Mapping the Moral Domain

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Abstract

The moral domain is broader than the empathy and justice concerns assessed by existing measures of moral competence, and it is not just a subset of the values assessed by value inventories. To fill the need for reliable and theoretically-grounded measurement of the full range of moral concerns, we developed the Moral Foundations Questionnaire (MFQ) based on a theoretical model of five universally available (but variably developed) sets of moral intuitions: Harm/care, Fairness/ reciprocity, Ingroup/loyalty, Authority/respect, and Purity/sanctity. We present evidence for the internal and external validity of the scale and the model, and in doing so present new findings about morality: 1. Comparative model fitting of confirmatory factor analyses provides empirical justification for a five-factor structure of moral concerns. 2. Convergent/discriminant validity evidence suggests that moral concerns predict personality features and social group attitudes not previously considered morally relevant. 3. We establish pragmatic validity of the measure in providing new knowledge and research opportunities concerning demographic and cultural differences in moral intuitions. These analyses provide evidence for the usefulness of Moral Foundations Theory in simultaneously increasing the scope and sharpening the resolution of psychological views of morality.

Keywords

How can we measure moral concerns when people disagree about what "morality" means? To address this problem we created the Moral Foundations Questionnaire (MFQ, presented in the appendix), a measure of the degree to which individuals endorse each of five intuitive systems posited by Moral Foundations Theory: Harm/care, Fairness/reciprocity, Ingroup/ loyalty, Authority/respect, and Purity/sanctity (Haidt & Graham, 2007; Shweder, Much, Mahapatra & Park, 1997). People vary in the extent to which they endorse, value, and use these five foundations, providing an opportunity to better understand moral diversity. In this article, we explain the need for a scale broader than conventional morality scales. We describe the development of the scale, which involved multiple rounds of item analysis using large heterogeneous samples. We present the validation of the scale, organized into evidence confirming internal and external validity. Finally, we describe its pragmatic validity – that is, the practical usefulness of both the theory and the measure in providing new insights about moral psychology. A major goal of Moral Foundations Theory is to expand the range of phenomena studied in moral psychology so that it matches the full range of moral concerns, including those found in non-Western cultures, in religious practices, and among political conservatives. Here we present what we have learned about the content and structure of the moral domain using the Moral Foundations Questionnaire.

What is the Moral Domain?

A great variety of scales are used in moral psychology to measure stages of moral reasoning (e.g., the Defining Issues Test-2; Rest et al., 1999), moral identity (e.g., the Moral Identity Scale; Aquino & Reed, 2002), empathy (e.g., the Interpersonal Reactivity Index; Davis, 1983), and moral deficits such as psychopathy (e.g., Levenson's Self-report Psychopathy Scale; Levenson et al., 1995). Although these scales measure different aspects of morality, they all share the assumption (explicit or implicit) that the moral domain is limited to concerns about individuals harming or unfairly treating other individuals. This is, in part, a reflection of the dominance of Lawrence Kohlberg's (1969, 1971) ideas about morality as justice, and his subsequent debate with Carol Gilligan (1982) about her alternative conception of morality as care. Both sides agreed that morality was about how well or poorly individuals treated other individuals. Turiel (1983, p.3) codified this approach into a widely-cited definition of the moral domain as "prescriptive judgments of justice, rights, and welfare pertaining to how people ought to relate to each other." Any values that were not related to "justice, rights, and welfare" (e.g., patriotism, authority, or chastity) were considered non-moral, and were relegated to the domain of social convention or the domain of personal choice (Turiel, Hildebrandt, & Wainryb, 1991). Definitions of morality in philosophy also frequently stress rules or codes of conduct that reduce harm to others (e.g., Gert, 2005; Singer, 1979).

Kohlberg certainly noticed that people sometimes justified moral judgments by referring to group-level moral concerns such as authority, loyalty, and tradition, but he thought that such thinking was immature and conventional, a part of the "law and order" ethos of stage 4. With sufficient opportunities for role-taking, adolescents were said to move beyond stage 4 and to begin using post-conventional reasoning based on an understanding of justice. Kohlberg's stage theory has been criticized on many grounds; one criticism relevant for our purposes was that Kohlberg's post-conventional morality enshrined politically liberal ideals as developmental endpoints (Hogan, Johnson, & Emler, 1978; Shweder, 1982; Sullivan, 1977; for related critiques see Puka, 1994). This critique was backed up by the demonstration that liberals routinely obtain higher principled reasoning scores on the Defining Issues Test, but that conservative students rose to liberal levels when told to "respond as a left-winger would" (Emler, Renwick, & Malone, 1983). Conservatives *could* reason at the "higher stage," but were not doing so presumably because they had different priorities in their moral reasoning. Despite these critiques, the notion that "true" moral

concerns involve considerations of harm or justice exclusively has persisted in psychological research.

Moral psychology is currently experiencing a renaissance as social psychologists, neuroscientists and behavioral economists begin to treat moral judgment and decision-making as a central topic of inquiry (see Haidt, 2008, for a review). Yet even today, research is still largely limited to issues of harm and fairness (including rights). Major literatures include decision-making about runaway trolleys, in which participants must make tradeoffs between harm and rights (Greene et al., 2009; Hauser, Young, & Cushman, 2008); economic games, which pit fairness against self-interest (Fehr & Gachter, 2002); and the perennially popular topic of altruism and prosocial behavior (e.g., Moll, Krueger, Zahn, Pardini, Oliveira-Souza, & Grafman, 2006). Whether carried out in a scanner, on a website, or in a business school lab room using real money, morality is still usually operationalized as helping (vs. harming) or as playing fair (vs cheating).

Kohlberg and Turiel based their circumscription of the moral domain on a line of enlightenment thinking running from Immanuel Kant to John Stuart Mill to John Rawls in which the autonomy and/or welfare of the individual are the starting point for ethical inquiry. Yet even Kant (1797/1996, p. 179) had intuitions of a broader moral domain. He wrote that masturbation was "in the highest degree opposed to morality," although he granted that "it is not so easy to produce a rational demonstration" of its wrongness. And before the Enlightenment, philosophers routinely considered a much broader moral domain. Much of ancient moral philosophy, from Greece to India to Japan, was virtue-based. These societies valued benevolence and fairness, but they also emphasized group-level concerns about social order, authority, duty, loyalty to one's family or group, and controlling one's carnal desires to cultivate one's soul or gain a more favorable rebirth (Larue, 1991; Shweder et al., 1997). Aristotle's *Nicomachean Ethics* (350 BCE/1985) dealt with a wide range of questions related to human flourishing and ideal ways of living in a community; it treated virtues as habits developed by repeated use. Similarly, the history of theories and interventions in moral education includes not only instructions in care and justice, but training in how to be a good group member (Graham, Haidt, & Rimm-Kaufmann, 2008).

Western inquiry into ethics must therefore be seen as having made a sharp turn away from the full spectrum of moral concerns addressed by thinkers of the past and valued in folk moralities around the world (See Appiah, 2008, ch. 1, on the causes of this turn). Pincoffs (1986) documented the gradual narrowing of philosophical inquiry in the West since the 19th century as philosophers moved away from virtue ethics and adopted what Pincoffs called "quandary ethics" – the study of how people should resolve quandaries, particularly those that pit the rights or welfare of one person against those of another. Should psychologists follow philosophers in this turn to quandary ethics? Or should we keep our eyes focused on what *is*, rather than on the Enlightenment conception of what *ought* to be?

Broadening the Moral Domain

Cross-cultural research on moral judgment has revealed that Turiel's definition of the moral domain works well among educated and politically liberal Westerners, for whom harmless offenses are rarely condemned, even when they are disgusting or disrespectful (Haidt, Koller, & Dias, 1993).[1] However, research on people in India (Shweder, Mahapatra, & Miller, 1987), people of lower social class in Brazil and the United States (Haidt, Koller, &

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[1]Turiel and his students demonstrated their "domain distinction" cross culturally (e.g., Hollos, Leis, & Turiel, 1986), but their moral violations invariably involved direct physical or emotional harm, not harmless violations implicating issues of loyalty, respect, or purity.

Dias, 1993), and conservatives in the United States (Graham, Haidt, & Nosek, 2009; Haidt & Hersh, 2001; Jensen, 1998) has revealed moral considerations beyond the individual-based concerns of harm and fairness, involving concerns about spiritual purity and degradation (even for acts that involve no harm), concerns about proper hierarchical role fulfillment, and moral expectations of loyalty to the local or national group. Illustrative of this breadth are open-ended responses participants in our studies gave when asked to define morality in their own words. Parallel to Turiel's definition, many made reference to harm and human welfare (e.g., "Avoiding harm to others"), and fairness or justice ("Morality is doing the right things to ensure fair treatment for all"). However, others made reference to moral issues beyond justice, rights, and welfare, and to morally valuable entities that were not individuals (e.g., "Morality is having a system [that] protects the social institutions of family, community, and country."). Others made reference to duty, obedience, respect, and preserving tradition (e.g., "Matters of duty, irrespective of one's own personal desires or ends"). And some made reference to God or religious norms, decency, the soul, and maintaining purity of mind (e.g., "not having dirty thoughts"). Scales that attempt to measure morality by assessing attitudes about harm and fairness are thus leaving out much of what people—even Westerners—explicitly and spontaneously include in their descriptions of the moral domain.

