. Claims about the gendered dimensions of moral motivation (Gilligan, 1982; Gilligan & Attanucci, 1988), the role of education in moral development (MacPhail, 1989), the role of religious experience affecting morally relevant behavior (Berring, 2006; Randolph-Seng & Nielsen, 2007) are all grounded on the the results of experiments that have largely targeted the same WEIRD population that we have examined. This suggests that there is something else going on that allows for the presence of robust differences in morally important behavior despite enormous similarities in strategies of moral decision-making. We contend that for hypothetical and unfamiliar cases, demographic and cultural variation is likely to be largely irrelevant; in such cases, a distinctively moral faculty is brought on-line to evaluate the situation and yield judgments that are relatively immune to contingent facts about an individual's history.

One way to think about the results presented here comes from an analogy to linguistics, and in particular, the idea that the principles underlying our moral judgments are, to some extent, independent of our cultural backgrounds, and importantly, separate from the factors that guide our moral *behavior* (Dwyer, Huebner, & Hauser, in press; Hauser, 2006; Mikhail, 2007; Mikhail, in press; Rawls, 1971). This approach to our moral psychology suggests that there is a distinctively moral faculty that operates independently of the deliberative and emotional mechanisms that play a central role in much of our more reflective and evaluative lives. According to this view, deliberative and emotional mechanisms are often recruited antecedently to the production of an intuitive moral judgment in a way that translates the relevant moral judgments into the sorts of morally

relevant actions that have been evaluated across the more familiar studies on moral behavior (Dwyer et al., in press; Huebner, Dwyer, & Hauser, 2008). However, according to this model, moral judgments about unfamiliar cases are generated by a computational system that operates rapidly and automatically on the basis of the causal and intentional representations that can be recovered, often unconsciously, from the structure of the moral dilemma at hand.

One piece of supportive evidence for this position is suggested by Cima and colleagues (2010), who have shown that although psychopathic behavior is clearly morally inappropriate, incarcerated psychopaths retain the sort of intuitive moral knowledge that is necessary for making normal moral judgments about unfamiliar cases (specifically, moral dilemmas). To take just one particularly salient result in this regard, Cima et al. (2010) found that healthy subjects, non-psychopath delinquents, and psychopaths alike judged that impersonal interventions in a moral dilemma were more permissible than were personal interventions (Greene et al., 2004; Green et al., 2001). Important to notice here is that people who had engaged in violent *behavior* still tended to make the judgment that such behavior was impermissible. This moral knowledge was preserved even though emotion and behavior had been compromised. This claim garners further support from a recent study of psychopaths in which psychopathic individuals who evaluated the same set of dilemmas that were presented by Cima et al. showed reduced activation in the amygdala relative to controls, but displayed no difference in their patterns of judgments (Glenn et al., 2009). On the basis of these data, it seems reasonable to suppose that it is the intuitive representations of the structure of a morally significant action that are responsible for a pattern of moral judgments, rather than the sort of locally important factors that modulate morally relevant behavior (Dwyer et al., in press; Hauser, 2006; Mikhail, 2007; Huebner et al., 2008).

The argument thus far should not, of course, be taken as evidence against the role of reflection and reasoning in our moral psychology. Indeed, according to the linguistic analogy, it is possible that alternative patterns of moral judgment might sometimes be integrated into our cognitive repertoire. However, even where this happens, the change is likely to be highly local and highly context specific. Evidence in favor of this suggestion comes from recent work by Huebner & Hauser (in press), who found that people who reported having a religious background were more likely to judge that they should sacrifice their own lives in order to save the lives of a greater number of unnamed and anonymous others. This effect, however, is precisely what someone should predict in considering the praise of martyrdom that is explicit across a wide variety of religious ideologies. In this case, Huebner & Hauser argued that while there are likely to be strong biological pressures that militate against such acts of radical altruism, religious pressures may lead people to offer this judgment, thinking it is the morally appropriate answer. Thus, it seems that although there may be a strong set of underlying principles, these can sometimes be overridden by local and specific alternative strategies for making moral judgments about particular sorts of cases.

To take another example, consider the fact that subjects often recover and endorse the claim that harms caused by *action* are morally worse than harms caused by *omissions* (Cushman et al., 2006; Hauser, Tonnaer, & Cima, 2009). This pattern is typically called the *omission bias* in the decision-making literature (Baron, 2009; Baron & Ritov, 2004). In a recent study, Hauser and colleagues (2009) took advantage of the fact that the Dutch government has eliminated the legal distinction between active and passive euthanasia to examine the extent to which this policy affected intuitive moral judgments concerning unfamiliar cases of the act-omission distinction. Although the vast majority of native Dutch subjects were aware of this policy, and although these

participants, by and large, claimed that they supported the policy, even those participants who were reminded of the policy immediately prior to responding to unfamiliar moral dilemmas showed a strong tendency to exhibit an omission bias. More strikingly, there were no significant differences between Dutch participants and North American participants in this regard (*modulo* one dilemma in which the North Americans judged the action more harshly than the Dutch). This being the case, Hauser et al. suggested that "knowing that active and passive euthanasia are legally permissible, and supporting this law, fails to impact on the intuitive system that underwrites our capacity to judge unfamiliar cases." On this basis, they suggest that once this intuitive principle has been encoded in our moral psychology, it remains largely impenetrable to local and specific modifications of patterns of moral judgments on the basis of particular political institutions. However, this being the case, there is at least one case in which a non-WEIRD population does not seem to show an *omission bias*. Abarbanell and Hauser (2010) found that a Mayan population tended to judge harms that occurred as a result of an omission as equally impermissible compared to harms that occurred as a result of an action. The suggestion here is that when a society is sufficiently small, such that individuals in the community know each other well, they can hold others responsible for both actions and omissions, something that is not possible in large-scale societies.

