Moral Foundations Theory: An Exploratory Study of Politics and Decision-Making

Jill M. Zuber
North Dakota State University

Margaret L. Andersen
North Dakota State University

Although ethical decision-making has been researched for decades, much remains to be learned. Recently, the role of intuition has received increasing attention (e.g., Haidt, 2001; Sonenshein, 2007). We investigate the applicability of Haidt's social intuitionist model to decisions made in response to two ethical dilemmas and the potential impact of politics on those decisions. Using path analysis, we find that the moral foundations from the Moral Foundations Theory (MFT) alone do not explain the decisions. However, when political affiliation is added, we find that the moral foundation(s) on which conservatives rely differ(s) from that on which liberals/moderates rely.

INTRODUCTION

Although ethical decision-making has been researched for decades, much remains to be learned. The scandals that have made headlines in recent decades can still be recalled with just a few words: Adelphia, Arthur Andersen, Enron, WorldCom, … No doubt these ethical failures served, in part, to fuel research into ethical decision-making. Two review articles, O'Fallon & Butterfield (2005) and Craft (2013) together discuss over two hundred and fifty papers published in a sixteen-year period (1996 – 2011). But even the more recent review did not cite the stream of research which is the topic of this paper.

Recently, the role of intuition and emotion has received increasing attention (e.g., Haidt, 2001; Sonenshein, 2007). In social and cognitive psychology, it is widely believed that there are two processing systems working in parallel when people make judgments (Haidt, 2001). The dual process model, which includes a quick intuitive system and a slower rational system, appears to also be at work when people make moral judgments (Lapsley & Hill, 2008).

The two major contributions of our paper include (1) the investigation of the applicability of Haidt's social intuitionist model to moral decisions made in response to two ethical dilemmas and (2) the potential impact of politics on those judgments. Although there is a large and growing body of empirical evidence to support Haidt's Moral Foundations Theory (see www.moralfoundations.org), little has been done to apply it to decision-making in the context of ethical scenarios. In this exploratory study, we ask subjects to respond to two ethical dilemmas. We then seek to determine on which moral foundations they have relied. However, we do not have significant results at this stage. Yet, when we group the subjects based on their self-reported political affiliations, a clearer picture emerges. We now find that conservatives and liberals/moderates rely on different foundations.

A number of recent papers (e.g., Graham et al., 2009; Haidt & Graham, 2007; and van Leeuwen & Park, 2009) and indeed a book *The Righteous Mind* by Haidt (2012) have been published which examine some of the differences between how conservatives and liberals view and use the moral foundations. Broadly speaking, liberals emphasize two foundations (Care and Fairness) but conservatives generally rely on those and also these additional three (Loyalty, Respect and Purity).

In order to improve ethics education, in both the classroom and the workplace, we need to better understand how people make ethical (or unethical) decisions. The purpose of this exploratory study is to gain insights into which moral foundations are used when people make their intuitive ethical decisions, and the role of politics in the process.

The literature review is in the next section. In the following section, we identify our research questions. We describe our methodology next and follow with a discussion of our results. We end with conclusions, limitations and suggestions for future research.

LITERATURE REVIEW

Haidt's Social Intuitionist Model of Moral Judgment

Early in this millennium, Haidt (2001) presented his social intuitionist model as an alternative to the rationalist models which previously had been dominant. This model reflects the fact that there are two cognitive systems involved in decision-making: intuition and reasoning (Zajonc 1980). Intuition is the first response to an eliciting situation in Haidt's social intuitionist model (see Figure 1).

FIGURE 1

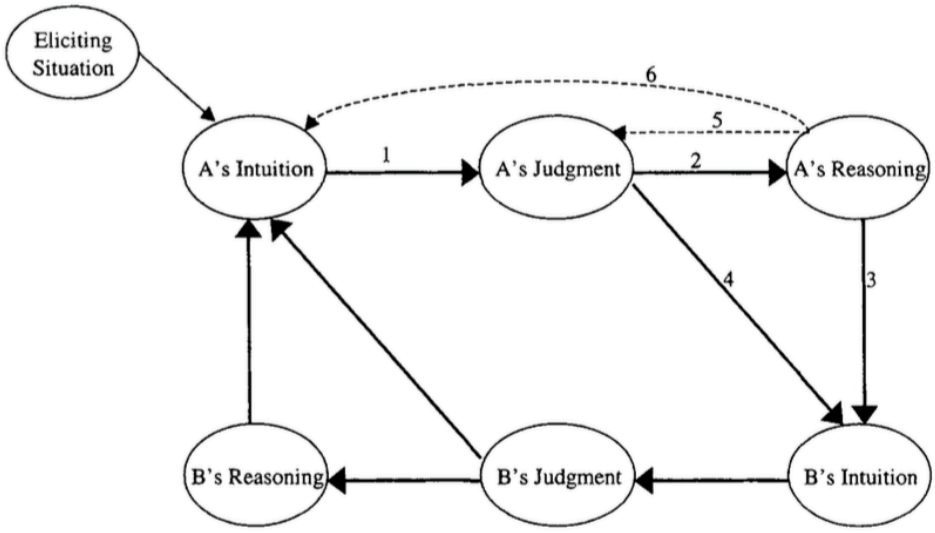


Figure 2. The social intuitionist model of moral judgment. The numbered links, drawn for Person A only, are (1) the intuitive judgment link, (2) the post hoc reasoning link, (3) the reasoned persuasion link, and (4) the social persuasion link. Two additional links are hypothesized to occur less frequently: (5) the reasoned judgment link and (6) the private reflection link.

(from Haidt, 2001, p. 815)

This affective response is automatic; it does not require effort and the decision-maker is usually unaware of the process (e.g., Bargh & Chartrand, 1999). In the model, reasoning follows the judgment. Sonenshein (2007) and Reynolds (2006) report that effortful, deliberate reasoning is often used to justify the intuition. As Haidt (2006) describes the situation, intuition is like an elephant and reasoning is its rider. The rider represents controlled processing which is limited and requires language. It acts as an

advisor to the elephant. The elephant represents automatic processes, including emotions and intuitions. Daniel Kahneman (2013), winner of the Nobel Prize in Economics, identifies the two systems as System 1 (fast, intuitive and emotional) and System 2 (slow, deliberate and logical).

There are at least two ways in which the social intuitionist model is social. First, as can be seen in Figure 1, there is an anticipated interaction between A and B. Haidt proposes that moral judgments should be studied as an interpersonal process. Second, after the intuitive judgment, the individual may feel compelled to justify it to others (or to him/herself). In addition, the model provides for a "social persuasion link" Haidt (2001). This reflects the impact others' moral judgments may have, even if there is no reasoned persuasion.

Moral Foundations Theory (MFT)

Beneath the intuitions of individuals is "an underlying, largely unconscious set of interlinked moral concepts" (Haidt, 2001, p.825). A set of five emerged as common across cultures and with an evolutionary link (Graham et al. 2011). Haidt and Graham (2007) identified the five foundations as the following: Harm/Care, Fairness/Reciprocity, Ingroup/Loyalty, Authority/Respect and Purity/Sanctity. The foundation Care/Harm refers to the human desire to relieve the suffering of others. Fairness/Reciprocity includes the concept of "tit for tat." We like people who reciprocate our acts of cooperation and dislike those who do not. Our human tendency to form groups and maintain coalitions is at the heart of the Ingroup/Loyalty foundation. The foundation Authority/Respect relates to our acceptance of hierarchical relationships. These relationships have two-way responsibilities; superiors protect and subordinates defer. The Purity/Sanctity foundation includes disgust at physical and spiritual pollutants as well as a sense of sacredness.