If morality really does vary by culture, class, politics, and era, then psychologists need a definition of the moral domain that is not based on a list of specific content areas (e.g., justice, rights, and welfare). To meet this need, Haidt and Kesebir (2010, p. 800) proposed an alternative approach that defines moral systems by their *function*:

> Moral systems are interlocking sets of values, virtues, norms, practices, identities, institutions, technologies, and evolved psychological mechanisms that work together to suppress or regulate selfishness and make social life possible

This functionalist approach has at least two advantages over content-based approaches. First, in its emphasis on moral *systems* it encourages psychologists to look outward, beyond individual minds and psychological mechanisms. Moralities emerge as large numbers of people interact with each other, constrained and enabled by culturally and historically specific sets of institutions and technologies. A second advantage is that this definition makes it possible to recognize a wide variety of societies as constituting moral systems, at least descriptively, even if those societies are structured in ways that many researchers believe to be normatively immoral (e.g., patriarchies and theocracies).

Values and morals

Virtue ethics, character education, and the ethical codes of most cultures and religious traditions suggest that the moral domain is broader than the issues of harm and fairness currently represented in moral psychology scales. One possible existing framework for broadening the moral domain is research on values, which Schwartz (2007, p. 712) defines as "trans-situational goals that vary in importance and serve as guiding principles in the life of a person or a group" (see also Rohan, 2000 and Feldman, 2003 for reviews). Most efforts to identify the range of values begin with long lists of possible values, covering everything from cleanliness to hedonism, and then use factor analysis of endorsement ratings to identify a smaller set of core values (Rokeach, 1973; Schwartz, 1992). Values research has much to offer the empirical study of morality, and is too often ignored by moral psychologists. Clearly, many values are *moral* values, even if morality is defined only in terms of welfare and fairness concerns (e.g., benevolence and universalism). However, in seeking to identify a list of the most important values, there is a risk that some common moral concerns or intuitions will be missed. For example, reciprocity, loyalty to one's team or tribe, and concerns about bodily and spiritual purity are ubiquitous in anthropological accounts of

morality, yet they do not appear among Schwartz's ten values. This may be because Schwartz began with an atheoretical exploratory factor-analytic approach, using Western populations. Even if Westerners care quite a bit about reciprocity (see Cialdini, 2001, ch. 2), they might not list it when asked about their most important trans-situational goals. Individuals are often unable to access the causes of their moral judgments (Haidt & Kesebir, 2010; Wilson, 2002). Furthermore, atheoretical descriptive approaches are limited in their ability to explain *why* people hold the values they do.

Moral Foundations Theory

In order to fill the need for a systematic theory of morality, explaining its origins, development, and cultural variations, we created Moral Foundations Theory (MFT). Haidt and Joseph (2004) began by surveying the literatures in evolutionary psychology and anthropology, looking for matches – for virtues and areas of moral regulation that were common (though not necessarily universal) across cultures, and that had some clear counterpart in evolutionary thinking. For example, virtues related to fairness and practices of reciprocal gift exchange (e.g., Mauss, 1924/1990) bore an obvious similarity to the evolutionary literature on reciprocal altruism (Trivers, 1971); virtues of purity and practices regulating food and sex (e.g., Douglas, 1966) bore an obvious relationship to the evolutionary literature on disgust (Rozin, Haidt, & McCauley, 2000). The results of this cross-disciplinary review produced five top candidates for being the psychological "foundations" upon which cultures construct their moralities. These five foundations are consistent with, but expand upon, several existing taxonomies of moral concern, including Fiske's (1992) four models of social relationships, Shweder et al.'s (1997) account of the "three ethics" of autonomy, community, and divinity that are found widely around the world, and Hogan et al.'s (1978) evolution-based socioanalytic theory of moral development. MFT can therefore be seen as an attempt to specify the "evolved psychological mechanisms" that were part of the definition of moral systems given earlier. Even if all moral systems are social constructions, they are constructed by people whose minds are not at all like blank slates (Marcus, 2004). In this way, MFT allows for intuitive or emotional bases of moral judgments, as well as more deliberate reasoning processes (cf. Greene et al., 2001; Haidt, 2001).

Haidt and Graham (2007) expanded the theory and modified the names of the foundations to become: Harm/care, Fairness/reciprocity, Ingroup/loyalty, Authority/respect, and Purity/sanctity. Harm and Fairness generally correspond to Shweder at al.'s (1997) ethics of autonomy; Ingroup and Authority to the ethics of community; and Purity to the ethics of divinity. Haidt and Graham also applied the theory to a particular kind of cultural variation within the United States: the "culture war" between political liberals and conservatives. Drawing on Shweder and several political theorists (e.g., Burke, 1790/2003; Mill, 1859/2003; Lakoff, 1996; Muller, 1997; Sowell, 2002), liberalism was hypothesized to indicate a morality in which the individual is the locus of moral value. In such a moral world, moral regulation revolves around protecting individuals from harm or unfair treatment by other individuals, or by the social system. In contrast, conservatives—at least, the social conservatives of the religious right—try to create more tightly-ordered communities in which (for example) proper relationships between parent and child, man and woman, and human and God are part of the aim of moral regulation. In such a moral world, the individual is not the primary locus of moral value; the building block of society is thought to be the family, and a much greater emphasis is placed on virtues and institutions that bind people into roles, duties, and mutual obligations.

This analysis led to the hypothesis that liberal morality would prioritize Harm and Fairness over the other three foundations (because the "individualizing foundations" of Harm and

Fairness are all that are needed to support the individual-focused contractual approaches to society often used in enlightenment ethics), whereas conservative morality would also incorporate Ingroup, Authority, and Purity to a substantial degree (because these "binding foundations" are about binding people together into larger groups and institutions).

The first draft of the Moral Foundations Questionnaire was created in part to test this hypothesis about ideological differences, and was useful (along with other methods, such as content coding of religious sermons) in supporting the hypothesis (Graham, et al., 2009). However, our goal in subsequent theory and measure development – reported in this paper – was much broader. Moral Foundations Theory provides a conceptual organization for measuring and describing differences in moral concerns across individuals, social groups, and cultures. In theory, any pattern of "settings" or endorsement levels for the five foundations is possible. Thus, a reliable and valid scale was needed to measure the degree to which any individual's moral beliefs and concerns rely upon each of the five hypothesized foundations. Further, theory-driven scale validation is a means of testing hypotheses and theoretical claims (cf. Hogan & Nicholson, 1998). We describe the development of the MFQ below, along with what it revealed about the structure and variation of the moral domain.

Development of the MFQ

Because we wanted to gauge individual differences in the range of concerns that people consider morally relevant, the first version of the MFQ (reported in Graham et al., 2009, Study 1, Appendix A) explicitly asked participants to evaluate the moral relevance of several foundation-related concerns (e.g., "Whether or not some people were treated differently from others," for Fairness). For the second version (reported in Graham et al., 2009, Study 2, Appendices A and B) we added a new section that assessed levels of agreement with more specific and contextualized moral judgment statements (see below).

These first two versions of the MFQ were tested on heterogeneous populations (using ProjectImplicit.org, a popular web-based virtual laboratory), with large sample sizes (total n=3,825). With these data, we compared different confirmatory factor analysis models that corresponded to distinct, theory-guided conceptualizations of the possible factor structure (see supplementary materials at MoralFoundations.org). Using the comparative model fitting techniques described below, we found evidence that a five-factor solution was an improvement (weighing both fit and parsimony) over models representing a single morality factor, two factors (an "individualizing" factor underlying Harm and Fairness items, and a "binding" factor underlying all other items), and three factors (corresponding to Shweder's three ethics of autonomy, community, and divinity).

While the overall model fits were reasonably good (see supplements), some of the internal consistencies of these early versions of the scale were low. In addition, some items had weak loadings on the latent factors. Correlation matrices of all items in the second version revealed that some items that were written to represent one foundation actually related more strongly to another foundation, and some items correlated so highly with each other that they appeared redundant. Problematic items were replaced with new items in the third version of the scale.

Pilot testing for the third version of the MFQ was extensive, involving data from over 28,000 participants (surveyed at YourMorals.org) and external validations with eight conceptually related scales. Item and factor analyses on this third version showed improvements over versions 1 and 2. No subscale had more than one item that loaded poorly on the latent factor, so we focused our item analyses on determining how reducing from 40 to 30, 20, or even 10 items would impact the validity of the scale.

We developed a novel method for empirically selecting item combinations that would maximize both internal and external validity. For all 10 subscales (four relevance items or four judgments items for each of the five foundations) we identified three criterion scales. The first criterion scale for each subscale was the corresponding foundation subscale using the alternative format (for instance, Harm-judgments as internal validity criterion for Harm-relevance). The second criterion subscale was the corresponding foundation subscale from the "taboo-tradeoffs" questionnaire (see Graham, et al., 2009, Study 3, Appendix C). Modeled on work by Tetlock, Kristel, Elson, Green, and Lerner (2000), this questionnaire asks participants to indicate how much money they would require to perform actions that violate the foundations in a variety of ways (for instance, "kick a dog in the head, hard" for Harm), including options of performing the violation for free, as well as refusing to perform it for any amount of money. The third criterion (used for both relevance and judgments subscales) was an external scale we expected to be related to one particular moral foundation. For Harm the external criterion was the empathy subscale of the Interpersonal Reactivity Index (Davis, 1983); for Fairness, the Schwartz Equality value item (Schwartz, 1992); for Ingroup, the Schwartz Loyalty value item (Schwartz, 1992); for Authority, the Right-Wing Authoritarianism scale (Zakrisson, 2005); and for Purity, the Disgust Scale-Revised (Haidt, McCauley, & Rozin, 1994, modified by Olatunji et al., 2008).