What then might this pattern of differences and similarities tell us about the structure of moral cognition? We contend that the psychologically relevant questions that must be asked concern the extent to which particular sorts of cultural variables impact the development of our native moral psychology. We hold that there are two ways in which this can occur. First, it is possible that local and idiosyncratic patterns of judgment might emerge in some contexts as a result of a cultural pressure on a particular sort of morally and culturally relevant scenario. In these cases, we would expect to find specific and theoretically predictable patterns of judgments for those particular cases (e.g., Huebner & Hauser, in press; Hauser et al., 2009) with no significant effect on unfamiliar moral scenarios. Alternatively, there may be some cases in which the relevant cultural difference does evoke a modification to a central moral principle (as suggested by Abarbanell & Hauser's (2010) research on a rural Mayan population); but even here, we predict that the relevant variation will leave the vast majority of moral judgments untouched. Specifically, in these cases, the variation should only have a significant impact on moral judgments that rely on the use of that particular principle.

With these considerations in mind, we conclude by suggesting that those who hope to find significant patterns of demographic or cultural variation in moral judgments would do well to 1) consider what sorts of variation they are expecting to find, and 2) to make it explicit why the relevant sort of variation is likely to be present for different moral scenarios and different forms of response (e.g., judgment versus actual behavior). Specifically, we suggest that variation can occur either at the level of differences in behavior, differences in judgment, or at both levels. Where differences in judgment are predicted, however, we suggest that they may occur only locally (affecting only *a narrow range of cases*) or more pervasively (affecting any case where a *particular moral principle* is invoked). However, our data suggest that researchers in moral psychology are unlikely to find unrestricted variation of the sort that seems to have often been supposed. Indeed, as a result of a significant number of recent studies on the nature of moral judgment (e.g., (Mikhail, 2007; Huebner & Hauser, in press; Baron, 2009; Baron & Ritov, 2004; Cushman, 2008; Cushman, Knobe, & Sinnott-Armstrong, 2008; Greene et al., in press; Greene et al., 2004; Greene et al., 2001; Hauser et al., 2007; Petrinovich, O'Neill, & Jorgensen, 1993; Royzman & Baron, 2002; Waldmann & Dieterich, 2007; Young et al., 2007)), it is becoming more and more clear that our intuitive moral psychology is

bounded by an implicit set of computational rules that robustly govern intuitive judgments about unfamiliar cases.

References

Abarbanell, L. & Hauser, M. (2010). Mayan morality: An exploration of permissible harms. *Cognition,* doi:10.1016/j.cognition.2009.12.tics.2008.09.006.

Baron, J., & Ritov, I. (2004). Omission bias, individual differences, and normality. *Organizational Behavior and Human Decision Processes, 94*, 74-85.

Baron, J. (2009). Looking at individual subjects in research on judgment and decision making (or anything). Online Manuscript. Retrieved from http://www.sas.upenn.edu/~baron/.

Berring, J. M. (2006). The folk psychology of souls. *Behavioral and Brain Sciences, 29,* 453-498.

Branch, W. T. (2000). Supporting the moral development of medical students. *Journal of General Internal Medicine, 15(7),* 503-508.

Cima, M., Tonnaer, F., & Hauser, M. D. (2010). Psychopaths know what is right and wrong but don't care. *Social Cognitive Affective Neuroscience*, doi:10.1093/scan/nsp051.

Cushman, F., Knobe, J., & Sinnott-Armstrong, W. (2008). Moral appraisals affect doing/allowing judgments. *Cognition, 308*, 281-289.

Cushman, F., Young, L., & Hauser, M. D. (2006). The role of conscious reasoning and intuition in moral judgments: testing three principles of harm. *Psychological Science, 17*, 1082-1089.

Cushman, F. (2008). Crime and punishment: distinguishing the roles of causal and intentional analyses in moral judgment. *Cognition, 108*, 353-380.

Dwyer, S., Huebner, B., & Hauser, M. D. (in press). The linguistic analogy: Motivations, results, and speculations. *Topics in Cognitive Science*.

Fumagalli, M., Ferrucci, R., Mameli, F., Marceglia, S., Mrakic-Sposta, S., Zago, S., Lucchiari, C., Consonni, D., Nordio, F., PRavettoni, G., Cappa, S. & Priori, A. (2009). Gender-related differences in moral judgments. *Cognitive Processes*, doi:10.1007/s10339-009-0335-2.

