Measuring Moral Conviction:
Lessons from Experimental Evidence

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January 2, 2018

Abstract

Research has demonstrated that when individuals consider an issue or policy to be a part of their moral beliefs or convictions it may lead to a variety of political behaviors, such as an increase in voting. The concept of moral conviction over a given issue or policy preference has often been measured using a single, self-report style survey question. These questions ask: "How much are your feelings about (some issue or policy) connected to your core moral beliefs or convictions?" The answer to this question is given on a five-point Likert-type scale with labels such as "not at all," "slightly," "moderately," much, and "very much." Other measures use a similar question, with a more standard agree/disagree 7-point scale. This paper uses an experimental design to compare the standard measures used in the literature to a novel index.

1 Introduction

That elected officials attempt to moralize their issue positions is no secret. In fact, elected officials consistently attempt to focus the publics attention on their moral commitments vis-à-vis public issues (CLifford and Jerit, 2013; Clifford et al., 2015). The interesting question is whether elite moralization of political issues resonates with the public, affecting their political attitudes and behavior. Scholarship in political science has developed theoretical and empirical explanations of moral attitudes, and their consequences for a wide variety of political behavior and attitudes (CLifford and Jerit, 2013; Clifford et al., 2015; Haidt, 2001; Skitka and Bauman, 2008; Skitka and Wisneski, 2011). We expand on this existing literature by arguing that political issues which are not *a priori* moral can be moralized by political elites. If political elites can frame issues in moral terms, and generate a moral response from citizens on the basis of the moral frame, this conclusion raises significant questions about the ability of elites to manipulate or persuade the public via the moralization of political issues. To generate these theoretical and empirical insights, we draw from existing literature in political science focused on elite cueing[1].

While more established scholarship in political science has focused on morality policy Mooney (2001)), recent scholarship in political science focused on morality draws heavily from work in psychology to develop theoretical insights regarding how morality is expressed in individual attitudes and behavior. This literature focuses on the structure of moral attitudes, how they are expressed, and ultimately their effects on political behavior.

Scholarship in political science that seeks to integrate morality at the level of individual attitudes begins with a series of assumptions about the structure of moral attitudes. Drawing from a line of research in psychology, scholars posit the existence of morally convicted attitudes (Skitka and Bauman, 2008; Skitka, 2010; Skitka and Wisneski, 2011). These attitudes have the following traits. Morally convicted attitudes are experienced as facts about the world. These attitudes seem to be self-evident to those who hold them, and when pressed by researchers in experimental settings to explain why an attitude object is wrong or bad, many people have a difficult time articulating reasons for their judgments (Haidt, 2001). This inability to explain a moral reaction to an offending attitude-object suggests the presence of an intuitive foundation for moral reasoning,

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[1]For a review, see Gilens (2012), Lupia (1994), Lupia and McCubbins (1998)) and for issue framing see (Nelson, Clawson and Oxley (1997), Zaller (1992)

such that individuals judge some attitude-object as morally problematic, but then have to reason after the fact to explain their initial moral judgment (CLifford and Jerit, 2013; Clifford et al., 2015; Haidt, 2012, 2001). Intuitive moral reasoning also helps to explain variation across individuals as to what they find to be moral. Scholars have posited the existence of moral foundations which appear to inform moral debates between conservative and liberal individuals (CLifford and Jerit, 2013; Clifford et al., 2015). Conservatives and liberals share certain common moral conflicts (such as: liberty/oppression, sanctity/degradation, cheating/fairness), although they interpret these differently (Haidt, 2012).

We use moral foundations theory, in relation to digitizing the existing physical holdings of a public library, when designing the experimental treatment for this study. Specifically, we create a scenario where transferring from physical to digital library holdings can interfere with some groups' ability to access the resources - specifically, older populations and the poor. Scholarship suggests that while it is true that strongly held attitudes will share structural similarities with moral convictions, these moral stances will be more extreme, certain, important, and central. Using the experimental condition we hope to moralize the issue and thus elicit these moral attitudes.

Given that morally convicted attitudes are argued to be qualitatively different than strong, but not moral, attitudes, what behavioral consequences are attributable to morally convicted attitudes held by individuals?