In order to quantify how the quality of the scale would decline if shortened, and in order to select the combination of items that would retain the greatest internal and external validity, we calculated correlations between every combination of items and the three criterion scales, as well as a combined item-total correlation with all three criterion scales. An example for Harm-Relevance is shown in Figure 1 (detailed reports of the criterion analyses for all ten subscales can be found in the supplements). The top left panel of Figure 1 plots the corrected item-total correlations with the three criterion scales (Harm-judgments, Harm-taboo-tradeoffs questionnaire, and IRI-empathy, shown in the other three panels) for every single Harm-relevance item, every 2-item combination, every 3-item combination, and the 4-item aggregate. One can see in this figure that a single item, H ("whether or not someone was harmed") was negatively impacting the internal and external validity of the Harm-relevance aggregates that included it, and that a 3-item aggregate excluding it had even better internal and external reliabilities than the 4-item aggregate. All ten of these analyses revealed that using the best three-item combination yielded internal and external validities as good if not better than using all four items; moreover, we found that in most cases the optimal 2-item combinations were nearly as good as the 3-item combinations (although the 3-item combinations were preferable for their broader conceptual coverage). The best three items from each subscale were retained for the fourth and final version of the MFQ, shown in the Appendix. The 20 starred items make up the short-form MFQ.

Description of Final Items

Throughout the several rounds of item generation and selection, we sought to minimize conceptual and empirical redundancy among items. On this point, we differ from some approaches to scale development that prioritize high internal consistency. Internal consistency is important, but so is comprehensive coverage of the various facets of the construct (the scale development work of Harrison Gough [1979, 1984] is a good example of this balance; see also John & Soto, 2007). From our point of view, it is better to have dissimilar items that are moderately correlated but that each capture a different facet of a foundation than it is to have similar items that are highly correlated and capture only a small amount of the foundation's scope. As such, our aim in item analysis was not to maximize internal consistency via item redundancy. Instead, we sought a balance between achieving (a) sufficient internal consistency to believe that there was a common core, and (b) maximal item heterogeneity to increase confidence that we were representing the foundation in full.

For the moral relevance items, we attempted to cover a wide conceptual area for each foundation while avoiding obvious culture-war issues (e.g., one item is about the moral relevance of rights violations in the abstract, without specifying particular content such as gun rights or gay rights). Items were generated to capture different instances of a foundational moral concern, for instance asking about group loyalty in reference to different specific groups (nation, family) as well as to one's group left in the abstract.

We had two reasons for adding the judgments subscale to the relevance subscale. First, we wanted multiple response formats to minimize the impact of variance based on response set (for instance, some people may be more likely to indicate that everything is morally relevant). Second, we wanted to supplement the abstract relevance assessments—which, as self-theories about how one makes moral judgments, may be inaccurate with regard to actual moral judgments (Nisbett & Wilson, 1977)—with contextualized items that could more directly gauge actual moral judgments. To fill out the judgments subscale, participants need not directly consider or be aware of the basis for their moral judgments; they just need to decide whether they endorse or reject the action or event. In this way, the "relevance" subscale may better assess explicit theories about what is morally relevant, and the "judgments" subscale may better assess actual use of moral foundations in judgment (see initial evidence for this conclusion in Graham et al., 2009, Study 2). These judgments took the form of normative declarations (e.g., "It can never be right to kill a human being," for Harm), hypotheticals (e.g., "If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty," for Authority), virtue endorsements (e.g., "Chastity is an important and valuable virtue," for Purity), and opinions about government policies (e.g., "When the government makes laws, the number one principle should be ensuring that everyone is treated fairly," for Fairness). With this variety of both item formats and specific item content, the final version of the MFQ gauges sensitivities to basic kinds of moral concerns, not just opinions on specific moral issues.

Sample sizes, number of items, and alphas from pilot testing on all four versions of the MFQ are shown in Table 1. Below we describe validity analyses on the fourth and final version of the scale shown in the Appendix.

Method

Participants and Procedure

Participants were 34,476 adults (37% female; mean age 36.2) who had previously registered at YourMorals.org and selected to take the Moral Foundations Questionnaire. Participants come to the website via many different routes, identified using a web tracker. In this sample, 40.5% entered the URL directly into their browser. The most common referring sites were edge.org (29.7%), search engines (8.1%), message boards (3.9%), ted.com (2.2%), and alternet.org (1.9%). (For an analysis demonstrating that response patterns on the MFQ are similar for participants from diverse referring sources, see Iyer, 2009). The relevance section preceded the judgments section, and items within each section were given in an order randomized for each participant. A subset of this sample also chose to take one or several other surveys on the site. This is the sample and procedure used for all internal and external validity analyses except the test-retest, pragmatic, and incremental predictive validity analyses, which are detailed below.

Results: Internal Validity

Scale means and internal consistencies

Means, standard deviations, and alphas for each subscale of the MFQ are presented in Table 2. Means are also given separately for liberals, moderates, conservatives, and libertarians, to

serve as points of comparison. Although the alphas are not as high as many other scales, they indicate a reasonable internal consistency given that our goal was to gauge an expansive range of moral concerns with a small number of items across two different item formats.

Relations between relevance and judgments subscales

Relations between the relevance and judgments subscales are shown in Table 3. The top panel shows zero-order correlations. To ensure that these relationships were not solely driven by common relations to political ideology, the bottom panel shows partial correlations controlling for politics. Both panels show convergent validity for each foundation as measured by the two formats, as well as discriminant validity in that these relations are stronger than relations between different foundations, despite high correlations among many of the foundations (average same-foundation $r = .48$, average different-foundation $r = .14$).[2]

Test-retest reliability

We gave the MFQ to 123 college students (mean age = 20.1, 69.9% female) from the University of Southern California. After an average interval of 37.4 days (range 28 to 43 days), participants completed the MFQ a second time. In both instances, the MFQ was administered via a class website which recorded the date and time of completion automatically. Question order was randomized for each participant each time. Test-retest Pearson correlations for each foundation score were .71 for Harm, .68 for Fairness, .69 for Ingroup, .71 for Authority, and .82 for Purity (all $p<.001$). These test-retest reliabilities are quite similar in magnitude to the internal consistencies calculated in Table 2. This suggests that item responses are quite stable over time and that within-occasion variation is more a function of the broad diversity of measurement rather than instability.

Exploratory factor analysis

Although Moral Foundations Theory predicts a specific factor structure for moral concerns, we began with exploratory factor analyses to see what factors emerged from the items in the absence of conceptual constraints. Factor analysis for all 30 items of the MFQ was performed using direct oblimin rotation with Kaiser normalization (allowing the factors to be correlated) and maximum likelihood estimation (Fabrigar, Wegener, McCallum, & Strahan, 1999). Six factors with eigenvalues greater than 1 emerged, but scree plot and factor loadings indicated that only the first two factors provided meaningful incremental explanatory power and interpretability (only 2 of the 120 loadings on the last four factors were above .3; see also Costello & Osborne, 2005, on factor retention from scree plot analysis). The first two factors were retained, and are shown in Table 4. As the table indicates, the two factors clearly corresponded to the binding foundations (Ingroup, Authority, and Purity; factor 1) and individualizing foundations (Harm and Fairness; factor 2), and the strongest loading for all 30 items was as predicted.

Although this analysis supported our distinction between individual-focused and group-focused moral concerns, it remains an open question whether we are justified in treating the theoretically-derived moral foundations as five factors, rather than two. To answer this question we turn to comparisons between different confirmatory factor analysis models.

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[2]Correlations between the latent foundation factors can be found in Figure 2 (five correlated factors model), and zero-order correlations between the factors are available in a supplement at the first three authors' websites.

Confirmatory factor analysis

The large sample sizes we obtained for each version of the MFQ allowed us to create structural equation models comparing different theoretically-derived factor structures. Table 5 describes the comparative model fitting with the final version of the MFQ. The first three numerical columns provide fit statistics for the individual models, and the last two columns show the degree to which each model was an improvement over the model in the row above it. Figure 2 shows the different confirmatory factor analysis models for the full scale; as Table 5 reflects, the same models were constructed for the relevance and judgments subscales separately as well. In the first step, we compared nested first-order models. Our hypothesis was that model 4 (five correlated factors: Harm, Fairness, Ingroup, Authority, and Purity) would provide a better overall model fit than a single morality factor model (1), two-factor model (2: individualizing and binding, corresponding to the results of the exploratory factor analysis), and three-factor model (3: corresponding to Shweder et al.'s (1997) ethics of autonomy, community, and divinity). All three tests (relevance subscale, judgments subscale, and full MFQ) confirmed these predictions; the overall best model (weighing fit and parsimony) was the five-factor model in every case.3

In the second step, we tested whether the five factors could be more parsimoniously modeled with two correlated superordinate factors representing our theoretical distinction of "individualizing" and "binding" foundations (see the hierarchical model in Figure 2). As Table 6 shows, however, the model with five intercorrelated factors was a significant improvement (again, weighing both fit and parsimony) over the hierarchical models. In general, confirmatory factor analyses provide robust support for our five-factor conceptualization of the moral foundations.