Gilligan, C. & Attanucci, J. (1988). Two moral orientations: gender differences and similarities. *Merrill-Palmer Quarterly, 34*, 223-237.

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development*. Cambridge: Harvard University Press.

Glenn, A. L., Raine, A., Schrug, R. A., Young, L., & Hauser, M. D. (2009). Increased DLPFC activity during moral decision-making in psychopathy. *Molecular Psychiatry, 14,* 909-911.

Greene, J. D., Cushman, F., Lowenberg, K., Nystrom, L. E., & Cohen, J. D. (in press). What pushes your moral buttons? Modular myopia and the trolley problem. *Cognition*.

Greene, J. D., Nystrom, L. E., Engell, A. D., Darley, J. M., & Cohen, J. D. (2004). The neural bases of cognitive conflict and control in moral judgment. *Neuron, 44*, 389-400.

Greene, J. D., Sommerville, R. B., Nystrom, L. E., Darley, J. M., & Cohen, J. D. (2001). An fMRI investigation of emotional engagement in moral judgment. *Science, 293*, 2105-2108.

Haidt, J., & Graham, J. (2007). When morality opposes justice: conservatives have moral intuitions that liberals may not recognize. *Social Justice Research, 20*, 98-116.

Hauser, M. D. (2006). *Moral minds: How nature designed our sense of right and wrong*. New York: Ecco/Harper Collins.
Hauser, M. D., Cushman, F., Young, L., Jin, R. K.-X., & Mikhail, J. (2007). A dissociation between moral judgments and justifications. *Mind and Language, 22*, 1-21.
Hauser, M. D., Tonnaer, F., & Cima, M. (2009). When moral intuitions are immune to the law: a case study of euthanasia and the act-omission distinction in the Netherlands. *Journal of Cognition and Culture*, *9*, 149-169.
Hromek, R., & Roffey, S. (2009). Promoting social and emotional learning with games. *Simulation and Gaming, 40(5),* 626-644.
Huebner, B., & Hauser, M. D. (in prep). When moral judgments are immune to the effects of context. Manuscript.
Huebner, B., & Hauser, M. D. (in press). Moral judgments about altruistic self-sacrifice: when philosophical and folk intuitions clash. *Philosophical Psychology*.
Huebner, B., Dwyer, S., & Hauser, M. D. (2008). The role of emotion in moral psychology. *Trends in Cognitive Science,* doi:10.1016/j.tics.2008.09.006.
Huebner, B., Lee, J. J., & Hauser, M. D. (in review). The moral-conventional distinction in mature moral competence. *Journal of Cognition and Culture*.
Huebner, B., Pettit, P., & Hauser, M. D. (in review). How the source, inevitability, and means of bringing about harm interact in folk-moral judgments. *Mind and Language*.
Inbar, Y., Pizzarro, D. A., & Bloom, P. (2009). Conservatives are more easily disgusted than liberals. *Cognition and Emotion, 23*, 714-725.
Jones, D. (2009). Darwin 200: Human nature: the remix. *Nature, 457*, 780-783.
Kohlberg, L. (1981). *Essays on moral development, Volume 1: The philosophy of moral development.* New York: Harper Row.
Kohlberg, L. (1984). *Essays on moral development, Volume 2: The psychology of moral development.* San Francisco: Harper & Row.
MacPhail, D.D., (1989). The moral education approach in treating adult inmates. *Criminal Justice and Behavior, 16(1)*, 81-97.
Mikhail, J.M. (2007). Universal moral grammar: theory, evidence, and the future. *Trends in Cognitive Science, 11*, 143-152.
Mikhail, J. M. (in press). *Rawls' linguistic analogy*. New York: Cambridge University Press.
Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex differences in antisocial behavior*. Cambridge: Cambridge University Press.
Petrinovich, L., O'Neill, P., & Jorgensen, M. J. (1993). An empirical study of moral intuitions: towards an evolutionary ethics. *Ethology and Sociobiology, 64,* 467-478.
Randolph-Seng, B., & Nielsen, M. E. (2007). Honesty: one effect of primed religious representations. *The International Journal for the Psychology of Religion, 17(4)*, 303-315.
Rawls, J. (1971). *A theory of justice*. Cambridge: Harvard University Press.
Royzman, E. B., & Baron, J. (2002). The preference for indirect harm. *Social Justice Research, 15*, 165-184.
Schiaefli, A., Rest, R., & Thomas, S. J. (1985). Does moral education improve moral judgment? A meta-analysis of intervention studies using the defining issues test. *Review of Educational Research, 55(3),* 319-352.
Smetana, J. (2005). Social-cognitive domain theory: Consistencies and variations in children's moral and social judgments. In M. Killen & J.G. Smetana (Eds.), *Handbook of moral development*. Mahwah: Lawrence Erlbaum Publishers.
Turiel, E. (1983). *The development of social knowledge: Morality and convention*. Cambridge: Cambridge University Press.

Turiel, E. (1998). The development of morality. In W. Damon (Ed.), *Handbook of child psychology* (pp. 863-932). New York: Wiley Press.