The Moral Foundations Theory (MFT) identifies foundations on which cultural moralities are based. Graham et al. (2011, p.369) states,

> MFT provides a conceptual organization for measuring and describing differences in moral concerns across individuals, social groups, and cultures. … 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.

In our study, we use the MFQ30 which has been validated with samples of thousands (see www.moralfoundations.org) and the Appendix.

The Role of Politics

Recent research has found that political conservatives and liberals place different weights on the foundations (e.g., Graham et al., 2009; Haidt & Graham, 2007; van Leeuwen & Park, 2009). Liberals tend to emphasize the Harm/Care and Fairness/Reciprocity foundations (Koleva et al., 2012; van Leeuwen & Park, 2009). Conservatives generally rely on all five foundations. Haidt & Graham (2007) find that conservatives rated the three foundations of Ingroup/Loyalty, Authority/Respect and Purity/Sanctity as significantly more relevant to moral judgments than did liberals. They argue that the principles of conservatives "go beyond fairness to include principles that liberals do not acknowledge to be moral principles, such as unconditional loyalty to one's group, respect for one's superiors, and the avoidance of carnal pleasures" (Haidt & Graham, 2007, p.101). Koleva et al. (2012) found the most striking political differences to involve these three foundations.

Graham et al. (2009) identify the Harm/Care and Fairness/Reciprocity foundations as the individualizing foundations because they are associated with the liberal philosophy which emphasizes the individual's rights and welfare. The three foundations of Ingroup/Loyalty, Authority/Respect and Purity/Sanctity are identified as the binding foundations (Graham et al. 2009). Using a sample of mostly Dutch students, van Leeuwen & Park (2009) find that the link between the moral foundations and political affiliation is robust. They too found that liberals emphasized the individualizing foundations over the binding foundations.

In his book *The Righteous Mind*, Haidt (2012) observes that liberals and conservatives even view fairness differently. To liberals, fairness suggests equality; everyone gets the same amount. But, to conservatives, fairness implies proportionality. That is, rewards should be proportional to what people contribute, even if that results in unequal outcomes. In discussing the differences in how liberals and conservatives view the Care/Harm foundation, Haidt (2012) points out that the liberals tend to be more universal. Conservatives also care, but may focus more on those who are "local" and the caring appears to be blended with loyalty.

Koleva et al. (2012) report that the results of their study show that the MFT is useful for understanding political attitudes. They find the Purity/Sanctity foundation to be particularly important. Graham et al. (2009) find one of the greatest differences between liberals and conservatives to be associated with the Purity/Sanctity foundation. Our results support this finding.

Finally, a word of caution is in order as the relationship between politics and the MFT is explored. In their paper on the topic, Koleva et al. (2012, p.188) observe that "sometimes the moral concern that is most visible on the surface may not be the only one at work." Humans, including their moral intuitions and their political attitudes, are complex.

RESEARCH QUESTIONS

This exploratory study examines the decisions to ethical scenarios made by our sample of accounting and other business students at a Midwest university. Our research questions are: (1) Do the moral foundations significantly explain the decisions made? and (2) Does the self-reported political affiliation significantly explain the decisions and which moral foundations are relied upon? To examine these research questions, we use the MFQ30 developed by Haidt and his colleagues (www.moralfoundations.org, 2013) and adapted scenarios used in other research. Please see the Appendix.

In Andersen et al. (2014), we started with the 5-factor measurement model of Graham et al. (2011) using the maximum likelihood estimation method in Amos (Version 22.0.0). The responses to the MFQ30 questionnaire were added to the measurement model as observed variables and then removed if they had a low factor loading or were not significantly correlated to the latent variables of CARE, FAIR, PURITY, LOYALTY, and RESPECT. Changes were made to the structure of the measurement model used in Graham et al. (2001) in order to achieve a model with a good fit using our sample. For example, we combined the latent variables of LOYALTY and RESPECT to improve the model fit due to high correlation. Achieving good model fit using our sample in the Graham et al. (2011) measurement model was an important first step. For the current study, no further adjustments were made to the Andersen et al. (2014) measurement model.

In this second exploratory study, we extend Haidt and his colleagues' research by having participants make decisions after reading scenarios that have ethical implications. These decisions are evaluated to see if the moral foundations and self-reported political affiliations explain the results. This is particularly important for ethics education. Education begins with knowing where the students are. We can gain insight into identifying which moral foundation are relied upon and to what extent that reliance can explain their responses to ethical dilemmas. The methodology, results and discussion are presented in the next sections of the paper.

METHODOLOGY

Participants and Procedure

At a Midwest public university, the instrument consisting of two ethical decision-making scenarios and the MFQ30 was distributed to business students, mostly seniors and one Master of Accountancy (MAcc) class. Students received extra credit points and were allowed to answer the survey during class time. The survey and the letter of consent were distributed. Of the 168 distributed instruments, 162 are usable, which signifies a response rate of 96 percent. Because our focus for this current study deals with

the self-reported political affiliation, those who reported their political identity as "Other" rather than as "Strongly Liberal" (1) to "Strongly Conservative" (7) were removed. Only 8 subjects reported "Other", leaving a usable sample of 154 responses (response rate of 92 percent).

A sample of business students was used because this sample is the population we are interested in researching. We want to know what is relevant and significant to business students when they make ethical decisions. In addition, we want to know the foundations that students rely on as this will provide insight into teaching ethics to business students. If students are the population of interest, then Randall and Gibson (1990) argue that student samples are appropriate. A substantial portion of researchers use student samples in business ethics studies (O'Fallon & Butterfield, 2005; Craft, 2013).

A summary of demographic information is provided in Table 1. As indicated in the table, over 62 percent of the participants are seniors with 51 percent of the sample studying accounting and 49 percent studying business topics other than accounting. The sample is predominately male (66 percent)[1] with a mode age range of 21 to 24 years. In addition, 23% self-identified as liberal, 24% as moderates, and 53% as conservatives.

TABLE 1
DEMOGRAPHIC PROFILE OF RESPONDENTS *(N = 154)*

Characteristic	Observations	
	Frequency	Percentage
What year are you?		
Sophomores	1	0.6%
Juniors	31	20.1%
Seniors	96	62.4%
MAcc Program	26	16.9%
What is your major?		
MAcc Program	26	16.9%
Accounting	53	34.4%
Other Business	75	48.7%
Gender		
Male	101	65.6%
Female	53	34.4%
Age		
18-20 years	10	6.5%
21-24 years	123	79.9%
25 years and older	21	13.6%
Political Identity		
Liberal	36	23.4%
Moderate	37	24.0%
Conservative	81	52.6%

Instrument

A full description of the 30-item Moral Foundations Questionnaire (MFQ30) is discussed in Andersen et al. (2014) and can be found at www.moralfoundations.org (2013). In addition to the MFQ30, we included two ethical scenarios and asked subjects to make a decision using a 7-point Likert scale from

(1) strongly disagree to (7) strongly agree. These two ethical scenarios and the MFQ30 are in the Appendix. Subjects were also asked for demographical information.

The Plant Scenario is about a subsidiary of a private company that is seeking new capital funding along with other subsidiaries. The decision-maker must decide whether to use more realistic estimates and risk having the plant close due to a lack of funding and not remaining competitive or use more optimistic estimates which would assure funding but the estimates might not be met. If the plant closes, the decision-maker and over 100 employees will lose their jobs. This scenario was developed by Radtke (2004) and slightly modified for the current study. This scenario was chosen because it includes the moral foundations of fairness (providing realistic estimates) for all subsidiary proposals to be judged fairly and care for wanting to remain competitive so that the plant will not close and the workers will not lose their jobs.

