



Different types of moral cognition: Moral stages versus moral foundations

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ABSTRACT

Two measures of moral cognition were compared across three samples: Rest's neo-Kohlbergian stages of moral developmental (DIT) and Graham and Haidt's intuition-based Moral Foundations Theory (MFQ). In spite of differences both in theory and in measurement, there was considerable overlap between Stage 2/3 "personal interests" (DIT) and In-group (MFQ), as well as Stage 4 "maintaining norms" (DIT) and Authority (MFQ). Unexpectedly, Stages 5/6 "post-conventional" (DIT) was unrelated to Fairness and Harm (MFQ) in two of the three samples. However, participants' prioritization of Fair/Harm over Authority/In-group/Purity was positively related to their post-conventional reasoning across all three samples. Also, for conservatives, Stage 4 reasoning decreased in the cognitive load/depletion sample, matching that of liberals. Conceptual, operational, and developmental implications of these findings are discussed.

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1. Introduction

1.1. Haidt's Moral Foundations Theory

Haidt, Graham, and their colleagues propose that there are five basic moral "foundations" or "intuitions" recognized world-wide (*Moral Foundations Theory*: MFT): Fairness/Reciprocity, Harm/Care, Authority/Respect, In-group/Loyalty, and Purity/Sanctity (Graham, Haidt, & Nosek, 2009; Graham et al., 2011). The 32-item Moral Foundations Questionnaire (MFQ) is their measure of these foundations. Based on factor analysis, Fairness and Harm together form the "individualizing" foundations, while Authority, In-group, and Purity are the "binding" foundations.

A major emphasis of MFT has been the finding that liberals, world-wide, rate the individualizing foundations slightly higher and the binding foundations much lower than conservatives, who rate them all more or less equally (e.g., Graham et al., 2011). In addition, recent research (Wright & Baril, 2011) has found that cognitively taxing participants, using cognitive load and ego depletion tasks, decreased the ratings of the binding foundations for conservatives. In other research, however, liberals become more conservative in their political opinions when under cognitive load (Jost, Krochik, Gaucher, & Hennes, 2009; Skitka, Mullen, Griffin, Hutchinson, & Chamberlin, 2002). Also, liberals become more like conservatives both on the MFQ (Wright & Baril, 2012) and politically and psychologically generally (e.g., Nail, McGregor, Drinkwater, Steele, & Thompson, 2009) when exposed to a mortality

salience manipulation. Overall, this research illustrates how tenuous moral and political cognitions can be.

Another emphasis has been the development and validation of the MFQ (Graham et al., 2011). However, a significant omission in this validation has been any measure of Lawrence Kohlberg's (1984) stages of moral development, though they recognize the importance of his theory (e.g., Graham, Haidt, & Kaufman, 2008). In fact, we have yet to find any studies that explore the empirical relationship between Kohlberg's stages and MFT.

1.2. Kohlberg/neo-Kohlbergian moral stage theory

Kohlberg (1984) maintained that moral cognition develops through stages ranging from early "pre-conventional" reasoning based on rewards and punishment (Stage 1) and simple reciprocity (Stage 2) to "conventional" reasoning involving social approval/personal relationships (Stage 3) and upholding/enforcing norms and laws (Stage 4), culminating in "post-conventional" reasoning based on broad social contract issues (Stage 5) and universal principles (Stage 6). Although Kohlberg's highest level (post-conventional) is based on the principle of justice, Kohlberg also recognized that an ability to care for others (especially "perspective taking") is a necessary part of moral reasoning (Colby & Kohlberg, 1987, p. 11). Individuals are thought to progress through these stages as a result of maturation, developing cognitive ability, and education.

Kohlberg measured moral stages using the Moral Judgment Interview (MJI; Colby & Kohlberg, 1987), from which Rest (Rest, 1993; Thoma, 2006) developed a standardized questionnaire with three or six hypothetical dilemmas (the Defining Issues Test, DIT)

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and the newer five dilemma version (DIT-2; Bebeau & Thoma, 2003). For each of these dilemmas, individuals are asked to rate the importance of 12 statements in making their decision and then rank the four most important statements. The “P-score” reflects the degree to which people engage in post-conventional (Stage 5/6) reasoning.