Turiel, E. (2005). Thought, emotions, and social interactional processes in moral development. In M. Killen & J.G. Smetana (Eds.), *Handbook of moral development*. Mahwah: Lawrence Erlbaum Publishers.

Waldmann, M. R., & Dieterich, J. H. (2007). Throwing a bomb on a person versus throwing a person on a bomb: intervention myopia in moral intuitions. *Psychological Science, 18*, 247-253.

Walker, L. J. (1984). Sex differences in the development of moral reasoning: a critical review. *Child Development, 55*, 677-691.

Young, L., Cushman, F., Hauser, M. D., & Saxe, R. (2007). The neural basis of the interaction between theory of mind and moral judgment. *Proceedings of the National Academy of Sciences, 104*, 8235-8240.

Table 1. Example Scenarios.

Type	Distinction	Example
(3p)	Action vs. Omission	Adam is driving his motorboat when he notices five swimmers drowning in the distance. If Adam does not drive toward them at top speed he will not arrive in time, and all five will die. In order to drive at top speed, Adam must accelerate quickly. If Adam accelerates quickly, he will save the five drowning swimmers. If Adam does not accelerate quickly, the five swimmers will drown. Adam decides to accelerate quickly. Accelerating quickly is:
(3p)	Means vs. Side Effect	Standing by the railroad tracks, Dennis sees an empty, out-of-control boxcar about to hit five people. Next to Dennis is a lever that can be pulled, sending the boxcar down a side track and away from the five people. But pulling the lever will also lower the railing on a footbridge spanning the side track, causing one person to fall off the footbridge and onto the side track, where he will be hit by the boxcar. If Dennis pulls the lever the boxcar will switch tracks and not hit the five people, and the one person will fall and be hit by the boxcar. If Dennis does not pull the lever the boxcar will continue down the tracks and hit five people, and the one person will remain safe above the side track. Dennis decides to pull the lever. Pulling the lever is:
(3p)	Physical Contact vs. No Contact	Peter is a fireman trying to help five children out of a burning house. There is only one window from which the children can be safely evacuated, and it is jammed shut. Peter must immediately use an object to smash open this large, heavy window or else all five children will die. The only sufficiently large object is a man on his way towards safely escaping the burning house. Crashing through the window is certain to kill the man. If Peter pushes the man into the window and breaks it open, the man will fall out and die, but the five children will be safely evacuated. If Peter does not push the man into the window the man will safely escape, but the five children will die. Peter decides to push the man. Pushing the man is:
(BU)	No cost, great benefit (obligatory)	Jacob is at the hospital when he learns that a toxic gas has been released into the main ventilation system; anyone who comes in contact with this gas will die. There are five people in the main ward of the hospital where the toxic gas will be released. However, there is a button that will divert the airflow into an unoccupied ward nearby. If Jacob does nothing, the five people in the main ward will die. However, if Jacob pushes the button and diverts the airflow, no one will be harmed. Pushing the button to divert the airflow is:
(BU)	High cost, no benefit (forbidden)	Andrew is at the hospital when he learns that a toxic gas has been released into the main ventilation system; anyone who comes in contact with this gas will die. There is one person in the main ward of the hospital where the toxic gas will be released. However, there is a button that will divert the airflow into a nearby ward where there are five people. If Jacob does nothing, the one person in the main ward will die. However, if Andrew pushes the button and diverts the airflow, the five people in the ward nearby will die. Pushing the button to divert the airflow is:
(BU)	High cost, high benefit	Mandy is standing next to the railroad tracks when she notices an empty trolley coming down the tracks, moving fast enough to kill anyone it hits. If Mandy does nothing, the trolley will continue along the main track and hit the five people who are walking further along the track. However, Mandy has a stick of dynamite in her backpack. If Mandy throws the dynamite onto the track, it will destroy the tracks and stop the trolley. However, the shards of metal from the explosion will kill one person standing on the other side of the track. Throwing the dynamite onto the tracks is:
(MC)	Moral	One night Joshua goes to a fancy restaurant and orders a T-bone steak. When it arrives he throws it as hard as he can into the face of a man sitting nearby.
(MC)	Conventional	Mathew is eating dinner at a fancy restaurant. Every couple of minutes, he burps as loudly as he can, making sure that everyone else in the restaurant can hear him.
(P)	Inevitable harm	Carl is on vacation and traveling in a remote part of South America when he approaches a tribal group that is in the process of preparing for an execution of six tribal members, lined up in a row. One person on the far side of the lineup is about to be shot when the executioner sees Carl and makes him the following offer based on his status as an honored foreigner. If Carl pushes the one person who is about to be executed to the ground, that person will be shot and killed but the other five will go free; if Carl does not push the one person to the ground, all six will be executed as planned. Is it morally permissible for Carl to push the one person to the ground?
(P)	Evitable harm	Jim is walking through a neighborhood in New York City when he comes across a gang that is about to shoot five people. The gang leader sees Jim and makes him the following offer. If Jim pushes a person who is watching the shooting to the ground, this person will be shot and killed but the five others will go free. If Jim doesn't push the person to the ground, the person who is watching will go free and the five will be shot as planned. Is it morally permissible for Jim to push the one person to the ground?