The Auto Scenario was adapted from Premeaux and Mondy (1993) and concerns a major car manufacturer. The quality of the part made by the decision-maker's company does not meet the car manufacturer's specifications and the decision-maker must decide whether or not to share that knowledge with the car manufacturer. This scenario represents elements from the moral foundations of fairness, caring, and loyalty. If the decision maker stays quiet he is demonstrating loyalty to his employer. If, however, he tells the other company about the results, then he is showing concern (i.e. care) for the people that will be using the component and possibly be harmed. In addition, he may feel it is only fair to tell the other company about the deficient quality in order to equalize the information known by each party.

RESULTS AND DISCUSSION

Descriptive Statistics and Correlations

We first examine descriptive statistics from our data of 154 business students to ensure normality and the correlation matrix to see relationships between the variables of interest (see Table 2, Panels A and B). Definitions for each variable can be found in Panel A. For example, the variable P_CHOICE represents choices made by participants after reading the Plant scenario. Next the correlation of all the variables is examined in Panel B. The variable P_CHOICE is significantly correlated at the 0.01 level with GENDER. A_CHOICE is only significantly correlated with GENDER at the 0.05 level. The four variables from our measurement model that represent Haidt's Moral Foundations (Graham et al. 2011) are CARE_AVG, FAIR_AVG, LOYAL_RESPECT_AVG, and PURE_AVG. The variable CARE_AVG is significantly correlated at the 0.01 level with FAIR_AVG, LOYAL_RESPECT_AVG, and PURE_AVG. FAIR_AVG is significantly correlated at the 0.01 level with LOYAL_RESPECT_AVG and CARE_AVG. LOYAL_RESPECT_AVG is significantly correlated at the 0.01 level with PURE_AVG, FAIR_AVG, and CARE_AVG. Based on Haidt's measurement model, we would expect all four factors to be significantly correlated to every other factor. However, we are missing one significant correlation between FAIR_AVG and PURE_AVG. Interestingly, POLITICAL is significantly correlated at the 0.01 level with GENDER and PURE_AVG and is significantly correlated at the 0.05 level with LOYAL_RESPECT_AVG.

TABLE 2, PANEL A
DESCRIPTIVE STATISTICS (N = 154)

Variable	Mean	Median	S.D.	Min.	Max.	Skewness	Kurtosis
P_CHOICE	4.54	5.00	1.509	1	7	-0.405	0.669
A_CHOICE	5.57	6.00	1.318	1	7	-1.199	1.416
CARE_AVG	3.10	3.25	0.838	0.75	5.00	-0.351	-0.039
FAIR_AVG	3.85	4.00	0.727	1.25	5.00	-0.783	0.530
LOYAL_RESPECT AVG	3.08	3.14	0.667	0.71	4.86	-0.596	0.957
PURE_AVG	2.91	3.00	0.901	0.40	4.80	-0.347	0.126
GENDER	1.34	1.00	0.477	1	2	0.663	-1.582
FIELD_OF_STUDY	1.49	1.00	0.501	1	2	0.052	-2.024
POLITICAL	4.61	5.00	1.666	1	7	-0.436	-0.770

Variable Definitions:

P_CHOICE =Choice made after reading the Plant scenario to use optimistic projections in funding request. Scale was 1 to 7 from strongly disagree to agree.

A_CHOICE =Choice made after reading the Auto Parts scenario to share the substandard quality reports with the client. Scale was 1 to 7 from strongly disagree to agree.

CARE_AVG =The average of the care foundation. C1, C2, C3, and C4 are included in the measurement model (see Figure 2).

FAIR_AVG =The average of the fairness foundation. F1, F2, F3, and F4 are included in the measurement model (see Figure 2).

LOYAL_RESPECT AVG =The average of the loyalty and respect foundations. L1, L2, L3, R1, R2, R3, and R6 are included in the measurement model (see Figure 2).

PURE_AVG =The average of the purity foundation. P1, P3, P4, P5 and P6 are included in the measurement model (see Figure 2).

GENDER =Participants are either (1) male or (2) female.

FIELD_OF_STUDY =Participants are (1) accounting students or (2) other business students.

POLITICAL =Participants are (1) strongly liberal, (2) moderately liberal, (3) slightly liberal, (4) middle-of-the-road, (5) slightly conservative, (6) moderately conservative, or (7) strongly conservative.

TABLE 2, PANEL B
PEARSON CORRELATION MATRIX

Variable	1	2	3	4	5	6	7	8	9
1. P_CHOICE	1								
2. A_CHOICE	-0.001	1							
3. CARE_AVG	0.041	0.133	1						
4. FAIR_AVG	-0.154	0.071	0.415**	1					
5. LOYAL_RESPECT_AVG	-0.013	-0.060	0.364**	0.283**	1				
6. PURE_AVG	-0.050	0.145	0.321**	0.105	0.399**	1			
7. GENDER	-0.214**	0.164*	0.025	0.104	-0.049	0.076	1		
8. FIELD_OF_STUDY	0.152	0.061	0.024	0.098	0.047	0.052	-0.022	1	
9. POLITICAL	-0.098	0.063	0.041	-0.107	0.196*	0.426**	-0.225**	-0.084	1

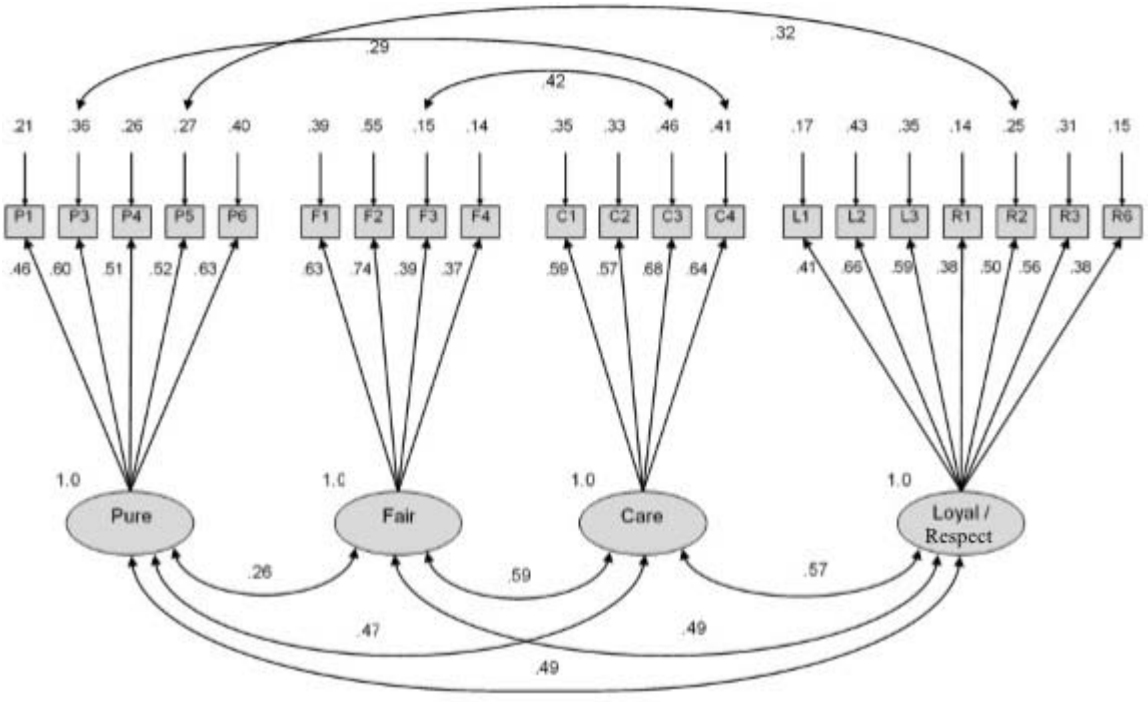
*statistically significant at the 0.05 level. ** statistically significant at the 0.01 level.