While over the years, a number of criticisms of Kohlberg’s theory and Rest’s neo-Kohlbergian version of it have come and gone while some have lingered (see Lapsley, 2006). Graham et al. (2008, p. 274) suggest that “Kohlberg’s system faced two major critiques”: Gilligan’s (1982) charge that the theory and measurement is biased in favor of males, and Turiel’s (1983) view “that Kohlberg was actually describing two parallel developmental tracks, one reasoning about moral issues (harm, rights, justice) and the other reasoning about conventional issues (local norms, customs).” Gilligan’s criticism has been generally blunted by studies like Thoma’s (1986) meta-analysis showing that women scored slightly but significantly higher on the P-score than men. But a particularly persistent issue has been the claim of cultural universality for the developmental sequence of the stages. As a result of this concern, the current neo-Kohlbergian view is that stage universality is still an empirical issue (Thoma, 2006, pp. 71–72). But regardless of which measure is used and in spite of concerns such as these, the theory has received considerable support (see Thoma, 2006) including cross-cultural support (e.g., Kuyel & Clover, 2010).

1.3. Theory overlap

As can be seen from the descriptions of the stages and foundations above, MFT and Kohlberg’s theory appear to overlap: MFT’s Fairness/Harm with Kohlberg’s post-conventional level, Authority with Stage 4, and In-group with Stage 3. To a lesser degree, the research evidence is also congruent in that political liberals score lower on the binding foundations while slightly favoring the individualizing foundations more than conservatives (Graham et al., 2011) and also higher on the post-conventional moral reasoning (Thoma, Narvaez, Rest, & Derryberry, 1999).

Of course, there are differences between the two theories. For instance, the MFT is represented as a theory of moral “intuition” (Haidt, 2001) rather than moral “reasoning.” In addition, there is a clear distinction in the measurement process. The MFQ involves quick ratings of simple moral statements while the DIT involves the ranking of moral statements related to specific moral dilemmas. But in spite of (or even because of) the theoretical and operational differences between Kohlbergian/neo-Kohlbergian theory and MFT, the relationship between the DIT and the MFQ should be of interest. Thus, the basic purpose of the two studies reported

here was to determine how these two popular theories of morality are related to each other.

2. Study 1

2.1. Method

2.1.1. Participants

Introductory psychology students ($N = 119$) at the College of Charleston received course credit for participation. Of these, 117 completed all the questionnaires, but nine (8%) were eliminated by MFQ (Haidt, 2010) and DIT (Rest, 1993) validity checks for a total of 108. Seventy-two percent reported being female; 41% were liberal, 19% moderate, and 40% conservative. The median age was 19.4 years. Sixty-six percent were first year students, 16% sophomores, and the rest juniors and seniors.

2.1.2. Questionnaires and procedure

Along with demographic questions, participants rated their political orientation on three dimensions (general, economic, and social) on the same seven-point scale used by Graham et al. (2009, 2011). Following Choma and Hafer (2009), a mean of the three scores was calculated as the measure of conservatism. In addition, participants completed the MFQ (Haidt, 2010) and the six dilemma version of the DIT-1 (Rest, 1993; see Section 1). They also completed a personality index and an exploratory Implicit Association Test which are not relevant to this report. Participants completed the questionnaires via the internet (<http://www.surveymonkey.com/>) on PCs in a computer lab in groups of from 9 to 20.

2.2. Results

Table 1 presents the basic results of Study 1. As expected, the individualizing foundations (Fairness/Harm) were strongly related to each other as were the binding foundations (Authority/In-group/Purity), consistent with Haidt’s factor analysis (Graham et al., 2011). In addition, Fairness and Harm were negatively but not significantly related to conservatism. This is consistent with the weak relationships reported in Graham et al. (2011). However, the P-score showed a somewhat stronger and significant relationship to conservatism consistent with the general literature (Thoma, 2006, p. 76).

Of particular importance, MFQ Authority ratings were positively related to Stage 4 and In-group ratings were positively related to DIT Stage 2/3 (although also to Stage 4) which is congruent with the theoretical overlap between Kohlberg and MFT. In-group and

Table 1

Means, standard deviations, Cronbach’s alpha, and correlations for Study 1.