Ryan's (2014) study provides evidence that when moral conviction makes its way into political discourse, problematic consequences can result. Moral conviction leads to negative affect towards opposing viewpoints and can materialize over a wide-range of issues. Additionally, research has demonstrated that individuals become unconcerned with how moral mandates are achieved, as long as they are achieved. Studies have more generally shown that a strong moral conviction over an issue or set of issues inspires action. Skitka and Bauman (2008) find that moral conviction motivated voter turnout in the 2004 presidential election controlling for a host of other variables such as attitude strength and partisanship, and that the effect was strong for people on both the left and the right. Overall, the moral conviction literature indicates that those with morally convicted attitudes tend to be more active politically, but also are less likely to negotiate with others when faced with threats to their moral beliefs (Ryan 2017).

We seek to extend the existing literature by accomplishing several goals. First, we seek to em-

pirically test moral foundations theory, utilizing a unique experimental design attaching a moral frame to a non-moral issue. Second, we seek to show the attitudinal and behavioral consequences of morally convicted attitudes. Finally, we also develop a new moral conviction index that addresses potential measurement issues in the existing literature.

2   Measuring Moral Conviction

Recent studies have begun studying morality using the concept of moral conviction as an independent variable, which drives decision-making over a variety of political activities and does not necessarily limit the role of morality to a subset of specific issues. This line of research is often called the "Moral Mandate" literature. Generally, constructs such as moral conviction, principles, values, and beliefs have been measured using a series of self-report style questions.

For example, Skitka, Bauman and Sargis (2005, pp. 899) measure moral conviction by asking, "How much are your feelings about [relevant issue] connected to your moral beliefs or convictions?" The answer set is a 5-point scale with the labels, "not at all, slightly, moderately, much, and very much." Ryan (2014, pp. 384) uses a similar measure where respondents were asked to what extent their opinion was "a reflection of your core moral beliefs and convictions," "deeply connected to your fundamental beliefs about right and wrong," and "based on moral principle." The same 5-point scale was used in Ryan's (2014) study as well.

Another common question to measure moral conviction was used in Skitka and Bauman (2008, pp. 40); for this question respondents are asked, "My choice for [candidate] reflects something about my core moral values and convictions." The answer set has slightly more variation with a 7-point scale with the labels, "strongly agree, moderately agree, slightly agree, uncertain, slightly disagree, moderately disagree, and strongly" (Skitka and Bauman, 2008, pp.39-40).

There are strong arguments to be made for using self-report measures. Previous research would often treat morally relevant issues as something that is universally recognizable, when in reality what constitutes something as moral is subjective to the respondent (Skitka, 2010). Using these self-report measures Ryan (2014) found that respondents held morally convicted attitudes over a variety of issues, many of which were assumed to be non-moral in past research on morality politics (i.e. education and health care).

Studies have also demonstrated that moral conviction is different from other indicies of attitude strength, such as attitude extremity, importance, certainty, or centrality. Rather moral conviction is a unique explanatory variable (Skitka, Bauman and Sargis, 2005). Studies have tested these self-report measures for discriminant validity[2] and convergent validity[3] (Skitka and Bauman, 2008; Skitka, 2010). For example, in terms of discriminant validity, the self-report measure of moral conviction positively but weakly correlated with attitude extremity and certainty, modestly correlated with attitude importance, modestly correlated with left-right political orientation, and did not correlate with strength of direction political orientation on issues such as abortion, capital punishment, the legalization of marijuana, and building new nuclear power plants (Skitka, 2010). In regards to convergent validity the self-report measure was correlated with another face valid measure of moral conviction, "the degree that participants indicated that their attitude on a given measure was connected to their fundamental beliefs about right or wrong" on physician assisted suicide (PAS) (Skitka and Bauman, 2008; Skitka, 2010, pp.272) Respondents' answers to the moral conviction measure and their beliefs on whether PAS was right or wrong correlated highly ($r = 0.82, N = 650, p < 0.001$). In the same study, Skitka (2010) tested the reliability of the measure by conducting test-retest correlations of moral conviction and the right-wrong item associated with 13 different issues across 1 and 3 month intervals; the correlations were consistently high across issues.