Measurement Model

To ensure that the fit of the measurement model described in Andersen et al. (2014) is not adversely affected by eliminating participants that self-reported a political affiliation of "Other", the maximum likelihood estimation method in Amos (Version 22.0.0) is used. Figure 2 shows the new measurement model (N=154). All of the factor loadings and covariances are statistically significant (see Table 3, panels A and B). However, in the correlation matrix (see Table 2, Panel B) FAIR_AVG and PURE_AVG are not significantly correlated. It is surprising the measurement model shows a significant covariance (p value =0.019) between the latent variables. This is most likely due to the measurement model using observed and latent variables instead of averages, where information can be lost.

To evaluate the fit of the new measurement model, four of the most commonly reported fit statistics were examined including the relative chi-square (RCS), root mean square error of approximation (RMSEA), standardized root-mean-square residual (SRMR), and comparative fit index (CFI). Specially, the new measurement model has a relative chi-square of 1.539 (a reasonable rule of thumb is less than 2 indicates good fit (Bollen, 1989)), RMSEA of 0.059, SRMR of 0.0741, and a CFI of 0.859. A RMSEA between 0.05-0.08 indicates reasonable fit and SRMR values less than 0.10 are favorable (Kline, 2005). According to Hu and Bentler (1999), CFI values greater than 0.90 indicate good fit. Our model does not have a CFI greater than 0.90. Graham et al. (2011) report a CFI of 0.824 for their measurement model using over 26,000 U.S. participants. The measurement model in Andersen et al. (2014) has a CFI of 0.854; the current model's CFI of 0.859 exceeds both. See Table 3, Panel C for a comparison of goodness-of-fit measures between the different measurement models. Taken together, the fit statistics indicate good model fit.

FIGURE 2
NEW MEASUREMENT MODEL (N=154)



Explanation: Standardized solution for the final measurement model (*N* = 154). Single-headed arrows (and associated numbers) represent regression weights (loadings), double-headed arrows (and associated numbers) represent covariances, and stand-alone numbers represent variances. The names of the observed variables (e.g. P6) relate to questions on the MFQ30 section of the instrument in the Appendix.

TABLE 3, PANEL A
FACTOR LOADINGS FOR THE NEW MEASUREMENT MODEL (N = 154)

Measured Variable	Unstandardized Factor Loading	SE	p-value
Care			
C1	0.675	0.097	<0.001
C2	0.691	0.103	<0.001
C3	0.808	0.095	<0.001
C4	0.651	0.083	<0.001
Fair			
F1	0.703	0.101	<0.001
F2	0.732	0.090	<0.001
F3	0.339	0.078	<0.001
F4	0.456	0.113	<0.001
Loyal/Respect			
L1	0.521	0.114	<0.001
L2	0.665	0.084	<0.001
L3	0.632	0.091	<0.001
R1	0.420	0.099	<0.001
R2	0.616	0.105	<0.001
R3	0.596	0.091	<0.001
R6	0.399	0.093	<0.001
Pure			
P1	0.453	0.090	<0.001
P3	1.011	0.146	<0.001
P4	0.675	0.118	<0.001
P5	0.713	0.120	<0.001
P6	0.843	0.117	<0.001

Note. The wording of each variable is included in the Appendix.

TABLE 3, PANEL B
COVARIANCES OF THE NEW MEASUREMENT MODEL (N = 154)

Pathways	Standardized Estimate	SE	p-value
Between Latent Variables			
Care and Fair	0.592	0.088	<0.001
Care and Loyal/Respect	0.568	0.087	<0.001
Care and Pure	0.472	0.096	<0.001
Loyal/Respect and Pure	0.493	0.095	<0.001
Loyal/Respect and Fair	0.487	0.097	<0.001
Fair and Pure	0.261	0.112	0.019
Error Terms			
C3 and F3	0.296	0.070	<0.001
R2 and P5	0.403	0.117	<0.001
C4 and P3	0.303	0.106	0.004

TABLE 3, PANEL C
GOODNESS-OF-FIT STATISTICS

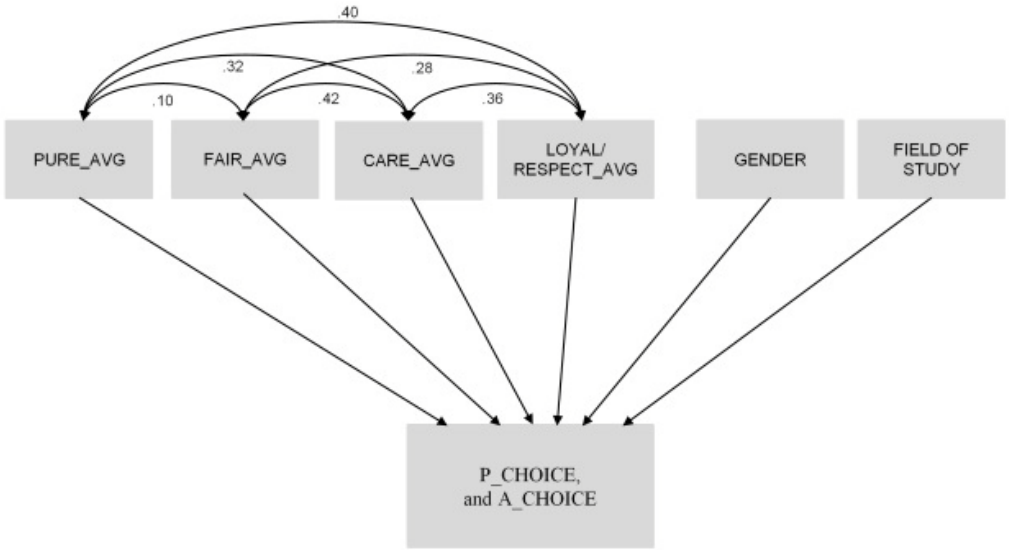
Measures	Previous Measurement Model*	New Measurement Model**	Haidt's Model***
Relative Chi-Square	1.565	1.539	136
RMSEA	0.059	0.059	0.046
SRMR	0.0732	0.0741	Not reported
CFI	0.854	0.859	0.824

*Sample size is 162 (Andersen et al. 2014)
**Sample size is 154 (current study)
***Sample size is 26,014 (Graham et al. 2011)

Path Analysis Models

Due to sample size limitations, the two models concerning decision-making use the averages of the moral foundations as observed variables rather than latent variables. To investigate whether the moral foundations explain the decisions, a path analysis model was used for the decisions made in response to each of the scenarios. Based on the work of Graham et al. (2009), GENDER was added as a control variable and FIELD_OF_STUDY was added as a second control variable based on Andersen et al. (2014). The two path analysis models for the decision scenarios had good fit with relative chi-square of 0.732, RMSEA of 0.000, SRMRs of 0.0359 and 0.0360, and CFI of 1.000. Even though the models had good fit, the moral foundations of CARE_AVG, FAIR_AVG, LOYAL_RESPECT_AVG, and PURE_AVG explained very little of the variance in the decisions of P_CHOICE (0.10) and A_CHOICE (0.07). The answer to Research Question 1 is no; the moral foundations alone do not significantly explain the variance in the decisions made. See Figure 3 for the path analysis model that was used separately on each of the scenario decisions.