Measure	M	SD	CA	1	2	3	4	5	6	7	8	9	10
1. Gender ^a	1.72	.45	–										
2. Conserv.	3.99	1.36	–	.08									
3. Fair	3.48	.47	.40	.13	–.13								
4. Harm	3.55	.62	.45	.31**	–.15	.52**							
5. Authority	2.97	.68	.58	.14	.26**	.34**	.01						
6. In-group	2.86	.75	.67	–.03	.38**	.32**	.16	.54**					
7. Purity	2.59	.93	.76	.24*	.39**	.31**	.27**	.59**	.57**				
8. I–B score ^b	.71	.68	.46	.04	–.51**	.22*	.46**	–.67**	–.59**	–.60**			
9. P-score	35.66	12.88	.54	.04	–.27**	–.13	.08	–.24*	–.40**	–.13	.27**		
10. Stage 4	31.68	11.76	.41	.17	.42**	–.02	–.04	.23*	.24*	.15	–.26**	–.52**	
11. Stage 2/3	24.93	11.28	.42	–.16	–.05	.15	.01	.13	.26**	.07	–.11	–.56**	–.31**

$N = 108$.

^a Male = 1, Female = 2.

^b Individualizing – Binding scores.

* $p < .05$ 2 tailed.

** $p < .01$ 2 tailed.

Authority were also positively related to conservatism, as was Stage 4, but not Stage 2/3.

However, contrary to the predicted positive relationship, Fairness and the *P*-score were slightly, though not significantly, *negatively* related. Nor was Harm significantly related to the *P*-score even though Kohlberg's theory and the research evidence suggests there should be a relationship (Juujarvi, Myyry, & Pessa, 2010).

But of interest were the negative correlations between the *P*-score and Stage 4 and Stage 2/3 as well as between Stages 4 and 2/3. These negative correlations were expected because the DIT scores are produced by a ranking process, which indicates participants' relative "prioritization" of one stage over the other stages as mentioned in the Introduction. Indeed, this prioritizing of the stages in the DIT differentiates it from the MFQ, where respondents can score equally high on all five foundations. Therefore, in an attempt to better capture the relationship between the MFQ and DIT, we subtracted the binding foundations score (average of Authority/In-group/Purity) from the individualizing foundations score (average of Fairness/Harm), providing us with participants' relative prioritization of the one over the other (the *I–B* score). The larger this difference score, the more participants prioritized Fairness/Harm over Authority/In-group/Purity. This measure is called "Progressivism" on Haidt's website (Haidt, 2010).

And, indeed, the participants' *I–B* score was positively related to their *P*-score and was negatively related to conservatism. In other words, the more participants prioritized considerations of Fairness/Harm over considerations of Authority/In-group/Purity, the higher their level of post-conventional (*P*-score) reasoning on the DIT, the more politically liberal they were and the lower their Stage 4 scores.

2.3. Discussion

Despite the fact that the MFQ and DIT were designed to measure different things ("intuitions" versus effortful moral reasoning), in Study 1 they tell a very similar story. MFQ In-group overlaps with DIT Stage 2/3 and Stage 4 and Authority overlaps with DIT Stage 4 as they are usually measured. In turn, DIT post-conventional moral reasoning overlaps with the prioritized individualizing foundations, which indicates the extent to which participants give the individualizing foundations priority over conventional (binding foundation) considerations. This overlap between the DIT *P*-score and the MFQ *I–B* score suggests that prioritization occurs not only in effortful moral cognition (the DIT) but also implicitly in their automatic moral assessments (MFQ).

But why is it necessary to "externally" prioritize the individualizing foundations to obtain a relationship with the *P*-score when Stage 4 and Stage 2/3 were related to the expected unprioritized binding foundations? To help answer this question and to determine if the results of Study 1 replicate, we turn to Study 2.

3. Study 2

Study 2 was originally conducted to test the effect of cognitive load and ego depletion on responses to the MFQ (Wright & Baril, 2011). However, because participants also completed the DIT, that data provided a replication of Study 1 and experimental information on the effect of cognitive load on the MFQ/DIT relationships including prioritization.