Given that moral conviction over a given issue has been associated with political engagement (Skitka and Bauman, 2008; Skitka and Morgan, 2014), difficulties in conflict resolution (Skitka, Bauman and Sargis, 2005; Haidt, 2012), inoculation against pressures to obey authorities and the law (Skitka and Morgan, 2014), intolerance (Skitka, Bauman and Sargis, 2005; Skitka, 2010), willingness to accept violent means to achieve preferred ends (Skitka and Mullen, 2002), and strong links to emotion and emotional reactions (Skitka and Wisneski, 2011), it is important to see how these different self-report measures preform in different circumstances and whether it would be beneficial to introduce new measures that might better capture moral conviction. To take this a step further, we would argue that the literature on morally held attitudes is proving lucrative enough

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[2]Discriminant or divergent validity relies on tests that analyze whether concepts or measurements that are not supposed to be related are actually unrelated.

[3]Convergent validity, a type of construct validity, relies on tests which measure the degree to which two measures or constructs that theoretically should be related, are in fact related

that scholars should consider regularly adding this variable to large public opinion surveys.

3   Methodology

This paper takes an alternative approach to comparing different measures of moral conviction. We use an experimental design to attempt to induce moral conviction utilizing a moralized treatment frame, as compared to a non-moral control. We then use several different measures of moral conviction, including an original index, to see how these measures perform in regards to measuring morally convicted attitudes as a result of the treatment.

3.1   The Experiment: The Morality of Digitizing the Library

The experiment consists of what would normally be considered a non-moral issue. In this case the issue involves the local library transitioning from traditional physical holdings to an all digital database of library materials. Both vignettes are framed as a speech from a local member of the City Council. The control vignette explains to the respondent that there is an upcoming election with a ballot proposition that will "replace the current Library structure with a "digital library" and that if the citizens vote yes the proposal "will take affect right away" The vignette goes on to explain that the "operating expenditures of our public library are approximately $1.7 million annually" and that the proposal would "cut the librarys necessary operating expenses by 15% in the coming year, which will equate to a savings of over $262,000 for the city." In addition, respondents are told that the "city took a major step toward digitization on Monday, when the City Council "signed a conditional contract with OverDrive, one of the largest online databases of eBooks, audiobooks, graphic novels, and more." Moreover, respondents are told that "the Library will also be using generously donated funds to purchase plenty of eReaders for citizens to use within the library, which already has a large supply of computers with internet access, as well as free public Wi-Fi" and that "Citizens can purchase an eReader from the Library at a cost of under $50.00." The ballot proposition is presented as a cost savings measure that will have positive effects on access to the library and also the overall budget. In addition, respondents are told that, "expanding digital resources of the library allows citizens greater freedom to explore a wide range of ideas and reduces barriers to knowledge and information." Thus, the proposal is framed in a

positive light and primarily a cost saving measure that will ensure greater access to the public library.

The issue was chosen because it fits well with Haidt's (2012) moral foundations theory. The six moral systems are care/harm, liberty/oppression, fairness/cheating, loyalty/betrayal, sanctity/degradation, and authority/subversion. The digital library fits well with the liberty/oppression foundation, especially for Liberals as they favor the protection of the rights of vulnerable groups, while conservatives focus on traditional ideas of liberty and the right to be free of government intrusion. In regards to the vignette, a few lines are added to a treatment condition that emphasizes how the proposal would affect disadvantages groups. Participants are told the proposal, "reduces the ability of citizens without technological skills to use the digital library materials as well as they could physical library holdings. The elderly population in our city will be most affected by the lack of technological skills." It goes on to state, "Less than 70% of citizens within the city limits have access to the internet and this particularly hurts those at the low-end of the income bracket. Many people cannot afford an eReader, smartphone, tablet or other digital device. And even if one can afford a device, without access to the internet at home, they would have to travel to the Library to download available resources." These two lines highlight how the digitization of library resources will reduce certain groups' ability to access library content. Lastly, citizens in the treatment are told the the Council Person, "cannot support a proposition that benefits some citizens while limiting the choices of other citizens!" Other than these few lines, the control and the treatment are identical. At the end of both vignettes respondents are told, "Citizens will vote on the ballot proposition tomorrow. A majority of the City Council is supportive of the measure. Be sure to get out there and voice your opinion!"