FIGURE 3
PATH ANALYSIS MODELS



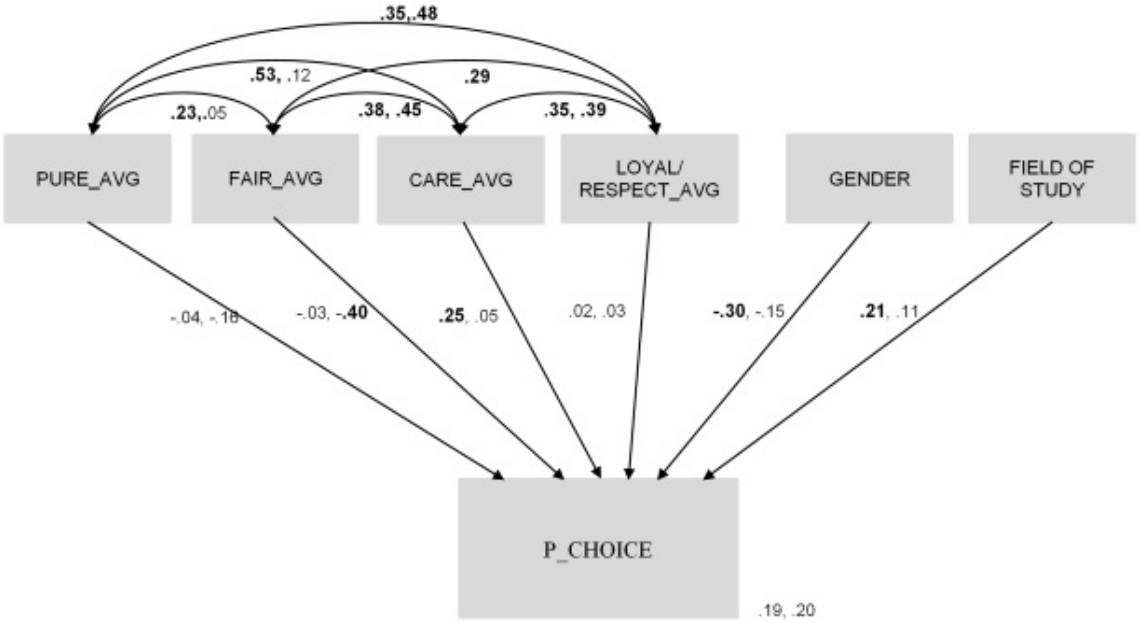
Explanation: Path Analysis Models of moral foundations (PURE_AVG, FAIR_AVG, CARE_AVG, LOYAL/RESPECT_AVG) explaining each of the choices (P_CHOICE and A_CHOICE) separately. Sample size is 154. Single-headed arrows represent regression weights (loadings) and double-headed arrows (and associated numbers) represent covariances. "CHOICE" is the dependent variable and GENDER and FIELD_OF_ STUDY are control variables. The path analysis model has good fit however the moral foundations did not significantly explain the variance in the two path analysis models: P_CHOICE (0.10) and A_CHOICE (0.07).

The second research question examined is "Do self-reported political affiliation significantly explain the decisions and which moral foundations are relied upon?" First, a new variable is created from POLITICAL to use as a dichotomous grouping variable to see if the groups relied on different moral foundations and to see how well the decisions were explained. Self-identified moderates were combined with the liberals because the student sample was primarily conservative (53%). The average percentage of conservatives is 39% of the population for the West North Central Division as defined by the U.S. Census Bureau (n.d.) and calculated using information from the Gallup Poll's *The State of States – 2014* report. This region includes the states from which the university usually recruits students. Group 1 has students that self-reported that they are conservative (n = 81) and Group 2 has a combination of students who self-reported as moderate or liberal (n = 73).

The Path Analysis Model for P_CHOICE, Including POLITICS

This path analysis model for P_CHOICE including POLITICS has good fit with relative chi-square of 0.838, RMSEA of 0.000, SRMR of 0.0761, and CFI of 1.000. See Figure 4 and Table 4. The conservative group had significant regression weights for CARE_AVG (p value = 0.044), GENDER (p value = 0.003), and FIELD_OF_STUDY (p value = 0.034) and the model explained 19% of the variance in P_CHOICE.

FIGURE 4
PATH ANALYSIS MODEL FOR P_CHOICE USING POLITICS AS A GROUPING VARIABLE



Explanation: Standardized Path Analysis Model using POLITICS for grouping purposes (Group One: 81 conservatives and Group 2: 37 moderates and 36 liberals for a total of 73). The model shows moral foundations (PURE_AVG, FAIR_AVG, CARE_AVG, LOYAL/RESPECT_AVG) explaining P_CHOICE. Single-headed arrows represent regression weights (loadings) and double-headed arrows (and associated numbers) represent covariances. P_CHOICE is the dependent variable and GENDER and FIELD_OF_ STUDY are control variables. Where appropriate, two values represent the values for Group 1 and Group 2 (in that order). If only one value is shown it is the same for both groups.

The conservatives' reliance on the care foundation may indicate they are trying to keep workers employed and the plant open by remaining competitive. It may also indicate that the conservatives care more about their immediate group (their subsidiary) rather than the company as a whole. The liberal/moderate group had a significant regression weight for FAIR_AVG (p value <0.001) and the model explained 20% of the variance in P_CHOICE. The negative and significant regression weight for fair may indicate that

liberals/moderates sacrificed equality with the other subsidiaries making funding requests in order to get a second chance to be competitive. The two groups made similar decisions (4.543 vs. 4.534, p value=.971) relative to the statement of "I would use optimistic projections rather than more realistic projections" but relied upon different moral foundations. Both groups decided using optimistic projections was the more ethical choice. The decisions made of 4.543 and 4.534 are significantly different (p value <.001) from the neutral score of 4. The path analysis model for P_CHOICE satisfies Research Question 2.

TABLE 4
PATH ANALYSIS FINDINGS BY POLITICAL GROUP FOR P_CHOICE (N=154)

	Conservatives			Liberals/Moderates		
Variable Paths	Unstandardized Regression Weights	SE	p-value	Unstandardized Regression Weights	SE	p-value
P_CHOICE						
PURE	-0.054	0.185	0.769	-0.312	0.236	0.185
FAIR	-0.052	0.209	0.804	-0.932	0.282	<0.001**
CARE	0.419	0.208	0.044*	0.092	0.246	0.707
LOYAL_RESPECT	0.039	0.231	0.865	0.079	0.326	0.809
GENDER	-0.974	0.326	0.003*	-0.496	0.344	0.149
FIELD_OF_STUDY	0.597	0.282	0.034*	0.368	0.342	0.282

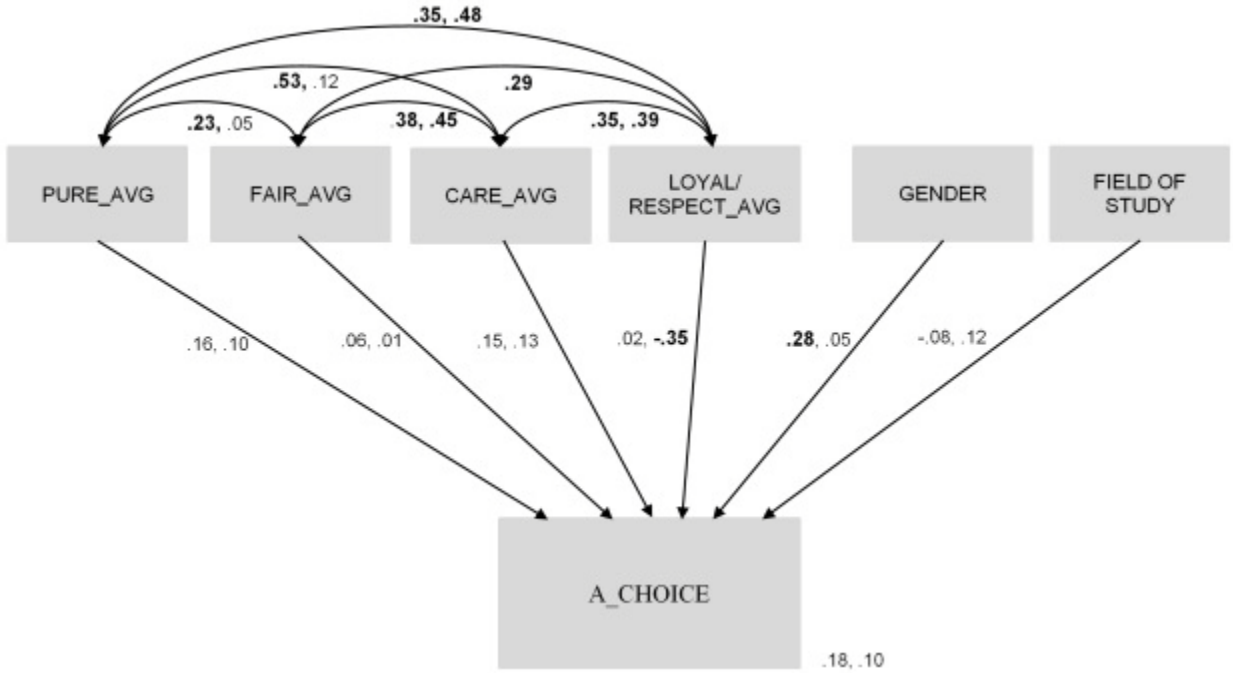
*statistically significant at the 0.05 level. ** statistically significant at the 0.01 level.