3.1. Method

3.1.1. Participants

Introductory psychology students (206) at the College of Charleston received course credit for participation, 21 (10%) of

which were eliminated through MFQ, DIT, and experimental manipulation validity checks. Of the remaining 185, 78% reported being female. Participants also rated their political orientation on the same three dimensions as Study 1; 37% reported being liberal, 43% conservative, and 20% moderate.

3.1.2. Questionnaires

Excluding questionnaires for other studies, participants reported demographic information as described above and completed the MFQ online (<http://www.surveymonkey.com>). A paper version of the five dilemmas DIT-2 (Bebeau & Thoma, 2003) was also completed either before or after participating in one of the conditions below.

3.1.3. Experimental conditions

All participants were assigned to one of three conditions.

3.1.3.1. Control. Participants in this condition were asked to write for six minutes about an imaginary visit to the zoo. Immediately upon finishing this exercise, they filled out the MFQ.

3.1.3.2. Self-regulation depletion (SRD). Using the white bear paradigm (Wegner, Schneider, Carter, & White, 1987) to reduce cognitive resources via thought suppression, participants were given the same instructions as above but were told not to think about white bears, and, if they did, they were to suppress these thoughts. Immediately after finishing this task, they filled out the MFQ.

3.1.3.3. Cognitive load (CL). Similar to the procedure used by Knowles and Condon (1999), participants were asked to fill out the MFQ online while at the same time counting the number of high-pitch tones (ignoring low-pitch tones) playing on an online metronome.

3.2. Results

3.2.1. Control condition

Table 2 presents the basic findings in the Study 2 control condition. As seen there, the control condition replicated Study 1 regarding the relationships between Stage 4 and Authority, but not the relationship between Stage 2/3 and In-group. Instead, Stage 4 was related to In-group (compatible with Study 1) but was also related to Purity. Conservatism was positively related to Authority and Stage 4 and negatively related to the *P*-score, but again not related to Fairness and Harm. And once again, participants' *I–B* scores were positively related to their *P*-score and to conservatism.

However, as we expected to find in Study 1 but did not, the *P*-score was positively related to Fairness. The difference between the *P*-score/Fairness correlation in Study 1 and this study was significant, $z = 2.47$, $p = .014$.

3.2.2. Experimental condition (SRD and CL)

There were no relevant differences between the two experimental conditions, so we collapsed across them. As seen in Table 3, In-group was significantly related to Stage 2/3, compatible with Study 1. Also compatible with Study 1 and the Control condition, Stage 4 was positively related to Authority but was not related to In-group or Purity. In addition, there was a positive relationship between the *I–B* score and the *P*-score, compatible with the Study 1 and Control condition.

Of particular interest, the negative *P*-score/Fairness relationship in Study 1 occurred again in the Experimental condition and was significantly different from the Control condition (.27), $z = 2.14$, $p = .032$, but not from Study 1.

Also, the conservative participants that took the DIT-2 *after* the MFQ Experimental condition showed significantly lower Stage 4 reasoning than the Control condition (Control $M = 38.5$ vs.

Table 2
Means, standard deviations, Cronbach's alphas, and correlations for Study 2 control condition.

Measure	M	SD	CA	1	2	3	4	5	6	7	8	9	10
1. Gender ^a	1.89	.31	–										
2. Conserv.	4.12	1.57	–	.19									
3. Fair	3.50	.64	.61	.16	.03								
4. Harm	3.64	.67	.55	.18	.00	.41**							
5. Authority	3.19	.78	.64	.14	.29*	.29*	.18						
6. In-group	3.07	.74	.71	.32*	.33*	.26*	.34**	.58**					
7. Purity	2.73	.93	.73	.09	.38**	.21	.27*	.46**	.35**				
8. I–B score ^b	.57	.68	.55	.08	–.39**	.38**	.37**	–.58**	–.46**	–.54**			
9. P-score	34.10	15.66	.66	–.16	–.29*	.27*	.20	–.11	–.26*	–.06	.39**		
10. Stage 4	30.13	12.48	.31	.04	.27*	–.10	–.11	.33**	.25*	.28*	–.45**	–.65**	
11. Stage 2/3	31.03	12.30	.39	.10	.08	–.16	–.15	–.17	.10	–.15	–.05	–.55**	–.18

N = 65.

^a Male = 1, Female = 2.

^b Individualizing – Binding scores.

* $p < .05$ 2 tailed.