Table 2. Levels of the Demographic and Cultural Variables

Demographic and Cultural Variables	Levels
Gender	Male Female
Education	High school graduate or less Some college or a Bachelor's degree A Master's or Graduate degree
Current and Background Religion	Christian Jewish Muslim Buddhist Hindu Other religion No religion
Moral Philosophy Books Read	0 1 to 3 4 to 6 7 to 10 More than 10
Moral Philosophy Courses Taken	Yes No
Religiosity	Low (1 or 2 on 1-7 scale) High (6 or 7 on 1-7 scale)
Political Level	Low (1 or 2 on 1-7 scale) High (6 or 7 on 1-7 scale)
Religious Affiliation	No Religion Religious Affiliation

Table 3. Summary of Linear Mixed Model ANOVA Results.

Scenario Set	*N*	*F*	*p*	eta^2	Power
3 Principles					
Gender	331	18.097	<0.001	0.052	0.989
Religiosity	234	7.611	0.006	0.032	0.784
BuildUps.RiverRafts					
Gender	1234	4.401	0.036	0.004	0.554
Education	1234	6.913	0.001	0.011	0.924
BuildUps.Gas					
Gender	1363	15.204	0.001	0.011	0.974
Religiosity	841	9.281	0.002	0.011	0.861
BuildUps.Boxcars					
Gender	546	10.158	0.002	0.018	0.889
Religiosity	364	5.060	0.025	0.014	0.612
No Religion vs. Religious Affiliation	546	6.454	0.011	0.012	0.718
M-C.Moral.1					
Gender	709	25.235	<0.001	0.034	0.999
Current Religion	709	4.034	0.001	0.033	0.975
Religiosity	449	6.453	0.011	0.014	0.717
Political Level	327	8.796	0.003	0.026	0.841
No Religion vs. Religious Affiliation	709	11.146	0.001	0.016	0.915
M-C.Convention.1					
Gender	709	19.324	<0.001	0.027	0.992
Religiosity	449	22.57	<0.001	0.048	0.997
Political Level	327	21.377	<0.001	0.062	0.996
No Religion vs. Religious Affiliation	709	21.5	<0.001	0.030	0.996
M-C.Moral.2					
Gender	769	15.414	<0.001	0.020	0.975
Moral Philosophy Courses Taken	769	3.872	0.049	0.005	0.502
Political Level	392	6.325	0.012	0.016	0.708
No Religion vs. Religious Affiliation	769	8.021	0.005	0.010	0.807
M-C.Convention.2					
Gender	769	8.281	0.004	0.011	0.820
Current Religion	769	6.993	<0.001	0.052	1.000
Religiosity	511	35.766	<0.001	0.066	1.000
Moral Books Read	769	4.378	0.002	0.022	0.935
Political Level	392	36.627	<0.001	0.086	1.000
No Religion vs. Religious Affiliation	769	31.495	<0.001	0.039	1.000
M-C.Moral.3					
Gender	845	4.071	0.044	0.005	0.522
No Religion vs. Religious Affiliation	845	4.039	0.045	0.005	0.519
M-C.Convention.3					
Current Religion	845	5.485	<0.001	0.038	0.997
Background Religion	845	3.664	0.001	0.026	0.959
Religiosity	550	6.509	0.011	0.012	0.721
Political Level	432	4.347	0.038	0.010	0.548
No Religion vs. Religious Affiliation	845	11.881	0.001	0.014	0.931

Table 4. Summary of Significant Demographic and Cultural Variables and Effect Sizes.

Demographic and Cultural Variables	# Significant Scenario Sets	Effect Size Range (p<.05)
Gender	9/10	0.004-0.052
Education	1/10	0.011
Current Religion	3/10	0.033-0.052
Background Religion	1/10	0.026
Religiosity	7/10	0.011-0.066
Moral Philosophy Courses Taken	1/10	0.005
Moral Philosophy Books Read	1/10	0.022
Political Level	5/8	0.010-0.086
No Religion vs. Religious Affiliation	7/10	0.005-0.039

Table 5. Results of Post-hoc Contrasts.