The Path Analysis Model for A_CHOICE, Including POLITICS

This model has good fit with relative chi-square of 0.838, RMSEA of 0.000, SRMR of 0.0778, and CFI of 1.000. See Figure 5 and Table 5. The conservative group had a significant regression weight for GENDER (p value = 0.006), and explained 18% of the variance in A_CHOICE. The liberal/moderate group had a significant negative regression weight for LOYAL/RESPECT_AVG (p value = 0.013) and explained 10% of the variance in A_CHOICE. In order for the liberals/moderates to share the quality control results with the manufacturer they had to disobey their employer's policies and the wishes of their superiors. They put the safety needs of the individuals receiving the faulty components above their own needs to stay employed. The two groups made similar decisions (5.47 vs. 5.67, p value=0.352) in response to the statement "I would show the quality control test results to the car manufacturer despite my superiors' willingness to ignore the results" but only Group 2 (the liberals/moderates) relied upon a moral foundation. Both groups decided that sharing the quality control results with the other company was the most ethical choice. The decisions made of 5.47 and 5.67 are significantly different (p value <.001) from the neutral score of 4. The A_CHOICE path analysis model for liberals/moderates partially satisfies Research Question 2. The conservative model explains more variance but does not show any significant reliance on the moral foundations.

In Figures 4 and 5, the covariances are shown as the links between the moral foundation of PURE, CARE, FAIR, and LOYAL/RESPECT. It is interesting to note in Table 6 that the conservative path models for both decisions show all the covariances of the moral foundations as statistically significant. Whereas, the liberal/moderate path models show two covariances, PURE_AVG to FAIR_AVG and PURE_AVG to CARE_AVG as nonsignificant. As seen in Figure 6, liberals/moderates view PURE_AVG differently than the conservatives. This result is also found by Koleva et al. (2012) and Graham et al. (2009). The remaining pathways for the liberals/moderates are statistically significant.

FIGURE 5
PATH ANALYSIS MODEL FOR A_CHOICE USING POLITICS AS A GROUPING VARIABLE



Explanation: Standardized Path Analysis Model using POLITICS for grouping purposes (Group One: 81 conservatives and Group 2: 37 moderates and 36 liberals for a total of 73). The model shows moral foundations (PURE_AVG, FAIR_AVG, CARE_AVG, LOYAL/RESPECT_AVG) explaining A_CHOICE. Single-headed arrows represent regression weights (loadings) and double-headed arrows (and associated numbers) represent covariances. A_CHOICE is the dependent variable and GENDER and FIELD_OF_ STUDY are control variables. Where appropriate, two values represent the values of Group 1 and Group 2 (in that order). If only one value is shown it is the same for both groups.

TABLE 5
PATH ANALYSIS FINDINGS BY POLITICAL GROUP FOR A_CHOICE (N=154)

	Conservatives			Liberals/Moderates		
Variable Paths	Unstandardized Regression Weights	SE	p-value	Unstandardized Regression Weights	SE	p-value
A_CHOICE						
PURE	0.205	0.155	0.186	0.175	0.222	0.431
FAIR	0.095	0.175	0.586	0.023	0.266	0.930
CARE	0.207	0.174	0.233	0.221	0.231	0.340
LOYAL_RESPECT	0.037	0.193	0.848	-0.766	0.307	0.013*
GENDER	0.751	0.273	0.006**	0.131	0.324	0.687
FIELD_OF_STUDY	-0.177	0.236	0.453	0.342	0.322	0.289

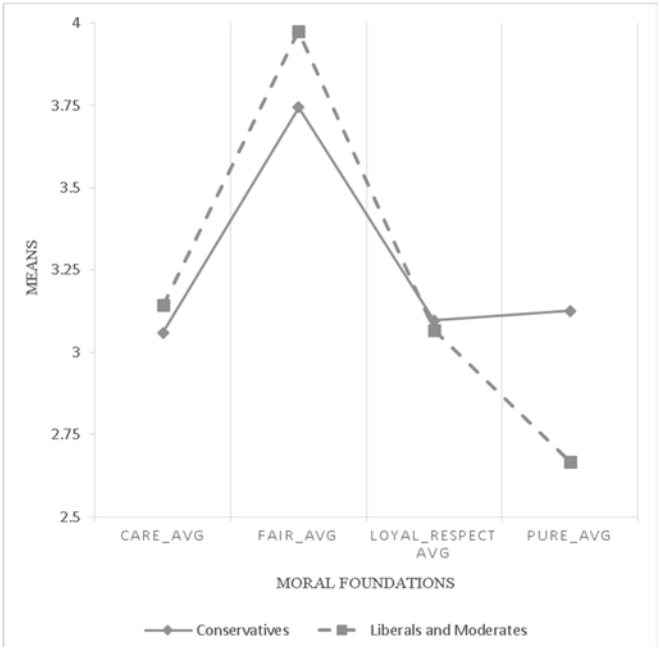
*statistically significant at the 0.05 level. ** statistically significant at the 0.01 level.

TABLE 6
COVARIANCES BY POLITICAL GROUP FOR P_CHOICE AND A_CHOICE (N=154)

	Conservatives			Liberals/Moderates		
Pathways	Unstandardized Estimate	SE	p-value	Unstandardized Estimate	SE	p-value
PURE_AVG and FAIR_AVG	0.154	0.078	0.047*	0.030	0.067	0.659
FAIR_AVG and CARE_AVG	0.240	0.075	0.001**	0.254	0.073	<0.001**
CARE_AVG and L_R_AVG[1]	0.199	0.068	0.003**	0.208	0.068	0.002*
PURE_AVG and CARE_AVG	0.410	0.098	<0.001**	0.079	0.081	0.330
PURE_AVG and L_R_AVG	0.218	0.073	0.003**	0.258	0.071	<0.001**
FAIR_AVG and L_R_AVG	0.144	0.058	0.013*	0.131	0.055	0.017*

[1] L_R_AVG stands for LOYAL_RESPECT_AVG
*statistically significant at the 0.05 level. ** statistically significant at the 0.01 level.