** $p < .01$ 2 tailed.

Table 3
Means, standard deviations, Cronbach's alphas & correlations for Study 2 load/depletion.

Measure	M	SD	CA	1	2	3	4	5	6	7	8	9	10
1. Gender ^a	1.73	.45	–										
2. Conserv.	4.10	1.36	–	.00									
3. Fair	3.50	.64	.59	.02	–.12								
4. Harm	3.60	.76	.64	.06	–.03	.53**							
5. Authority	3.07	.73	.64	.10	.16	.34**	.21*						
6. In-group	3.03	.78	.69	.01	.13	.34**	.34**	.47**					
7. Purity	2.60	.91	.70	.10	.06	.38**	.29**	.49**	.48**				
8. I–B score ^b	.64	.67	.61	.11	–.22*	.35**	.48**	–.49**	–.42**	–.47**			
9. P-score	34.29	14.77	.63	.02	–.11	–.06	.03	–.41**	–.29**	–.26**	.37**		
10. Stage 4	29.30	14.77	.49	.11	.29**	.05	–.07	.39**	.12	.17	–.28**	–.64**	
11. Stage 2/3	31.80	12.17	.36	–.15	–.18	.06	.05	.11	.19*	.14	–.13	–.48**	–.32**

N = 120.

^a Male = 1, Female = 2.

^b Individualizing – Binding scores.

* $p < .05$ 2 tailed.

** $p < .01$ 2 tailed.

Experimental $M = 27.6$, $SEs = 3.5$ vs. 2.6 , $t(35) = 2.5$, $p = .016$), displaying a level on par with the liberals (Control $M = 25.3$ vs. Experimental $M = 24.0$, $SEs = 2.5$ vs. 2.7). The significance of this will be discussed below.

3.3. Discussion

Across both conditions of Study 2, we see further support for the relationship between Stage 4 and Authority. This indicates a stable relationship between these constructs across very different cognitive conditions. This is not surprising, since Stage 4 is the natural plateau point for most people (see Colby & Kohlberg, 1987): the standard in the general population.

Both Stage 4 and Stage 2/3 were related to In-group in Study 1 and Study 2 Control, though not in the Experimental condition, indicating that these relationships were more easily disrupted. But, overall, the binding foundations were conceptually and empirically associated with the DIT Stage 2/3 and Stage 4 as expected.

Also, the P-score and the I–B difference score relationship were found across all three conditions, demonstrating across multiple situations the stability of relationships based on the prioritization of the individualizing foundations.

We found the expected positive relationship between the P-score and Fairness and (though not quite significant) Harm in the Study 2 Control condition, while the unexpected slight negative P-score/Fairness relationship found in Study 1 re-occurred in the

Experimental condition. This suggests that the non-significant negative relationship in Study 1 could also have been due to some type of cognitive load/distraction effect. But what specifically could have caused such an effect?

First, the survey environment in Study 1 was different from that employed in Study 2, which was conducted one participant at a time in private rooms. The survey was administered with up to 20 participants in a computer lab. In addition, the ordering of the questionnaires was the same for everyone: the DIT was preceded by the demographics questions, the MFQ, and the Implicit Attitudes Test (IAT). The five-factor IAT was a lengthy and difficult reaction time test. These factors could have impacted on the P-score/Fairness relationship in a manner functionally similar to the Study 2 experimental condition.

But why should the P-score/Fairness relationship be the one most affected? Theory and research suggests that post-conventional moral reasoning is developmentally more advanced than Stage 4 and Stage 2/3. Therefore, the P-score relationships are likely to be more susceptible to cognitive disruption. For example, the political attitudes of liberals, who score highest on post-conventional reasoning (Thoma, 2006) have been found to be surprisingly easy to change (Jost et al., 2009). In a voting simulation study, by reducing the time given to “voters” to make their choices from unlimited to 2 minutes, liberals’ votes became more conservative. Also, liberals are more likely to make corrections to their initial political/moral judgments than conservatives (“motivated correc-

tion”): a process that can be easily disrupted “when resources are scarce, [and] cognitive load is high” (Skitka et al., 2002, p. 484). This research simply illustrates how fragile these types of cognitions are.