3.2 Hypotheses

This experiment is an extension of another paper where the authors demonstrate that the building of a minor league baseball stadium can be moralized using elite cues within the fairness/cheating foundation (Nicoletti and Delehanty, 2017*a*). The experiment in this paper was designed to replicate those findings using an additional issue area, while also comparing different measures of moral conviction. Based on the findings from previous research we expect the following:

- *Hypothesis 1*: Respondents who receive the morally framed speech will be less likely to vote yes on the ballot proposition.

- *Hypothesis 2*: Respondents who receive the morally framed speech will be more likely to report that the issue reflects something about their core moral values and convictions.

- *Hypothesis 3*: Respondents who felt the issue reflected something about their core moral values and conviction will be less likely to vote yes on the ballot proposition.

- *Hypothesis 4*: Respondents who are more likely to report that the issue reflects something about their core moral values and convictions will be more likely to say they would vote on the issue.

3.3 Measures of Moral Conviction

In addition to testing these hypotheses, we will compare several measures of moral conviction. Two of the four variables are based on what measures are often used in the literature cited above. The last two variables are novel measures of moral conviction.

- *Measure 1:* My choice on whether or not to vote yes on the digital library proposition reflects something about my core moral values and convictions. The choice set labels were as follows: strongly agree, moderately agree, slightly agree, uncertain, slightly disagree, moderately disagree, and strongly disagree.

- *Measure 2:* How much are the feelings about the Council's decision to shift from physical to digital library holdings connected to your core moral beliefs or convictions? The choice set labels were as follows: not at all, slightly, moderately much, much, very much.

- *Measure 3:* This variable in an index which begins with asking the question from *Measure 1* above. If the respondent chose strongly agree, moderately agree, or slightly agree, they are directed to an intensity scale where they are asked: "Now think about your decision on whether to vote yes or no on the proposition to shift from physical to digital library holdings. In regard to this decision, please indicate your agreement with the following statements on a scale from 1 to 5, where 1 equals strongly disagree and 5 equals strongly agree." There

are then four statements as follows: (1) My moral values and convictions on my decision make it harder for me to compromise; (2) My moral values and convictions on my decision are the only beliefs I think are true; (3) I will defend my moral values and convictions on my decision, no matter the cost; (4) Others cannot convince me that my moral values and convictions regarding my decision are wrong. An additive index is then created by combining the original measure with the intensity questions. This measure ranges from 0 to 9; as it increases the moral conviction over their choice on proposition increases.[4]

- *Measure 4:* This variable was an attempt create a measure that was not based on self-report. It is hypothesized that if the treatment activated an aspect of a participant's moral conviction, then they would be highly aware of this moral foundation and thus more likely to behave in ways consistent with their moral beliefs. Thus, for measure four respondents were asked, "You are playing a Board Game that involves distributing an equal amount of game money to each player at the start of the game. The person who distributes the game money accidentally gives you significantly more money than the other players. No one notices this mistake and the extra game money will give you an advantage in the game. Please indicate your agreement with following statement on a scale from 1 to 5, where 1 equals strongly disagree and 5 equals strongly agree. I would voluntarily tell the other players in the game that I accidentally received too much game money and then give back the extra money I received." The idea here is that those participants that received the treatment would have certain moral convictions activated and thus be more likely to "do this right thing" in this situation.[5]

We think that the moral conviction index may be an improved way to measure morally convicted attitudes. The index seeks to combine the traditional self-report measure of moral conviction with a series of questions designed to measure the strength of morally convicted attitudes. Adding the questions designed to measure the strength of morally convicted attitudes addresses two existing measurement problems in the literature. First, the traditional self-report measure

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[4]This measure is a simple additive index. The original question is recoded so that it is a dummy variable where 0 represented those that disagreed or were uncertain and 1 represented those that agreed. Then each of the scales on the intensity questions were converted to a 3-point scale variable where 0 represented those that disagreed or were uncertain, 1 represented agree, and 2 represented strongly agree. Then all of the variables were added together generating an index where increased values indicate greater intensity of moral conviction.

[5]The authors acknowledge that this scenario is more in-line with the cheating/fairness foundation, rather than the liberty/oppression foundation. In future variations of this paper alternative measures are being constructed.

of moral conviction may overestimate the presence of morally convicted attitudes. Secondly, the existing literature posits that those who hold morally convicted attitudes will likely hold those attitudes as more central and important in their appraisal of public issues. Existing measures of moral conviction do not consistently take advantage of the strength and centrality of morally convicted attitudes for those who hold them. Our moral conviction index attempts to focus more attention on the strength and centrality elements comprising moral conviction.