FIGURE 6
PROFILE PLOT FOR THE FOUR MORAL FOUNDATIONS BY POLITICAL AFFILIATION



Multiple Group Analysis

The unconstrained path analysis models for the two choices have good model fit. In order to test for the consistency of model fit (Byrne, 2010) across political groups, multiple group analysis was performed on each decision path analysis model of P_CHOICE and A_CHOICE. First, the models are examined for equal covariances and then for equal covariances and regression weights across conservatives and liberals/moderates. To test for equal covariances, each covariance for one group was constrained to be equal to the second group's covariances. Next, both covariances and regression weights for one group were constrained to be equal to the second group. After each step, the chi-square difference test was reviewed for significance (Byrne, 2010). However, none of the tests were significant and invariance was

attained. This indicates the fit of the models for the conservative group and the liberal/moderate group are stable. For more explanation please see the endnotes[2].

Mixed-Design ANOVA

To further examine how self-reported political affiliation impacts the reliance on the moral foundations (relating to Research Question 2), a mixed-design ANOVA was performed. In this model, moral foundations of CARE_AVG, FAIR_AVG, LOYAL_RESPECT_AVG, and PURE_AVG are a within-subjects (repeated measures) factor and the between-subjects factor is political affiliation, which is split into 1) conservatives and 2) liberals/moderates. The data violates the assumption of sphericity based on Mauchly's test ($p = 0.002$). Therefore, the Greenhouse-Geisser values with corrected degrees of freedom are used (Field, 2012). There is no significant main effect for the self-reported political affiliations; this indicates conservatives and liberals/moderates scored the moral foundations in a similar way ($F(1,152) = 0.231$, $p=0.631$). However, interaction between the moral foundations used and the self-reported political affiliation are statistically significant ($F(2.764, 420.06) = 8.155$, $p< 0.001$). Table 7 provides for a comparison of estimated marginal means for each of the moral foundations by political affiliation.

TABLE 7
MIXED-DESIGN ANOVA - ESTIMATED MARGINAL MEANS: DESCRIPTIVE STATISTICS FOR MORAL FOUNDATIONS BY POLITICAL AFFILIATION

	Conservatives		Liberals/Moderates	
Moral Foundations	Mean	SE	Mean	SE
CARE_AVG	3.059	0.093	3.144	0.098
FAIR_AVG	3.744	0.080	3.976	0.084
LOYAL_RESPECT AVG	3.097	0.074	3.067	0.078
PURE_AVG	3.126	0.098	2.668	0.103

In order to identify specific interactions between moral foundations and political affiliation, one-way ANOVAs were performed. The CARE_AVG and LOYAL_RESPECT_AVG foundations did not have a statistically significant interaction between the two political groups ($p = 0.531$, 0.778, respectively). However, there were statistically significant interactions for FAIR_AVG ($p = 0.048$) and PURE_AVG ($p = 0.002$) between the two political groups. These relationships can be seen more clearly using the profile plot of moral foundations and political affiliation (see Figure 6). Note that all participants regardless of political affiliation rely the most on the FAIR foundation when determining what is right or wrong. The conservatives view CARE, LOYAL_RESPECT, and PURE in the same way. Likewise, liberals/moderates view CARE and LOYAL_RESPECT in the same way. However, the liberals/moderates view PURE in a very different way than the conservatives.

CONCLUSION

In this exploratory paper, we investigate the influence of politics on moral decision-making. We find the relationships are complex. As Koleva et al. (2012, p.188) state "… there is a great deal of texture to many of the issues." In one decision (P_CHOICE), conservatives rely on CARE while liberals/moderates rely on FAIR. In another decision (A_CHOICE), no particular foundation was used by conservatives, but the liberals/moderates relied on LOYALTY/RESPECT.

Using a mixed-design ANOVA, we find no significant main effects in the political dichotomous variable. However, there are significant interactions between FAIR and POLITICS and between PURE and POLITICS. As Haidt (2012) points out, conservatives and liberals view these two moral foundations

differently. For conservatives, fair implies proportionality; outcomes are proportional to inputs. For liberals, fair means equality; outcomes are equal. Purity appears to play a larger role in ethical decision-making for conservatives than for liberals. As an example, American conservatives speak of the body as a temple whereas liberals are likely to dismiss the virtue of chastity (Haidt, 2012, p. 150).

As researchers explore the use of the foundations from the MFT, particularly as it interacts with political affiliation, it appears there are many nuances to consider. There is much empirical support for the Moral Foundations Theory and the fact that politics is an important moderating variable when applying MFT to ethical decision-making. As seen in this study, the results are dependent on the scenarios to which the subjects respond. Careful choice of the ethical dilemmas in future studies may allow researchers to focus more clearly on specific moral foundations. Exploring these nuances of ethical decision-making may lead to a better understanding of the process and improve ethics education. This is true not only in the university setting but may also be worthwhile in organizations who wish to engage in this type of ethics education.

ENDNOTES

1. The sample without MAcc Program participants is 66.4% male, which is higher than research released by AACSB (Lavelle 2013). They find that undergraduate business programs under the leadership of a male dean have male enrollment of 57.8%. However, the school we sampled from has undergraduate male enrollment of 65.1%. Our sample is significantly different from the findings of AACSB (p-value = 0.039). However, our sample is not significantly different from the school's college of business percentage of males (p-value = 0.755). Therefore the sample is representative of the school where the survey was conducted.
2. **P_CHOICE Model Invariance for Political Groups:** The consistency of model fit is tested across the political groups for this sample (81 conservatives, 73 liberals/moderates). The original model for P_CHOICE without any constraints has good fit. The relative Chi square is 1.392, which is below the recommended value of 2. RMSEA is 0.051 and SRMR of 0.0761 indicates reasonable fit. When the equal covariances model is compared to the original (unconstrained) model there is not a significant decrease in fit ($\chi 2\Delta = 27.651$, df = 24, p = 0.275). In addition, when the equal covariances and regression weights are tested, there is not a significant decline in model fit ($\chi 2\Delta = 41.765$, df = 30, p = 0.075). Therefore, the path analysis model fit is stable across the two political groups for P_CHOICE.
   A_CHOICE Model Invariance for Political Groups: The original (unconstrained) model for A_CHOICE has good fit. The relative Chi square is 1.392, which is below the recommended value of 2. With a RMSEA of 0.051, the model indicates reasonable fit. The SRMR of 0.0761 also indicates reasonable fit. When the equal covariances model is compared to the original model there is not a significant decline in fit ($\chi 2\Delta = 27.651$, df = 24, p = 0.275). In addition when the equal covariances and regression weights are tested, there is not a significant deterioration in model fit ($\chi 2\Delta = 38.211$, df = 30, p = 0.144). Therefore, the path analysis model fit is stable across the two political groups for A_CHOICE.

REFERENCES

Andersen, M.L., Zuber, J.M. & Hill, B.D. (2015). Moral Foundations Theory: An Exploratory Study with Accounting and Other Business Students. *Journal of Business Ethics* 132(3):525-538.

Bargh, J. A. & Chartrand , T.L. (1999). The Unbearable Automaticity of Being. *American Psychologist*, 54(7):462-479.

Bollen, K.A. (1989). *Structural equations with latent variables.* New York: Wiley.

Byrne, B.M. (2010). *Structural Equation Modeling with AMOS.* New York, NY: Routledge.

Craft, J. (2013). A Review of the Empirical Ethical Decision-Making Literature: 2004-2011. *Journal of Business Ethics,* 117: 221-259.

Field, A. (2012). *Discovering Statistics Using IBM SPSS Statistics.* Thousand Oaks, CA: SAGE Publications Inc.