Results: External Validity

Relations to other scales

We identified several other scales and scale items also taken by participants at YourMorals.org that we predicted would relate to the MFQ foundation scores. Scales were grouped into five external criteria scale sets, one set for each foundation. Harm criterion scales were the empathic concern subscale of the Interpersonal Reactivity Index (Davis, 1983; n=134), Levenson's (1995) Psychopathy Scale (reverse-scored; n=116), Schwartz's (1992; n=4,228) Benevolence subscale, and three items from the Adapted Good-Self Assessment (Barriga, Morrison, Liau, & Gibbs, 2001; n=89) on the importance of being kind/caring, sympathetic/compassionate, and generous/giving. Fairness scales were Social Dominance Orientation (reverse-scored, as it measures preference for social inequalities; Pratto, Sidanius, Stallworth, & Malle, 1994; n=1,215), importance of being fair/just on Barriga's Good-Self scale, and endorsement of the social justice item on Schwartz's values scale. Ingroup scales were the importance of being loyal/faithful on Barriga's Good-Self scale, and endorsement of loyalty, national security, and family security items on Schwartz's values scale. Authority scales were Right-Wing Authoritarianism (Zakrisson, 2005; n=1,093), the Traditionalism subscale of the Progressive and Traditional Justice scale (Haidt, Darley, & Gromet, 2009; n=1,384), and endorsement of the social order, authority, respect for tradition, honoring parents, and obedience values on Schwartz's value scale. Purity scales were the Disgust Scale-Revised (Haidt, McCauley & Rozin, 1994 modified by Olatunji et al., 2008; n=1,681), self-reported religious attendance (n=32,607), and

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[3]We also tested whether a six-factor model separating Authority and Tradition (shown in Figure 2) would improve upon the five-factor model. However, these six-factor models were a worse fit than the five-factor models, $0.60 \leq \varepsilon_a \leq 0.65$; in addition, as Figure 2 shows, the Authority and Tradition factors were very highly correlated ($r = .96$), further supporting a single latent factor for these items.

endorsement of the self-discipline, clean, and devout items on Schwartz's values scale. Items from the same scale were averaged together, and correlations between the foundations and the scales were averaged together for each criterion group. Correlations between the foundations and the external criterion scales are shown in Table 7. As the table shows, each foundation was the strongest predictor for its own conceptually related group of external scales (average $r = .51$, vs. average $r = .14$ for the off-diagonals). This provides evidence of both convergent and discriminant validity, despite relatively substantial relations among the foundations.

Predictive validity for social group attitudes

A subset of the participants who took the MFQ also took a survey in which they reported their gut reactions to various social groups. We constructed this survey by first identifying groups conceptually related to each foundation because they represent either virtues or vices of that foundation. For instance, we predicted that people whose morality rested heavily on the Harm/care foundation would have especially positive reactions to "caring" groups such as nurses, and especially negative reactions to "harming" groups like hunters. The foundation relevance of each group was identified *a priori* by the authors. Harm-related groups were nurses, environmentalists, pacifists, vegetarians, and hunters (r). Fairness-related groups were ACLU members, labor unions, rich people (r), and CEOs (r). Ingroup-related groups were Americans, U.S. Government, flag burners (r), and illegal immigrants (r). Authority-related groups were soldiers, police officers, U.S. Marines, U.S. Military, people who spank their children, and anarchists (r). Purity-related groups were virgins, highly religious people, spiritual people, atheists (r), prostitutes (r), homosexuals (r), people who have casual sex (r), and people with tattoos or piercings (r). Groups indicated by "(r)" represented vices of a foundation and were reverse-scored, and for U.S.-specific groups only U.S. citizens were included in the analyses. Because attitudes toward social groups and moral foundations scores are both related to political ideology, we used partial correlations controlling for political ideology to see which groups would be uniquely predicted by one or more foundations. Partial correlations between foundations and all social groups were averaged for each set of foundation-related groups; these averages are shown in Table 8. As the table shows, each foundation was the strongest predictor (above and beyond politics) of attitudes toward conceptually related social groups, providing further evidence of predictive and discriminant validity. Beyond validation of the scale, these results also suggest that attitudes about social groups are in part moral judgments about those groups. Moral Foundations Theory and the MFQ may be useful for researchers who want to know which moral concerns are related to prejudice toward any particular group.

Incremental predictive validity

The preceding sections establish that the theorized model of Moral Foundations as five interrelated factors is a better fit than other plausible models, and that each of the five factors predict foundation-relevant outcomes. An open question is whether the MFQ has predictive validity beyond existing measures. Because it measures domains that are not present in other theoretical conceptions of morality—Ingroup, Authority, and Purity—it surely expands the predictive validity of morality measures. However, even broader measures exist, such as the Schwartz Values Scale, which measures endorsement of ten broad classes of values. This scale contains several values and subscale factors that conceptually overlap with the moral foundations (e.g., Benevolence with Harm/care, Traditionalism with Authority/respect), and many self-interested values that we consider to be outside the moral domain and not covered by the MFQ (e.g., Achievement, Hedonism). Even though Moral Foundations Theory has a different conceptual starting point (an evolutionary account of why humans have the moral intuitions they do, contra Schwartz's factor-analytic approach), it is nonetheless worthwhile to test whether the MFQ has predictive validity beyond Schwartz's scale in predicting a

variety of scales, opinions, and self-reported behaviors relevant to morality. Because Schwartz's scale is larger both in terms of subscales (10 vs. 5) and items (58 vs. 30), this is a particularly tough test of the predictive validity of the MFQ.

Data for these analyses came from 10,652 visitors to YourMorals.org who took both the MFQ and the Schwartz Values Scale (SVS), 92% of whom also took other scales or measures. We used two-step regressions to test whether the five MFQ subscales added incremental predictive validity beyond the ten SVS subscales for the external criteria (scales and attitudes toward foundation-related social groups) described above, as well as for positions on a wide range of political issues. Note that this analysis focuses on the incremental validity of the aggregate MFQ in comparison to the aggregate SVS, rather than investigating which of the particular moral concerns predict each criterion variable (for such work, see Koleva, Graham, Iyer, Ditto, & Haidt, 2010).

In every analysis, the MFQ made a significant improvement to prediction when added to the SVS (average $\Delta R^2 = 8\%$, all ΔR^2 significant at $p < .001$). To provide a point of comparison, we repeated this analysis by adding the 44-item Big Five personality inventory to the SVS, which yielded an average ΔR^2 of only 2%. R^2 and ΔR^2 for the scales and foundation-related social group averages can be found in Table 9. We also investigated R^2 for the MFQ alone, to further compare its predictive validity with that of the SVS. As the bolded values in Table 9 show, the MFQ was actually a more powerful predictor than the SVS for most of the scales and political issue positions, and all of the social group attitudes. Given that the SVS is a comprehensive, large, and well-validated measure of values, the MFQ is clearing a high bar in providing unique predictive validity for outcomes relevant for moral and political psychology, and for the psychology of prejudice.

Generalizability

Because every step of the scale development used large heterogeneous samples, we can be more confident about the MFQ's generalizability than if we had used college students only (Sears, 1986). However, the samples obtained at ProjectImplicit.org and at YourMorals.org are not representative of any national or international population – the current sample is disproportionately from the U.S. (80%), white (87%), male (63%), and educated (mean education between "completed college" and "some graduate school") compared to international or U.S. national averages.

Thanks to the large sample sizes, however, we were able to test whether the five-factor model of moral concerns was consistent across national and geographic groups. All participants self-reported their current country of residence, the country in which they grew up (if different), and the age at which they moved (if they grew up in a different country). For participants who reported moving to their current country at age 14 or older, the country in which they reported growing up was used for the cross-cultural analysis. We created 12 location codes, four of which indicated the four nations from which the largest number of participants had come (U.S., Canada, U.K., Australia); the other eight location codes indicated multi-nation regions of the world (i.e. East Asia, Middle East). Model fit information for each location code is shown in Table 10. As the table shows, the five-factor model of the MFQ is a reasonable or good fit (all $\varepsilon_a < .06$, all CFI $> .7$) for all 11 world regions for which we were able to run the fit analyses, providing evidence that the measurement and theory of five foundational moral concerns is not specific to U.S. or Western participants. Notably, although the five-foundation model is a good fit in all these areas, the data shows much cross-cultural variation in the patterns of moral foundation endorsement. Even controlling for politics, age, gender, religious attendance, and education, world region is a significant ($ps < .001$) predictor of all five foundation scores, indicating

that the scale is useful for measuring and describing cultural differences in moral concerns. We turn to such uses in the next section.