4   Sample

The sample comes from a web-experiment conducted using Amazons Mechanical Turk (MTurk). The MTurk platform allows "requesters" to create Human Intelligence Tasks (HITS) and submit these to "workers" who perform these tasks for a set reward. Scholars have demonstrated the value of MTurk for recruiting subjects, especially for experimental studies (Berinsky et al, 2012; Huff and Tingley, 2015). For this study 608 workers were recruited at $0.30 for each assignment. The gender of the sample was relatively even with 323 females and 282 males. The age of the respondents ranged from 18 to 83, with a mean of 35. Income of the respondents ranged from $0 24,999 (106 respondents) to some over $200,000 (7 respondents); the mode category was $25,000 - $49,999. The sample contains mostly Democrats (262 respondents), with a relatively even split between Republicans (141 respondents) and Independents (197 respondents). The sample was overwhelmingly White (437 respondents) but also contained African Americans (66 respondents) and several other races. The education of the sample ranged from no degree earned to doctorate degree earned, with the modal response being an earned bachelor's degree (221 respondents). While MTurk does not provide a representative sample and thus external validity can be an issue, the treatment was randomized preserving internal validity.

5   Results

Two of the four measures indicated that the treatment induced some degree of moral conviction. Each of the measures were converted to a "dummy variable," where the disagree and uncertain responses were coded as 0 and the agree responses were coded as 1. Contingency tables with χ^2

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values were calculated for each measure and its relationship with the treatment. The treatment was correlated with moral conviction measure one ($\chi^2 = 3.9$, $p < 0.047$) and three ($\chi^2 = 4.02$, $p < 0.045$). Moral conviction measures two and four did not associate with the experimental treatment and the p-values were not close to statistical significance. Therefore, the results for hypothesis 2 are mixed, depending on the measure used.

The survey-experiment also asked questions regarding gender, age, party identification, self-placement on a 7-point ideological scale from Liberal to Conservative, education, income, race, political knowledge, interest in government and politics (5-point Likert scale), use of the public library (6-point Scale from at least once a week to never), and a battery of emotion questions measuring how hopeful, anxious, enthusiastic, and angry the felt about the speech.[6] Using these variables, a Logit Regression was estimated to predict vote choice based on the treatment, the Moral Conviction question, and a series of controls. Table 1 presents 4 models, one for each independent variable measuring moral conviction, and all control variables.[7]

First, the results demonstrate that for all moral conviction measures, except measure 2, the coefficient is negative, indicating that those with increased conviction over the issue were less likely to vote for the ballot proposition. The one exception is moral conviction measure 2. Only moral conviction measure 1 and 3 were statistically significant at the 95% level. The treatment was negative in all models, but was only statistically significant in models 1 and 4. It is important to note that logistic regression tends to be sensitive to sample size and Models 2, 3, and 4 may not have the statistical power to reveal relationships. Using Ender's (2002) "powerlog" function in Stata, each logistic regression would need an N of 318 for a power of 0.80. As it stands with Ns of less than 150, the power of the statistical models are less than 0.50.[8]

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[6]All the emotion questions were self-report style questions asking the respondent, "Generally speaking, how did the speech make you feel? To what extent did you feel any of these emotions in response to the speech?" This question was followed by a series of emotions and their synonyms. For example, to gage anger the words listed were, "Angry, irritated, upset." The answer sets ranged from "not at all" to "completely."

[7]The number of cases for Models 2, 3, and 4 are between 145 and 149. The number of cases for Model 1 is 295. For each experiment we recruited 150 workers from MTurk. The experimental condition using the moral conviction index (measure 3) also used the moral conviction measure 1 as a part of the index battery. Since measure 1 was asked first, before the skip logic sent respondents to the intensity battery, and all other questions asked were identical, we can leverage the additional sample size for Model 1 in this table. Thus, Model 1 includes pooled responses from Model 3 as well. A logit regression was also estimated for respondents in Model 1 that did not get asked the index measure and the results did not change.