Scenario Set	*N*	*F/t*	*p*	α
3 Principles				
Gender				
Males > Females	331	*F*=18.097	<0.001	0.05
Religiosity				
Low> High	234	*F*=7.611	0.006	0.05
BuildUps.RiverRafts				
Gender				
Males>Females	1234	*F*=4.401	0.036	0.05
Education				
HS > College	1234	*t*=2.84	0.017	0.017
HS> Graduate Degree	1234	*t*=3.54	0.001	0.017
BuildUps.Gas				
Gender	1363			
Males>Female	1363	*F*=15.204	0.001	0.05
Religiosity				
Low>High	841	*F*=9.281	0.002	0.05
BuildUps.Boxcars				
Gender				
Males>Female	546	*F*=10.158	0.002	0.05
Religiosity				
Low>High	364	*F*=5.060	0.025	0.05
No Religion vs. Religious Affiliation				
No Religion>Religious Affiliation	546	*F*=6.454	0.011	0.05
M-C.Moral.1				
Gender				
Males>Females	709	*F*=25.235	<0.001	0.05
Current Religion				
No Religion>Christians	709	*t*=4.5	<0.001	0.0024
Religiosity				
Low>High	449	*F*=6.534	0.011	0.05
Political Level				
Low>High	327	*F*=8.796	0.003	0.05
No Religion vs. Religious Affiliation				
No Religion>Religious Affiliation	709	*F*=11.146	0.001	0.05
M-C.Convention.1				
Gender				
Males>Females	709	*F*=19.324	<0.001	0.05
Religiosity				
Low>High	449	*F*=22.57	<0.001	0.05
Political Level				
Low>High	327	*F*=21.377	<0.001	0.05
No Religion vs. Religious Affiliation				
No Religion>Religious Affiliation	709	*F*=21.5	<0.001	0.05
M-C.Moral.2				
Gender				
Males>Females	769	*F*=15.414	<0.001	0.05
Moral Philosophy Courses Taken				
Some courses>No courses	769	*F*=3.872	0.049	0.05
Political Level				
Low>High	392	*F*=6.325	0.012	0.05
No Religion vs. Religious Affiliation				
No Religion>Religious Affiliation	769	*F*=8.021	0.005	0.05
M-C.Convention.2				
Gender				
Males>Females	769	*F*=8.281	0.004	0.05
Current Religion				
No religion>Christian	769	*t*=6.19	<0.001	0.0024
Religiosity				
Low>High	511	*F*=35.766	<0.001	0.05
Moral Books Read				
No books>More than 10 books	769	*t*=3.60	0.003	0.005
Political Level				
Low>High	392	*F*=36.627	<0.001	0.05
No Religion vs. Religious Affiliation				

No Religion>Religious Affiliation	769	*F*=31.495	<0.001	0.05
M-C.Moral.3				
Gender				
Males>Females	845	*F*=4.071	0.044	0.05
No Religion vs. Religious Affiliation				
No Religion>Religious Affiliation	845	*F*=4.039	0.045	0.05
M-C.Convention.3				
Current Religion				
No religion>Christian	845	*t*=4.50	<0.001	0.0024
Background Religion				
Jewish>Hindu	845	*t*=4.01	0.001	0.0024
Religiosity				
Low>High	550	*F*=6.509	0.011	0.05
Political Level				
Low>High	432	*F*=4.347	0.038	0.05
No Religion vs. Religious Affiliation				
No Religion>Religious Affiliation	845	*F*=11.881	0.001	0.05

Table 6. Summary of Binary Logistic Regression Results.

Scenario Set	B	*p*	Odds Ratio
Wrecking Ball- Scenario 1			
Education-High school or less	0.881	0.044	2.412
Moral Philosophy Books- 4-6	3.311	0.044	27.425
Moral Philosophy Books- 7-10	4.405	0.021	81.882
Current Religion-Christian	-2.250	0.011	0.105
Religiosity-High	2.152	0.011	8.605
Wrecking Ball- Scenario 2			
Education-High school or less	1.107	0.039	3.025
Wrecking Ball- Scenario 3			
Education-High school or less	-1.838	0.014	0.254
Education-Some college or Bachelor's Degree	-1.374	0.050	0.253
Current Religion-None	1.873	0.045	6.505
Wrecking Ball- Scenario 4			
Political Level-High	-1.151	0.269	0.316
Wrecking Ball- Scenario 6			
Religiosity-Low	1.005	0.017	2.732
Political Level-High	1.314	0.032	3.732
Trolley- Scenario 2			
Education-Some college or Bachelor's Degree	1.516	0.046	4.556
Trolley- Scenario 3			
Moral Philosophy Courses-Yes	-3.163	0.047	0.042
Trolley- Scenario 4			
Education-High school or less	4.197	0.004	66.463
Moral Philosophy Books- 1-3	-3.378	0.042	0.034
Current Religion-None	5.301	0.180	200.629
Current Religion-Muslim	-6.101	0.032	0.002
Religiosity-Low	-4.389	0.009	0.012
Trolley- Scenario 5			
Sex-Male	1.287	0.033	3.621
Trolley- Scenario 6			
Sex-Male	1.388	0.039	4.008
Traveler- Scenario 2			
Sex-Male	-3.298	0.044	0.037
Education-High school or less	7.379	0.010	1601.848
Current Religion-Christian	-4.851	0.030	0.008
Rough Neighborhood- Scenario 1			
Moral Philosophy Book- 1-3	1.324	0.030	3.757
Rough Neighborhood- Scenario 2			
Education-High school or less	0.796	0.01	2.218
Religiosity-Low	0.765	0.008	2.15
Rough Neighborhood- Scenario 5			
Sex-Male	1.702	0.015	5.482
Education-High school or less	-2.840	0.022	0.058
Moral Philosophy Book- 0	2.640	0.011	14.017
Moral Philosophy Book- 1-3	2.429	0.010	11.353
Background Religion- None	3.427	0.039	30.798
Political Level-High	-2.404	0.015	0.090
Rough Neighborhood- Scenario 6			
Religiosity-High	-1.123	0.038	0.325
Fire-Scenario 1			
Religiosity-High	-2.47	0.004	0.085
Fire-Scenario 6			
Education-Some college or Bachelor's Degree	-1.567	0.032	0.209
Moral Philosophy Book- 0	4.507	0.004	90.629
Moral Philosophy Book- 1-3	4.335	0.004	76.360
Moral Philosophy Books- 4-6	4.773	0.004	118.233