Results: Pragmatic Validity

> "Pragmatism asks its usual question. 'Grant an idea or belief to be true,' it says, 'what concrete difference will its being true make in anyone's actual life? How will the truth be realized? What experiences will be different from those which would obtain if the belief were false? What, in short, is the truth's cash-value in experiential terms?'"
>
> — William James (1907/1998), *Pragmatism*, p. 97

Suppose you were to grant, in a Jamesian spirit, that Moral Foundations Theory is true, that there really are a few basic intuitive foundations upon which all cultures construct systems of virtue and vice. What is the "cash-value" of this theory? What new questions does it allow researchers to ask about morality, and what new understandings can measurement of its constructs provide? We address this section to researchers who don't expect to use the Moral Foundations Questionnaire in their own research, but would like to know what the theory and measure can tell them about moral psychology. First and foremost, MFT provides a broadened conception of morality, not only in content domain (including group-focused as well as individual-focused concerns) but – by showing how moral judgments influence attitudes and behavior in social situations far removed from quandary ethics – in life domain as well (Rozin, 2006). For instance, the above validation exercises with external scales and social group attitudes showed that many traits and attitudes that don't seem to be about morality on the surface nevertheless show a systematic and theoretically meaningful relationship to moral concerns measured by the MFQ. We present here three additional findings made possible by MFT's broadened definition of morality, and its finer conceptual resolution of morality's components.

1. *Robustness of ideological patterns across cultures*. Using a variety of measures and methods, Graham et al. (2009) showed that liberals value Harm and Fairness concerns more than conservatives, while conservatives value Ingroup, Authority, and Purity concerns more than liberals. The vast majority of these participants, however, came from the United States, leaving open the question of whether these patterns were limited to the particular ideological conflicts of the United States. Table 11 shows correlations between political ideology[4] and the five foundations for the different world areas described in the Generalizability section. The correlations indicate that the liberal-conservative patterns found in the U.S. are robust across national and cultural contexts, both in terms of direction (negative correlations [liberals higher] for Harm and Fairness, positive correlations [conservatives higher] for Ingroup, Authority, and Purity) and in terms of magnitude: correlations are consistently strongest for Authority and Purity, and weakest for Harm. This suggests that across cultures, the most intractable political debates are likely to involve concerns related to respect for traditions/authorities and physical/spiritual purity, while the greatest degree of moral commonality may be found in issues related to harm and care. It also reinforces the claim that political ideology can be self-assessed and that the unidimensional left-right construct has some degree of common meaning across societies, despite differences in political party structures and particular national issues (Jost, 2006).

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[4]Because the terms "liberal" and "conservative" can mean different things in different nations (i.e., the Liberal Party in Australia is actually center-right ideologically), the political identification item on YourMorals.org clarifies to participants that the items from "very liberal" to "very conservative" should be read as "very left-wing" to "very right-wing."

2. *East-West differences in foundation endorsement*. Moving beyond politics, the international MFQ data can also be used to describe cross-cultural differences in moral concerns. We compared participants from Eastern cultures (South Asia, East Asia, and Southeast Asia, n=2,258) to participants from Western cultures (U.S., U.K., Canada, and Western Europe, n=104,893). Eastern participants showed stronger concerns about Ingroup (mean difference=.23, $t(107149)$=12.42, $p < .0001$, $d = .08$) and Purity (mean difference=.25, $t(107149)$=10.51, $p < .0001$, $d = .06$) compared to Western participants, and were only very slightly more concerned about Harm, Fairness, and Authority (mean differences < .1, ts < 7, ds < .04). The fact that differences are concentrated in Ingroup and Purity makes some sense in light of established cultural differences in collectivism (Triandis, 1995) and the role of purity concerns in daily life and religious practice, particularly in South Asia (Shweder et al., 1997). But it is noteworthy that there are not large differences in Authority, given greater sensitivity to social hierarchy (Power Distance scores) in eastern nations (Hofstede, 2001). The small effect sizes for all the East-West differences suggest that variation within cultures (e.g., by gender or political ideology) will exceed the east-West variations given so much attention in cross-cultural research. Here we see that the increased resolution afforded by MFT allows us to find moral differences we would not have been able to find otherwise – differences that open up intriguing questions for further research.

3. *Gender differences in foundation endorsement*. The MFQ reveals interesting gender differences as well. In the large international dataset collected at YourMorals.org (49,428 women, 68,812 men), women score higher than men on Harm (mean difference=.47, $t(118238)$=99.16, $p < .0001$, $d = .58$), Fairness (mean difference=.16, $t(118238)$=37.75, $p < .0001$, $d = .22$), and Purity (mean difference=.16, $t(118238)$=25.10, $p < .0001$, $d = .15$), with men just barely higher on Ingroup and Authority (mean differences < .06, ds < .06). Women were more concerned than men about Harm, Fairness, and Purity, even controlling for political ideology. As the effect sizes show, these gender differences were much stronger than the differences between Eastern and Western cultures. The gender patterns make sense in light of previous research on empathy (Davis, 1983), egalitarianism (Arts & Gelissen, 2001), and disgust sensitivity (Druschel & Sherman, 1999), but they also show an important divergence from the political patterns in that Purity is here grouped with Harm and Fairness, rather than Ingroup and Authority. Here too the finer resolution and broadened scope of MFT allowed us to find and describe differences in moral personality not possible before.

General Discussion

Moral Foundations Theory (Haidt & Joseph, 2004; Haidt & Graham, 2007) was created by selecting the closest links between evolutionary accounts of human sociality and anthropological accounts of the breadth and variability of the moral domain (see especially Fiske, 1992, and Shweder et al., 1997). The findings reported in this article suggest that those anthropologists were right. From a purely descriptive perspective, the domain of morality consists of more than just "prescriptive judgments of justice, rights, and welfare" (Turiel, 1983, p. 3). Furthermore, we found that one does not need to travel to non-Western nations to find this broader conception of morality. In every country and world region we examined, people on the political right placed greater emphasis on concerns about ingroup loyalty, respect for authorities and traditions, and physical/spiritual purity than did people on the political left.

Our data confirm that concerns about Harm and Fairness are so widespread that they might be said to be universally used foundations of morality (upon which cultures construct differing ideas as to what counts as harm, or what kinds of distributions are fair). But many people and cultures are also concerned about the proper relationships of individuals to groups, authorities, institutions, and roles. And many people and cultures are concerned about how people treat their own bodies—whether they treat them as playgrounds for their own pleasure, or as temples created by God to house a soul within. These additional moral concerns have not been included in measures of morality, until now.

The Moral Foundations Questionnaire

The Moral Foundations Questionnaire fills the need for a theoretically-grounded scale covering the full range of human moral concerns. We found substantial evidence that the scale is reliable and valid. The scale is internally consistent (both within and between two question formats) while maintaining conceptual coverage of diverse manifestations of foundation-related concerns. Test-retest analyses showed stability of foundation subscale scores over time. External validations of the MFQ using widely-used scales, as well as attitudes toward conceptually related social groups, showed convergent, discriminant, and predictive validity. Factor analyses confirmed our theoretical parsing of the moral domain into five sets of concerns: the five-factor model fit the data better (weighing both fit and parsimony) than competing models, and this five-factor representation provided a good fit for participants in 11 different world areas. In addition to the scale itself, we expect that the method introduced in this paper (see Figure 1) for empirically selecting items to maximize both internal and external validity will also be of use to researchers.

The best existing instrument for assessing moral concerns beyond harm and fairness is the Schwartz Values Scale (SVS; Schwartz, 1992), which includes group-level values such as "tradition" and "conformity." However, the SVS was created to measure a broad spectrum of values; it was not designed to cover the moral domain specifically, and it does not cover concerns about group-loyalty and spiritual purity. In a head-to-head comparison, the MFQ showed incremental predictive validity beyond the SVS for a diverse array of external scales related to moral personality, attitudes toward social groups, and opinions about moral and political issues (see Table 9). Further, in most cases, the MFQ performed even better than the SVS in overall variance explained of criterion variables, despite its shorter length and narrower conceptual coverage. This further illustrates the MFQ's effective measurement properties, balancing relatively short length and wide coverage of the moral domain.

What MFT and the MFQ can Reveal about Morality

The research reported here indicates that the MFQ is a reliable and valid instrument for measuring a broad range of moral concerns. But in the process of developing and validating the MFQ, we also generated a number of substantive discoveries about moral psychology, such as:

1. *A map of the moral domain*. Because it distinguishes five kinds of moral concerns, and gives separate evolutionary accounts to explain each of their origins (Haidt & Joseph, 2007), MFT is not as parsimonious as theories of morality that try to derive the entire moral domain from one or two principles or processes (usually kin selection plus reciprocal altruism – see Dawkins, 1976; Hauser, 2006; Joyce, 2006). However, comparisons of different structural models revealed that the five-factor solution is an improvement over other theoretically-derived models, even taking into account the relative loss of parsimony. Analyses of international data showed that this five-factor model was a good fit in every area of the world we were able to examine. This provides empirical evidence for MFT's central claim about the structure of human morality, and points toward the usefulness of this added

complexity in revealing new findings about moral similarities and differences across individuals, groups, and cultures.

2. *A guide to where the action is*. We found some small and easily interpretable cross-cultural differences in moral foundation scores: people in Eastern cultures were slightly more likely to value Ingroup and Purity than people in Western cultures. As with all research that relies upon educated participants, our cross-national differences would probably have been much larger if we had found a way to survey rural villagers and the urban poor in Asia. Nonetheless, the cross-national differences we did find were dwarfed by the within-nation (or within-region) differences we examined, including both ideological differences and sex differences (women valued Harm, Fairness, and Purity more than men, even controlling for political ideology). With reliable measures of these different kinds of moral concerns, social and personality psychologists can now begin to examine many such patterns of similarities and dissimilarities, as well as the processes behind them.