Gallup.com. (n.d.). *State of the States for 2014.* Retrieved from http://www.gallup.com/poll/125066/state-states.aspx

Graham, J., Haidt, J., & Nosek, B. (2009). Liberals and Conservatives Rely on Different Sets of Moral Foundations. *Journal of Personality and Social Psychology*, 96(5): 1029-1046.
Haidt, J. (2001). The Emotional Dog and Its Rational Tail: A Social Intuitionist Approach to Moral Judgment. *Psychological Review*. 108(4):814-834.
Haidt, J. (2006). *The Happiness Hypothesis: Why the meaning life is closer than you think.* New York, NY: Basic Books.
Haidt, J. (2012). *The Righteous Mind: Why Good People Are Divided by Politics and Religion.* New York: Pantheon Books.
Haidt, J., & Graham, J. (2007). When morality opposes justice: Conservatives have moral intuitions that liberals may not recognize. *Social Justice Research,* 20: 98-116.
Hu, L. & Bentler, P. (1999). Cutoff criteria for fit indices in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling,* 6: 1-55.
Kahneman, D. (2013). *Thinking, Fast and Slow*. New York, NY: Farrar, Straus & Giroux.
Kline, R. (2005), *Principles and Practices of Structural Equation Modeling.* New York, NY: Guilford Publications.
Koleva, S.P., Graham, J., Ilyer, R., Ditto, P.H. & Haidt, J. (2012). Tracing the Threads: How five moral concerns (especially Purity) help explain culture war attitudes. *Journal of Research in Personality.* 46(2):184-194.
Lapsley, D.K. & Hill, P.L. (2008). On dual processing and heuristic approaches to moral cognition. *Journal of Moral Education*, 37(3): 313-332.
Lavelle, L. (2013, March 13). *Even with a Female Dean, Most MBAs are still Men*. Retrieved from http://www.businessweek.com/articles/2013-03-13/even-with-a-female-dean-most-mbas-are-still-men.
O'Fallon, M., & Butterfield, K. (2005). A review of the empirical ethical decision-making literature: 1996–2003. *Journal of Business Ethics*, 59: 375–413.
Premeaux, S.R., & Mondy, R.W. (1993). Linking Management Behavior to Ethical Philosophy. *Journal of Business Ethics*, 12: 349-357.
Radtke, R. (2004). Exposing accounting students to multiple factors affecting ethical decision making. *Issues in Accounting Education*. 19(1): 73-84.
Randall, D., & Gibson, A. (1990). Methodology in Business Ethics Research: A Review and Critical Assessment. *Journal of Business Ethics,* 9(6): 457-471.
Reynolds, S.J. (2006). A Neurocognitive Model of the Ethical Decision-Making Process: Implications for Study and Practice. *Journal of Applied Psychology*. 91(4):737-748.
Sonenshein, S. (2007). The Role of Construction, Intuition, and Justification in Responding to Ethical Issues at Work: The Sense-Making Intuition Model. *Academy of Management Review.* 32(4):1022-1040.
Thorne, L. (2000). The Development of Two Measures to Assess Accountants' Prescriptive and Deliberative Moral Reasoning. *Behavioral Research in Accounting*. 12: 139-169.
U.S. Census Bureau. (n.d.). *Census Regions and Divisions of the United States.* Retrieved from http://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf
van Leeuwen, F. & Park, J.H. (2009). Perceptions of social dangers, moral foundations, and political orientation. *Personality and Individual Differences*. 47:169-173.
www.moralfoundations.org. (2013). MFQ30 questionnaire.
Zajonc, R.B. (1980). Feeling and Thinking: Preferences Need No Inferences. *American Psychologist*. 35(2):151-175.

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APPENDIX

P_CHOICE: You are a manager with a subsidiary of a small, privately owned conglomerate. You are preparing a proposal for new capital funding for consideration by the owner along with the submissions from the other subsidiaries. The 70-year-old owner has a hands-off management style and has never specified the methods to be used in analyzing the acceptability of new investment projects. You are certain that if you use the optimistic projections developed by key personnel in your company, you will receive the additional funding, but you are not sure you can deliver the anticipated results. On the other hand, if you use more realistic estimates, you may not receive the funding. If the project is not undertaken, your company will probably not be able to maintain its competitive position and your plant stands a good chance of closing within the year. If your plant closes, you and all of the other 100+ employees will lose their jobs.

Please express your agreement or disagreement with the following statements. Circle the number that best represents your opinion.	**Strongly Disagree** 1	2	3	4	5	6	**Strongly Agree** 7
Using all the information provided above, I would use optimistic projections rather than more realistic projections.	1	2	3	4	5	6	7

A_CHOICE: You work in product development for an auto parts manufacturer. Your firm received a large contract last summer to manufacture components to be used in a new line of hybrid cars, which a major car manufacturer plans to introduce in the near future. Prior to obtaining the contract, your firm had fallen on hard times and layoffs were imminent. Final testing of the components ended last Friday and the first shipments are scheduled for three weeks from today. As you began examining the quality control test reports, you discovered that the components tended to fail more often than the car manufacturer's specifications. For example, the components could fail when a heavily loaded car brakes hard for a curve down a mountain road. The results would be disastrous. You showed the quality control test results to your supervisor and the company president who indicated that they were both aware of the report. Given the low likelihood of occurrence and the fact that there was no time to redesign the components, they decided to ignore the report. If they did not deliver the components on time, they would lose the contract. You must now decide whether to show the quality control test results to the car manufacturer.

Please express your agreement or disagreement with the following statements. Circle the number that best represents your opinion.	**Strongly Disagree** 1	2	3	4	5	6	**Strongly Agree** 7
Using all the information provided above, I would show the quality control test results to the car manufacturer despite my superiors' willingness to ignore the results.	1	2	3	4	5	6	7

Please continue on the next page…

*The names of items on the next page were added after the data was collected and correspond to items (e.g. P6) used in the measurement model (see Figure 2).

MFQ30

1) When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? <u>Please rate each statement on the line provided using this scale:</u>

[0] = not at all relevant (This consideration has nothing to do with my judgments of right and wrong)
[1] = not very relevant, [2] = slightly relevant, [3] = somewhat relevant, [4] = very relevant
[5] = extremely relevant (This is one of the most important factors when I judge right and wrong)

C1 Whether or not someone suffered emotionally
C2 Whether or not someone cared for someone weak or vulnerable
C3 Whether or not someone was cruel
F1 Whether or not some people were treated differently than others
F2 Whether or not someone acted unfairly
F3 Whether or not someone was denied his or her rights
L1 Whether or not someone's action showed love for his or her country
L2 Whether or not someone did something to betray his or her group
L3 Whether or not someone showed a lack of loyalty
R1 Whether or not someone showed a lack of respect for authority
R2 Whether or not someone conformed to the traditions of society
R3 Whether or not an action caused chaos or disorder
P1 Whether or not someone violated standards of purity and decency
P2 Whether or not someone did something disgusting
P3 Whether or not someone acted in a way that God would approve of

2) Please read the following sentences and indicate your agreement or disagreement <u>using the following scale</u>:

[0]	**[1]**	**[2]**	**[3]**	**[4]**	**[5]**
Strongly disagree	**Moderately disagree**	**Slightly disagree**	**Slightly agree**	**Moderately agree**	**Strongly agree**

C4 Compassion for those who are suffering is the most crucial virtue.
C5 One of the worst things a person could do is hurt a defenseless animal.
C6 It can never be right to kill a human being.
F4 When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.
F5 Justice is the most important requirement for a society.
F6 I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.
L4 I am proud of my country's history.
L5 People should be loyal to their family members, even when they have done something wrong.
L6 It is more important to be a team player than to express oneself.
R4 Respect for authority is something all children need to learn.
R5 Men and women each have different roles to play in society.
R6 If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.
P4 People should not do things that are disgusting, even if no one is harmed.
P5 I would call some acts wrong on the grounds that they are unnatural.
P6 Chastity is an important and valuable virtue.