[8]The "powerlog" function needs: (1) the probability of voting yes on the ballot initiative at the mean of the Moral Index ($p_1 = 0.67$), (2) the probability of voting yes when the moral index is one standard deviation above the mean ($p_2 = 0.58$), (3) the alpha level, which was set to 0.05, and (4) the estimated pseudo R^2, which was set to 0.50. Using these assumptions the "powerlog" function computes the necessary N at various levels of statistical power. It is clear form

[Table 1 About Here]

Second, it is interesting to note that the emotion battery performed quite well. In three of the four models, increased Anger reduced the likelihood of voting yest on the ballot initiative and anger was statistically significant in models 1 and 3. Increased anxiety reduced the likelihood of voting for the ballot initiative and this variable was significant in all models except model 3. Enthusiasm was positive and significant in every model, indicating that the more enthusiastic a respondent was in regards to an all digital library the more likely they were to vote yes on the ballot initiative. The effect of public library use was negative in all models, but only significant in models 3 and 4. It does seem that the more a respondent uses the public the library the less likely they were to vote yes on the ballot proposition. None of the other variables were consistently significant in the models. It does seem that Whites and Republicans were more likely to vote yes on the ballot initiative, but these variables were only significant in model 1.

It has also been demonstrated that increased moral conviction increases political engagement (Skitka and Bauman, 2008). Table 2 presents a set of models where the dependent variable is a dummy variable for whether or not the respondent indicated how likely they would be to vote on the the hypothetical ballot initiative uf it was in an issue in their city. All of the moral conviction measures in these models are positive, but only measures 1 and 2 reach statistical significance. The moral conviction index and the moral situation variables do not achieve significance in these models. In addition, the only other interesting control variable in these models is interest in politics. Those who are more interested in politics are more likely to say they will vote in the hypothetical election in models 1, 2 and 3. The coefficient on interested in politics is significant in all but model 4. In model 4 the sign switches and it is not significant.

[Table 2 About Here]

Figures 1-4 present the odds ratios for each model with each measure of moral conviction. It is clear that enthusiasm has the largest effect in all of the models. The moral conviction measures that stands out is measure 1 and 3. Measure 1 had an odds ratio of 0.75, indicating that the odds of voting yes on the ballot initiative as moral conviction increases by 1 unit, decreases about 75%. The odds ratio for the moral conviction index is about the same at 0.77.

this analysis that these low Ns put us at risk for Type II errors.

[Figures 1-4 About Here]

While this research is somewhat exploratory, it is interesting that one of the more used moral conviction measures - measure 2 - has mixed results in this experiment. When the dependent variable is voting yes on the initiative the coefficient is positive when it is expected to be negative. When the dependent variable is likelihood of voting in the election the coefficient is positive and significant, as would be expected. The moral conviction index has the right sign in both circumstances - vote choice and likelihood of voting - but is only significant for vote choice. The measure that performs as expected for both vote choice and likelihood is the also the measure that is the most popular in the literature, measure 1.

One of the reasons that measure 1 may outperform measure 2 is variation in choice set. Moral conviction measure 1 allows the respondent to disagree and agree on a 7-point scale, while moral conviction measure 2 really only allows the respondent to disagree completely with the answer "not at all" or agree in 4 variations from slightly to very much. In some cases, we argue that this induces respondents to over-characterize their moral conviction on the given issue. This may also lead to findings where respondents seem to have "moral conviction" over a wide-range of issues, but in reality it is an artifact of the measure. This is one of the reasons that we attempted to generate the moral conviction index with variation in levels of intensity.

5.1 Moral Conviction Index

The moral conviction index is designed to first measure whether or not a respondent has self-reported morally convicted beliefs over a given issue. Then the measure is designed to see how strongly respondents hold these beliefs using a a series of questions that the literature tends to show correlate with strongly held moral attitudes. For example, the inability to compromise, the belief that only one's beliefs must be true, the idea that one is willing to defend these beliefs, and the difficulty convincing one that their beliefs might be wrong.[9] The index thus allows us to measure how deeply held these moral beliefs are over a given issue with only a few simply questions.