3. *A method for discovering moral prejudices*. The finer resolution offered by the MFQ also revealed the potential role of moral judgment in prejudice. When we examined attitudes toward various social groups, we found that MFQ subscales indicated varying patterns of moral concerns that might lead some people to dislike some groups. This suggests that attitudes toward social groups may often be expressions of moral judgments about those groups – vague intuitions or explicit convictions that a particular social group upholds or violates one or more foundational concerns. The moral foundations can thus be used as a kind of decoder ring, allowing us to see multiple and sometimes unexpected moral threads connecting seemingly unrelated attitudes and opinions (cf. Koleva et al, 2010). This possibility emphasizes our functional definition of morality as a description of what motivates people to suppress selfishness, rather than a prescriptive definition of how one ought to behave. By describing and quantifying a broadened range of human moral concerns, MFT and the MFQ can aid in our understanding of the dangers of morality, as well as the benefits.

Limitations and Directions for Further Research

The map of the moral domain that we offer is provisional. We hope that other researchers will help us improve it. Here are four next steps:

1. *Obtain other samples*. While the findings reported in this article held across tens of thousands of participants from around the world, caution is warranted. Most importantly, our data came from volunteers who are not representative of any definable population. Nonetheless, the consistency of effects across 11 nations or regions suggests that the observed patterns are, at least, widespread. It will be useful to compare the present findings with representative samples in each nation. As a start, the MFQ has been given to nationally representative samples in the USA (Smith & Vaisey, 2010), which replicated the basic pattern of ideological differences that we report in Table 11. The problem of non-representativeness is exacerbated in non-English-speaking nations, because all of our respondents were adult English-speakers with access to the Internet. Future work will be needed to validate and refine the scale for use with other populations. This work has already begun, using translations of the MFQ into Chinese, Croatian, Dutch, Italian, Polish, Russian, and Spanish (all available at MoralFoundations.org), and field work with populations not reachable via online research (such as the inhabitants of a municipal dump outside Managua, Nicaragua; Graham, Cox, & Casablanca, 2010).

2. *Test developmental hypotheses.* Kohlberg traced the development of reasoning about justice. Gilligan examined the development of reasoning about care. Moral Foundations Theory indicates that we also need basic descriptive work on the development of judgment and reasoning about ingroups, authority, and purity. A question of particular interest will be whether moral maturity involves shifting from one pattern of foundation-usage to another. For example, Kohlberg's scoring manual acknowledged that people sometimes justified their judgments by referring to authority and tradition, but he believed that this was an immature (conventional) form of morality, which would be transcended with age and additional opportunities for role taking. As noted in the introduction, this view set off a "stage-ideology" debate, in which Kohlberg was criticized for treating a liberal set of values as a developmental progression beyond a conservative set of values (cf. Emler et al, 1983). As a descriptive account of the range of human moral concerns, MFT does not make normative claims about which kinds of concerns are better than others (claims about which are more complex, or more mature than others – such as Kohlberg's [1971] "naturalistic fallacy" – fall into this normativity). However, future work on how the foundations develop and change in response to environmental changes and life events could inform this debate by giving more information about how people come to have the moral concerns they do (and possibly even why people in the same culture and environment hold different moral values sacred). Clearly, more work is needed on the development of moral foundations in children, and on the dynamics of moral change throughout adolescence and adulthood.

3. *Go beyond self-report.* An additional limitation is that the data reported in this article consists entirely of self-report measurements of attributes, attitudes, and judgments. Future steps improving the map of the moral domain should include analyses of morally relevant behaviors, life events, and implicit attitudes.

4. *Look for more foundations.* The map we have offered is surely incomplete. Because of the theory-driven origin of MFT, and the strong empirical support for the theory reported here, we believe that the five foundations offer a good initial map of the major moral continents. However, it is quite possible that later research, using different items or different methods, will reveal that one of these continents is, like Eurasia, really two continents. For example, we included concerns about liberty in the Fairness foundation, because Fairness gives rise to notions of rights. Whether such a grouping can be sustained with additional scrutiny is an open question, as is the question of whether a single foundation underlies intuitions about equality of opportunities and those about equality of outcomes. It is also possible that two of the five continents are really riding on a single tectonic plate. For example, Ingroup and Authority tend to intercorrelate highly across analyses, but our investigation so far suggests that it is reasonable and useful to keep them separate. Finally, it is possible that some major islands remain to be named. For example, others have suggested wisdom, waste, authenticity, truth, and self-control as candidate foundations.

Conclusion

People disagree about the size and content of the moral domain – that is, about what "morality" means. Researchers therefore need theories that encompass the true breadth of human morality, and they need measurement tools that can detect a broad array of moral concerns. In this article we presented Moral Foundations Theory as a way of thinking about morality that goes beyond harm and fairness (with inspiration from Shweder et al., 1997). And we presented the Moral Foundations Questionnaire as a reliable, valid, and easy-to-use

tool for exploring this expanded moral domain. The MFQ, and its progeny, will be useful for extending, critiquing, and otherwise improving psychology's map of the moral domain.

Acknowledgments

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Appendix. Moral Foundations Questionnaire

Part I – Moral Relevance

(responded to using the following response options: not at all relevant , not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant)

Harm:

EMOTIONALLY - Whether or not someone suffered emotionally*

WEAK - Whether or not someone cared for someone weak or vulnerable*

CRUEL - Whether or not someone was cruel

Fairness:

TREATED - Whether or not some people were treated differently from others*

UNFAIRLY - Whether or not someone acted unfairly*

RIGHTS - Whether or not someone was denied his or her rights

Ingroup:

LOVECOUNTRY - Whether or not someone's action showed love for his or her country*

BETRAY - Whether or not someone did something to betray his or her group*

LOYALTY - Whether or not someone showed a lack of loyalty

Authority:

RESPECT - Whether or not someone showed a lack of respect for authority*

TRADITIONS - Whether or not someone conformed to the traditions of society*

CHAOS - Whether or not an action caused chaos or disorder

Purity:

DECENCY - Whether or not someone violated standards of purity and decency*

DISGUSTING - Whether or not someone did something disgusting*

GOD - Whether or not someone acted in a way that God would approve of

(An asterisk indicates that the item is also included in the 20 item short-form MFQ.)

Part II – Moral Judgments

(responded to using the following response options: strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree)

Harm:

COMPASSION - Compassion for those who are suffering is the most crucial virtue.*

ANIMAL - One of the worst things a person could do is hurt a defenseless animal.*

KILL - It can never be right to kill a human being.

Fairness:

FAIRLY - When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.*

JUSTICE – Justice is the most important requirement for a society.*

RICH - I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

Ingroup:

HISTORY - I am proud of my country's history.*

FAMILY - People should be loyal to their family members, even when they have done something wrong.*

TEAM - It is more important to be a team player than to express oneself.

Authority:

KIDRESPECT - Respect for authority is something all children need to learn.*

SEXROLES - Men and women each have different roles to play in society.*

SOLDIER - If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.
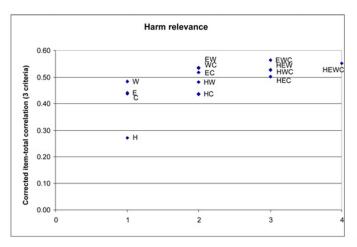
Purity:
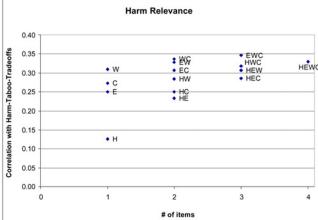
HARMLESSDG - People should not do things that are disgusting, even if no one is harmed.*
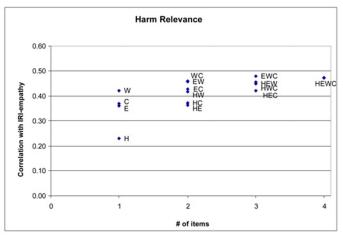
UNNATURAL - I would call some acts wrong on the grounds that they are unnatural.*
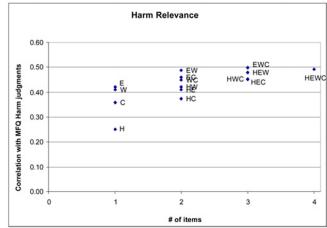
CHASTITY - Chastity is an important and valuable virtue.