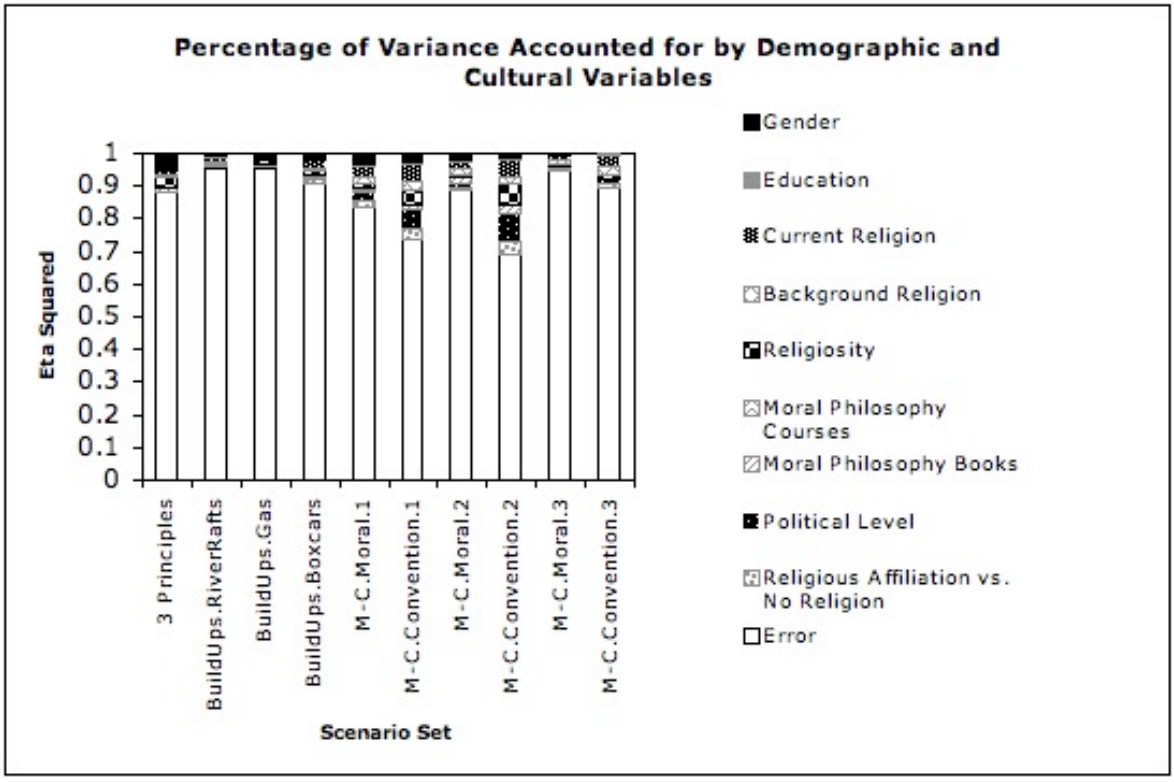

Figure 1. Percentage of Variance Accounted for by the Demographic and Cultural Variables.