One potential limitation of these studies was the restricted age range of the participants involved (only college undergraduates). While we recognize this as a concern, we nonetheless feel that our sample not only fairly represented the general population on the MFQ (our pattern matched those found with a large international sample, Graham et al., 2011), but also adequately captured the range of DIT scores typically found not only in college but other general populations as well (Rest, 1993; Bebeau & Thoma, 2003), for example, the *P*-scores ranged from 4 to 70. Certainly the variability of the MFQ and DIT scores was large enough to generate reasonable correlations among these variables.

4. Overall discussion

Why do some people prioritize considerations of Fairness/Harm over conventional considerations and some do not? The neo-Kohlbergian approach clearly sees this prioritization as a developmental/cognitive achievement: a reflection of higher levels of education and/or greater levels of cognitive complexity (Kohlberg, 1984; Rest, Narvaez, Bebeau, & Thoma, 1999). The MFT approach, on the other hand, argues that this prioritization is a “narrowing” of our moral psychology (Joseph, Graham, & Haidt, 2009). Indeed, Haidt suggests that “It is especially important to recognize that conservatives [who typically do not prioritize] have the more complex moral system. . .” (Haidt & Hersh, 2001, p. 217).

And yet, research suggests an alternative perspective. And this is that the difference in political views between conservatives and liberals may result from “motivated social cognition”, caused by heightened threat-sensitivity (Jost et al., 2003) – that is, people adopt conservative ideologies in order to mitigate the effects of heightened threat-sensitivity. This, in turn, suggests that higher binding foundation scores are the result of higher (dispositional/situational) threat sensitivity, rather than a more complex moral system that recognizes the binding foundations as being morally equal to the individualizing foundations.

Consistent with this hypothesis, when the cognitive resources required to engage in motivated social cognition were depleted (using a self-regulation depletion or cognitive load task), conservatives’ foundational moral judgments became indistinguishable from those of the liberals in the study – their emphasis on the binding foundations dropped and they too began to prioritize Fairness/Harm (Wright & Baril, 2011). Likewise, we found here that when engaging in cognitively effortful moral reasoning (on the DIT-2) after being cognitively taxed, conservatives displayed markedly less Stage 4 reasoning than the control group, becoming indistinguishable from liberals. So, on both the MFQ and the DIT, exhausting or distracting cognitive resources decreased conservatives’ emphasis on conventional (binding) responses. And when liberals’ threat-sensitivity was situationally heightened (by asking them to reflect upon 9–11), their binding foundation ratings increased, becoming indistinguishable from that of the conservatives in the study (Wright & Baril, 2012).

With the discussion above in mind, how does the research presented here help us better understand and evaluate these two theories? The general picture is that Haidt and Graham’s moral foundations overlap with the neo-Kohlbergian stages of moral development across very different cognitive load situations. Correlations between the two measures were found for all three DIT levels of reasoning, the most stable of which were the positive *I–B* score/*P*-score relationship and the positive Authority/Stage 4 relationship – both found across all three conditions. A positive

relationship between In-group/Stage 2/3 was also found across all three, though only significantly for two. Given the theoretical and measurement differences between the two theories, this stable overlap should be of great interest to moral psychologists in both camps.

Finally, there is the issue of whether the individualizing and binding foundations are morally “equal” or whether one agrees with the neo-Kohlbergian’s that post-conventional moral cognition – namely, the understanding that Fairness/Harm considerations transcend (and, where necessary, trump) conventional concerns – is developmentally superior. But either way, one thing seems clear. People’s political orientation strongly predicts their tendency to deprioritize conventional considerations in their moral judgments (as measured by either the DIT or the MFQ) – and it does so, we argue because of the connection between political orientation and people’s underlying dispositional threat-sensitivity (a trait that is expressed at the physiological, neurological, personality, and psychological level). This means that not only should we expect some (i.e., threat-sensitive) people to have a tougher time engaging in post-conventional moral reasoning under most conditions, but also that we should expect *most* people to have a tougher time engaging in post-conventional moral reasoning under *some* (i.e., heightened threat salience) conditions.

Thus, helping people to achieve either post-conventional reasoning or (as Haidt would have it) a more complex morality becomes as much a matter of working with people’s underlying dispositions and surrounding environments as it is a matter of promoting the proper cognition.

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