(An asterisk indicates that the item is also included in the 20 item short-form MFQ.)
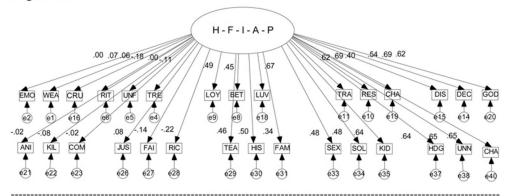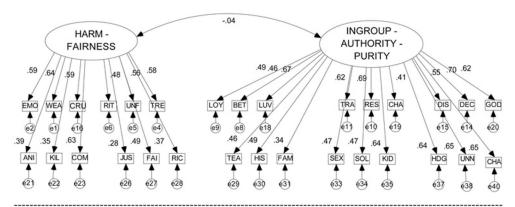
Figure 1.
Example of item selection procedure for final version of MFQ

Note. Figure shows how much is gained, in terms of correlations with internal and external validity criteria scales, as the number of items in each subscale is increased from 1–4. The panels show analyses of all possible item combinations in the Harm Relevance subscale, plotting their correlations with the Harm judgments subscale (lower right quadrant), Harm sacredness scale (upper right), IRI-empathy subscale (lower left), and corrected item-total correlations with all three criterion scales. Letters refer to items in the Harm relevance subscale: H=Harmed, E=Emotionally, C=Cruel, W=Weak (all items can be found in the Appendix except Harmed, which was dropped because of this analysis).
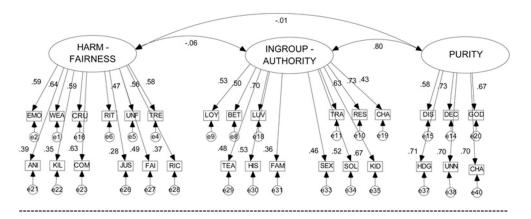
Single factor:
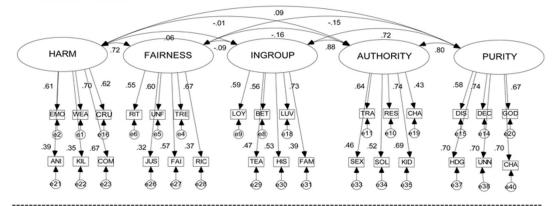
Two correlated factors:
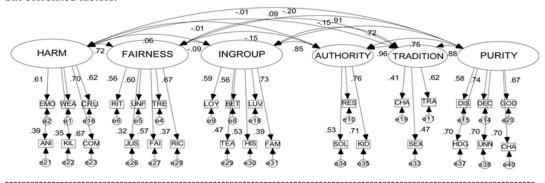
Three correlated factors:
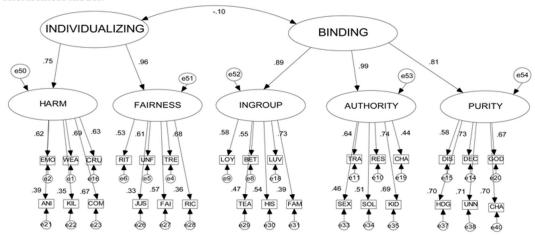
Figure 2. Moral Foundations Questionnaire confirmatory factor analysis model comparisons
Note. Models shown for full MFQ scale. Fit and comparison statistics for these models, and for models including relevance and judgments data separately, are shown in Tables 5 and 6.

Table 1

Statistics on the four versions of the Moral Foundations Questionnaire

MFQ Version	n	Number of items	Average Subscale α (range)
1	1,613	15	.59 (.39–.70)
2	2,212	43	.71 (.58–.83)
3	28,801	40	.76 (.69–.86)
4 (Final)	34,476	30	.73 (.65–.84)

Table 2

Means, standard deviations and alphas for moral foundation subscales

Foundation	Subscale	α	Total (n=34,476)		Liberals (n=21,933)		Moderates (n=3,203)		Conservatives (n=4,128)		Libertarians (n=2,999)	
Harm:	H-Relevance	.70	3.77	(0.86)	3.93	(0.76)	3.68	(0.84)	3.48	(0.89)	3.26	(1.03)
	H-Judgments	.51	3.08	(1.11)	3.32	(1.01)	2.95	(1.09)	2.48	(1.11)	2.34	(1.17)
	Harm Total	**.69**	**3.42**	**(0.84)**	**3.62**	**(0.74)**	**3.31**	**(0.81)**	**2.98**	**(0.84)**	**2.80**	**(0.94)**
Fairness:	F-Relevance	.65	3.89	(0.78)	4.04	(0.67)	3.77	(0.77)	3.44	(0.87)	3.66	(0.90)
	F-Judgments	.40	3.21	(0.93)	3.43	(0.86)	3.00	(0.86)	2.59	(0.87)	2.71	(0.95)
	Fairness Total	**.65**	**3.55**	**(0.73)**	**3.74**	**(0.63)**	**3.39**	**(0.68)**	**3.02**	**(0.73)**	**3.19**	**(0.79)**
Ingroup:	I-Relevance	.71	2.24	(1.03)	2.06	(0.94)	2.56	(1.00)	3.03	(1.02)	2.16	(1.10)
	I-Judgments	.46	2.28	(0.98)	2.09	(0.91)	2.59	(0.90)	3.13	(0.85)	2.21	(0.97)
	Ingroup Total	**.71**	**2.26**	**(0.87)**	**2.07**	**(0.77)**	**2.58**	**(0.79)**	**3.08**	**(0.79)**	**2.19**	**(0.89)**
Authority:	A-Relevance	.67	2.03	(0.95)	1.88	(0.86)	2.37	(0.90)	2.81	(0.91)	1.71	(0.95)
	A-Judgments	.60	2.52	(1.12)	2.23	(1.01)	2.97	(0.94)	3.74	(0.82)	2.55	(1.14)
	Authority Total	**.74**	**2.27**	**(0.90)**	**2.06**	**(0.79)**	**2.67**	**(0.77)**	**3.28**	**(0.71)**	**2.13**	**(0.90)**
Purity:	P-Relevance	.68	1.68	(1.11)	1.44	(0.94)	2.09	(1.09)	2.88	(1.11)	1.31	(1.03)
	P-Judgments	.75	1.41	(1.20)	1.09	(0.96)	1.88	(1.16)	2.90	(1.20)	1.16	(1.10)
	Purity Total	**.84**	**1.54**	**(1.08)**	**1.27**	**(0.86)**	**1.99**	**(1.03)**	**2.89**	**(1.07)**	**1.23**	**(0.98)**

Note. Range for all items and subscales is 0–5. Standard deviations are shown in parentheses.

Table 3

Internal relations between relevance and judgments subscales.

	MFQ relevance subscales:				
MFQ judgments subscales:	Harm	Fairness	Ingroup	Authority	Purity
Harm	**.47**	.36	.03	.04	.10
Fairness	.32	**.46**	−.09	−.11	−.12
Ingroup	−.05	−.13	**.48**	.43	.40
Authority	−.12	−.21	.42	**.49**	.47
Purity	.05	−.09	.44	.53	**.74**

After partialing political ideology:

	MFQ relevance subscales:				
MFQ judgments subscales:	Harm	Fairness	Ingroup	Authority	Purity
Harm	**.38**	.25	.07	.09	.19
Fairness	.23	**.35**	.06	.05	.07
Ingroup	.04	−.04	**.38**	.32	.25
Authority	−.02	−.08	.31	**.39**	.31
Purity	.11	−.01	.29	.37	**.64**

Note. Top panel shows zero-order correlations between subscales; bottom panel shows partial correlations after removing variance shared with political ideology. The highest correlation in each row is shown in bold.

Table 4

Factor loadings from exploratory factor analysis of the Moral Foundations Questionnaire items

Relevance Items:	Factor 1	Factor 2
Harm:		
Emotionally	0.01	**0.59**
Weak	0.09	**0.65**
Cruel	0.07	**0.59**
Fairness:		
Unfairly	0.01	**0.56**
Treated	−0.11	**0.59**
Rights	−0.18	**0.47**
Ingroup:		
Loyalty	**0.52**	0.19
Betray	**0.48**	0.17
Lovecountry	**0.67**	0.02
Authority:		
Traditions	**0.61**	0.00
Respect	**0.69**	0.05
Chaos	**0.40**	0.20
Purity:		
Disgusting	**0.57**	0.21
Decency	**0.70**	0.10
God	**0.64**	−0.02
Judgment Items:		
Harm:		
Animal	−0.01	**0.39**
Kill	−0.07	**0.35**
Compassion	−0.01	**0.63**
Fairness:		
Justice	0.09	**0.27**
Fairly	−0.14	**0.48**
Rich	−0.22	**0.38**
Ingroup:		
Team	**0.45**	−0.03
History	**0.49**	−0.18
Family	**0.34**	0.04
Authority:		
Sexroles	**0.47**	−0.24
Soldier	**0.48**	−0.20
Kidrespect	**0.64**	−0.05
Purity:		
Harmlessdg	**0.66**	0.03

Relevance Items:	Factor 1	Factor 2
Unnatural	**0.66**	−0.07
Chastity	**0.67**	−0.08

Note. Strongest factor loading for each item indicated in bold.

Table 5

Goodness-of-fit indices for structural models representing confirmatory factor analyses of Moral Foundations Questionnaire data collected on yourmorals.org (N=34,476)

Relevance items	χ^2	df	ε_a	$\Delta\chi^2/\Delta df$	95%CI $\varepsilon_a\Delta$
[1] Single factor	57093.3	90	.100		
[2] Two correlated factors	20180.0	89	.060	36913.3/1	1.024 – 1.045
[3] Three correlated factors	17658.0	87	.057	2522.0/2	0.184 – 0.199
[4] Five correlated factors	11347.5	80	.047	6310.5/7	0.158 – 0.166
Judgment items	χ^2	df	ε_a	$\Delta\chi^2/\Delta df$	95%CI $\varepsilon_a\Delta$
[1] Single factor	32485.5	90	.076		
[2] Two correlated factors	17270.0	89	.055	15215.5/1	0.654 – 0.675
[3] Three correlated factors	12191.4	87	.047	5078.6/2	0.264 – 0.279
[4] Five correlated factors	11084.6	80	.047	1106.8/7	0.064 – 0.072
Full MFQ (all items)	χ^2	df	ε_a	$\Delta\chi^2/\Delta df$	95%CI $\varepsilon_a\Delta$
[1] Single factor	138995.4	405	.073		
[2] Two correlated factors	74542.9	404	.054	64452.5/1	1.357 – 1.378
[3] Three correlated factors	63074.0	402	.050	11468.9/2	0.400 – 0.415
[4] Five correlated factors	53894.1	395	.046	9179.9/7	0.191 – 0.199

Note. ε_a = root-mean-square error of approximation (RMSEA) for the model. $\Delta\chi^2/\Delta df$ = change in χ^2 and degrees of freedom relative to the previous model. 95%CI $\varepsilon_a\Delta$ = confidence interval around RMSEA of the change in fit between models; if .050 falls within the CI, then model fits are not considered significantly different. Model in bold is the best-fitting model according to these comparisons.