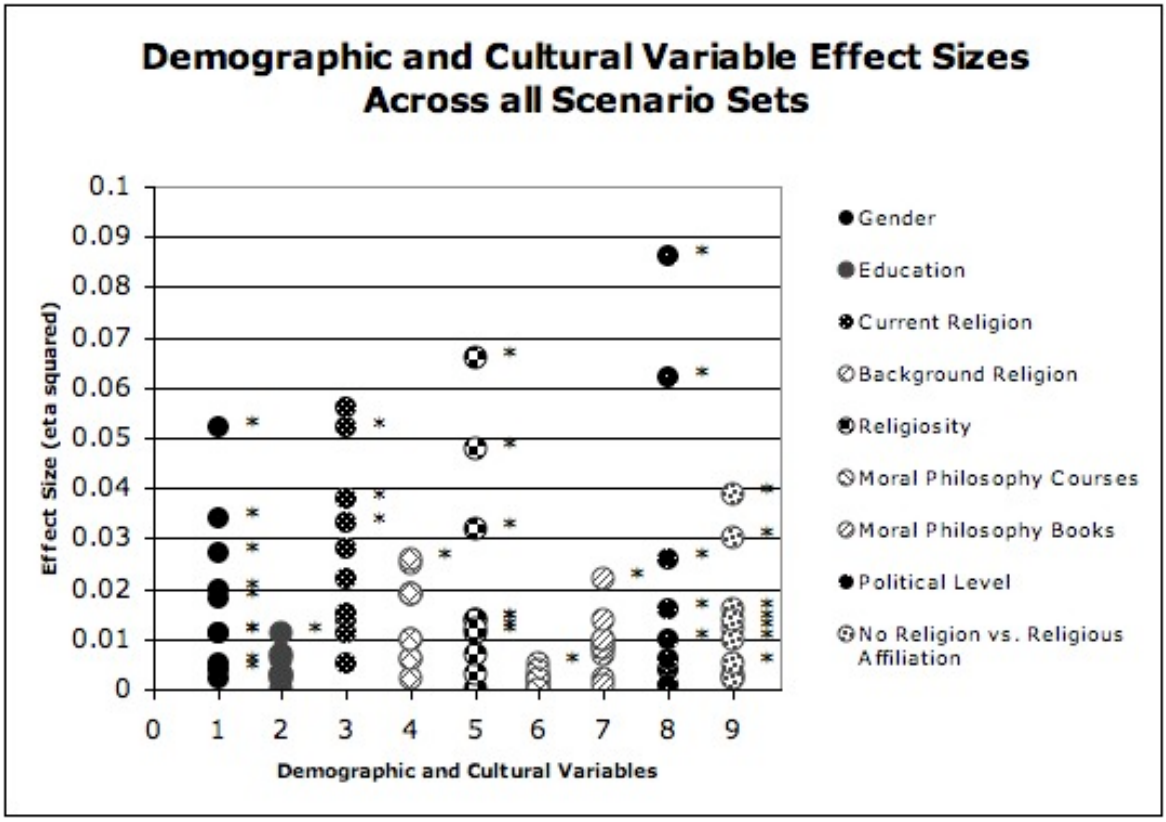

Figure 2A. Demographic and Cultural Variable Effect Sizes (reduced scale).

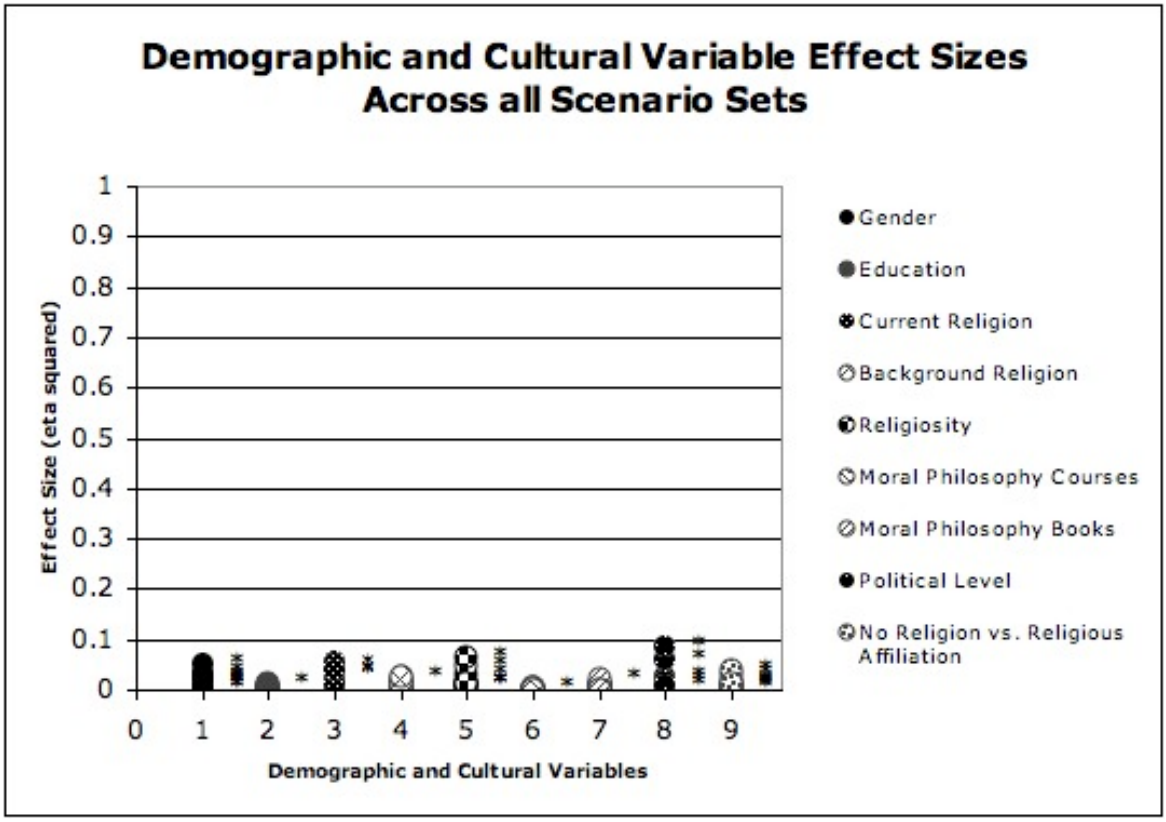

Figure 2B. Demographic and Cultural Variable Effect Sizes (expanded scale).