Table 6

Goodness-of-fit indices for structural models representing confirmatory factor analyses of the MFQ comparing the optimal first-order models (five intercorrelated factors) to hierarchical models containing two superordinate factors

Relevance items	χ^2	df	ε_a	$\Delta\chi^2/\Delta df$	95%CI $\varepsilon_a\Delta$
[1] Hierarchical model	12723.8	85	.049		
[2] Five correlated factors	11347.5	80	.047	1376.3/5	0.085 – 0.094
Judgment items	χ^2	df	ε_a	$\Delta\chi^2/\Delta df$	95%CI $\varepsilon_a\Delta$
[1] Hierarchical model	11822.3	85	.046		
[2] Five correlated factors	11084.6	80	.047	737.7/5	0.061 – 0.070
Full MFQ (all items)	χ^2	df	ε_a	$\Delta\chi^2/\Delta df$	95%CI $\varepsilon_a\Delta$
[1] Hierarchical model	55322.9	400	.047		
[2] Five correlated factors	53894.1	395	.046	1428.8/5	0.086 – 0.096

Note. ε_a = root-mean-square error of approximation (RMSEA) for the model. $\Delta\chi^2/\Delta df$ = change in χ^2 and degrees of freedom relative to the previous model. 95%CI $\varepsilon_a\Delta$ = confidence interval around RMSEA of the change in fit between models; if .050 falls within the CI, then model fits are not considered significantly different. Model in bold is the optimal model (weighing both fit and parsimony) according to these comparisons.

Table 7

Pearson correlations of MFQ subscales with external scales and scale items.

External scale criteria group:	MFQ subscales:				
	Harm	**Fairness**	**Ingroup**	**Authority**	**Purity**
Good-Self: kind/caring, sympathetic/ compassionate, generous/giving	.43	.27	.00	.07	.06
IRI – Empathic Concern	.59	.42	-.02	-.02	.14
Schwartz value: benevolence	.47	.29	.19	.13	.22
Psychopathy (reversed)	.50	.42	.03	.07	.06
Harm scales average	**.50**	.35	.05	.06	.12
Good-Self: fair/just	.15	.44	-.10	-.03	-.11
Schwartz value: social justice	.52	.52	-.07	-.10	-.01
Social Dominance Orientation (reversed)	.57	.56	-.27	-.39	-.25
Fairness scales average	.42	**.51**	-.14	-.18	-.12
Schwartz values: loyalty, national security, family security	.04	-.04	.53	.48	.37
Good-Self: loyal/faithful	.11	.17	.46	.40	.33
Ingroup scales average	.07	.07	**.50**	.44	.35
Schwartz values: social order, authority, respect for tradition, honoring parents, obedience	.07	-.04	.53	.62	.54
Progressive and Traditional Justice Scale – Traditionalism	-.37	-.25	.35	.37	.30
Right-Wing Authoritarianism	-.25	-.37	.56	.65	.70
Authority scales average	-.18	-.22	.48	**.55**	.51
Schwartz values: self-discipline, clean, devout	.08	-.06	.37	.44	.61
Disgust Scale – Revised	.23	.12	.21	.19	.34
Religious Attendance	.02	-.12	.27	.32	.54
Purity scales average	.11	-.02	.28	.32	**.50**

Note. The highest correlation for each set of scales is shown in bold.

Table 8

Partial correlations of foundation scores and attitudes toward foundation-related social groups.

| Social groups aggregate: | MFQ subscales: | | | | |
	Harm	**Fairness**	**Ingroup**	**Authority**	**Purity**
Harm-related groups	**0.28**	0.09	0.00	−0.06	0.11
Fairness-related groups	0.26	**0.28**	−0.10	−0.16	0.06
Ingroup-related groups	0.10	0.03	**0.35**	0.22	−0.05
Authority-related groups	−0.10	−0.01	0.22	**0.29**	0.04
Purity-related groups	0.14	−0.04	0.12	0.26	**0.44**

Note. Figures represent partial correlations controlling for political ideology. The highest partial correlation in each row is shown in bold.

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Table 9

Incremental predictive validity comparisons between the MFQ and Schwartz Value Survey (SVS)

External Scales:	R² for SVS alone	ΔR² adding MFQ to SVS	R² for MFQ alone	ΔR² adding SVS to MFQ
Harm scales:				
IRI-empathic concern	0.39	0.10	0.39	0.10
Psychopathy	**0.36**	0.04	0.23	0.17
GoodSelf (kind/caring, sympathetic/compassionate, generous/giving)	**0.33**	0.03	0.21	0.15
Fairness scales:				
SDO	0.47	0.11	**0.51**	0.07
GS fair/just	**0.19**	0.08	0.16	0.11
Ingroup scale:				
GS loyal/faithful	0.28	0.13	**0.31**	0.10
Authority scales:				
RWA	0.53	0.15	**0.65**	0.03
QAJ-Traditional justice	0.25	0.09	**0.30**	0.03
Purity scales:				
Disgust Scale-Revised	0.10	0.10	**0.15**	0.06
Religious attendance	0.28	0.07	**0.28**	0.07
Social Groups:				
Harm-related groups	0.27	0.08	**0.29**	0.06
Fairness-related groups	0.27	0.06	**0.28**	0.05
Ingroup-related groups	0.25	0.05	**0.26**	0.04
Authority-related groups	0.24	0.08	**0.29**	0.03
Purity-related groups	0.26	0.07	**0.27**	0.06
Issue positions:				
Global warming	**0.30**	0.05	0.27	0.08
Gun Control	0.20	0.07	**0.23**	0.04
Immigration	0.19	0.06	**0.22**	0.03

External Scales:	R² for SVS alone	ΔR² adding MFQ to SVS	R² for MFQ alone	ΔR² adding SVS to MFQ
Defense spending	0.26	0.06	**0.29**	0.03
Flag-burning	0.15	0.04	**0.18**	0.01
Terrorism	0.16	0.06	**0.21**	0.01
Torture	0.29	0.08	**0.33**	0.04
Abortion	0.33	0.10	**0.39**	0.04
Stem-cell research	0.26	0.07	**0.28**	0.05
Gay Marriage	0.33	0.12	**0.43**	0.02
Evolution/Creationism in schools	0.21	0.08	**0.27**	0.02

Note. Bold indicates which scale, Schwartz Values Scale (SVS) or Moral Foundations Questionnaire (MFQ), is the stronger predictor alone.

Table 10

Fit indices for a five-factor model of moral concerns across multiple nations and world regions

Nation or world region	N	χ^2	ε_a	CFI
United States	26,014	42825.0	.048	.824
Canada	2,072	3189.0	.048	.826
Western Europe	1,670	2637.8	.046	.811
United Kingdom	1,175	1978.7	.046	.837
Australia	707	1493.0	.053	.807
Eastern Europe	413	859.2	.043	.876
Latin America	411	907.2	.039	.841
South Asia	299	747.3	.042	.838
Middle East	225	778.4	.051	.794
Southeast Asia	203	820.5	.056	.748
East Asia	163	675.0	.049	.729
Africa	56	---	---	---

Note. For each fit analysis there were 395 degrees of freedom and 100 parameters estimated. Fit indices could not be computed for Africa due to insufficient sample size.

Table 11

Foundation correlations with political ideology by world area.

	USA	UK	Canada	Australia	Western Europe	Eastern Europe	Latin America	Africa	Middle East	South Asia	East Asia	Southeast Asia	Average
N	*80,322*	*2,579*	*4,314*	*1,563*	*3,766*	*888*	*1,345*	*153*	*575*	*884*	*479*	*550*	
Harm	−0.35	−0.25	−0.31	−0.28	−0.22	−0.17	−0.16	−0.04	−0.19	−0.14	−0.19	−0.12	**−0.20**
Fairness	−0.44	−0.40	−0.36	−0.38	−0.33	−0.28	−0.33	−0.35	−0.32	−0.21	−0.24	−0.29	**−0.32**
Ingroup	0.47	0.42	0.34	0.44	0.35	0.35	0.32	0.39	0.42	0.33	0.28	0.33	**0.37**
Authority	0.56	0.51	0.50	0.53	0.47	0.43	0.46	0.51	0.56	0.42	0.37	0.48	**0.48**
Purity	0.58	0.46	0.47	0.52	0.46	0.45	0.48	0.51	0.51	0.45	0.42	0.49	**0.49**