A factor analysis of the moral conviction index reveals only one factor with an Eigen value

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[9]See Haidt (2001), Haidt (2012), (Skitka and Mullen, 2002), and (Skitka, 2010) for some examples of these behaviors.

of 4.12 - the next closest Eigen value is 0.05.[10] The scales load very well together, with the lowest loading of 0.81 for the original moral conviction measure. The rest of the loadings are well over 0.90. The original moral conviction question explains the most unique variation at 32%. In addition, the Cronbach's alpha for each item in the scale combined is 0.97, providing additional evidence that these items are highly internally consistent as a group. The factor analysis combined with the Cronbach's alpha demonstrates that the items in the scale are both unidimensional and internally consistent.

This variable allows for the intensity of the morally convicted attitude to come through, rather than simply a self-reported measure that gages whether or not a respondent has morally convicted attitudes on a standard Likert scale. Although more research is necessary, we think this measure may be promising as scholars begin to study moral conviction over a range of different circumstances.

5.2 The Situational Measure

It was theorized that if morally convicted attitudes were activated in the treatment scenario, those attitudes would transfer to a situational context. In other words, if moral attitudes over liberty and oppression were activated by the treatment, then respondents would be less likely to say they would cheat in a board game, which was designed to be a low stakes situation to avoid some social desirability effects. While the sign of the coefficient was as predicted for vote choice and likelihood of voting, it was not statistically significant in either model. In a bivariate model, moral conviction measure 4 is negatively related to voting yes and has a p-value of 0.12, which is close to significance at the 90% level. While this measure was exploratory, we acknowledge that the question does not necessarily match up with the moral foundation we used in the treatment frame. Future iterations of this paper will explore situations closer to the liberty/oppression frame that is used in the treatment.

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[10]Generally, Eigen values over 1 are retained as unique factors.

6   Discussion and Conclusion

There are a few lessons that can be drawn from these analyses. First, using a treatment based on Haidt's (2012) moral foundations theory, we were able to induce moral conviction over an issue that does not immediately seem moral in nature. When using the standard moral conviction measure, those who self-reported increased moral attitudes over switching from physical to digital library holdings were less likely to vote yes on the hypothetical ballot initiative and more likely to say they would vote on this issue if the hypothetical election was actually held in their city. This is consistent with findings from Nicoletti and Delehanty (2017*a*), in which we were able to moralize the building of a baseball field using the cheating/fairness moral foundation. This is also consistent with the theoretical framework put forth in Nicoletti and Delehanty (2017*b*), in which the authors argue that elite frames can moralize even non-moral issues, producing negative effects for democratic discourse, including the inability to compromise and increased intolerance.

Second, we demonstrated that all moral conviction measures do not necessarily perform equally, at least in this context of this experiment. The only measure to perform as expected consistently was moral conviction measure 1, which is also the most used measure in the literature and the one that has been tested for reliability and validity. What is most interesting is the way that moral conviction measure 2 performed. This measure is also highly used in the literature and it seems to provide mixed results, although as stated prior, the N is small for models 2, 3, and 4. If there is one flaw that we think can be problematic when using moral conviction measure 2, it is that there is little variation in the answer choices, which can lead to the inflation of morally convicted attitudes.

Lastly, we acknowledge that is this study is somewhat exploratory and has several limitations. We are assuming that the experimental treatment (and possibly the control) accurately induces moral conviction that can then be measured by the variables we have chosen to study. While we are confident that this has been accomplished (as demonstrated by the coefficient on moral conviction measure 1), we understand that comparing these different measures under these conditions cannot definitely demonstrate which one performs best. This is a problem of external validity, the lack of a representative sample, and possibly internal validity issues. It is also true that the statistical power for several of the models leaves us with a high possibility of a Type II error. Moreover,

in future iterations of this project we will include other measures that moral conviction tends to be correlated with, such as conceptions of right and wrong, so that tests of convergence validity are possible. However, even given these limitations, it is interesting to see how these measures performed across a consistent experimental condition.

Given the fast and growing interest among political science scholars in the effects of moral conviction, increasingly standardized measures should be used across studies, much like party identification and ideology measures. This paper is a first cut at attempting to test the most popular measures and explore some additional novel measures in an experimental context. At the very least, the results demonstrate that more research needs to be conducted into whether or not the existing measures are internally consistent with each other and whether there are better measures that are more consistent with the theoretical frameworks that are used to justify the measures currently used.

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Appendix

A   Tables and Figures

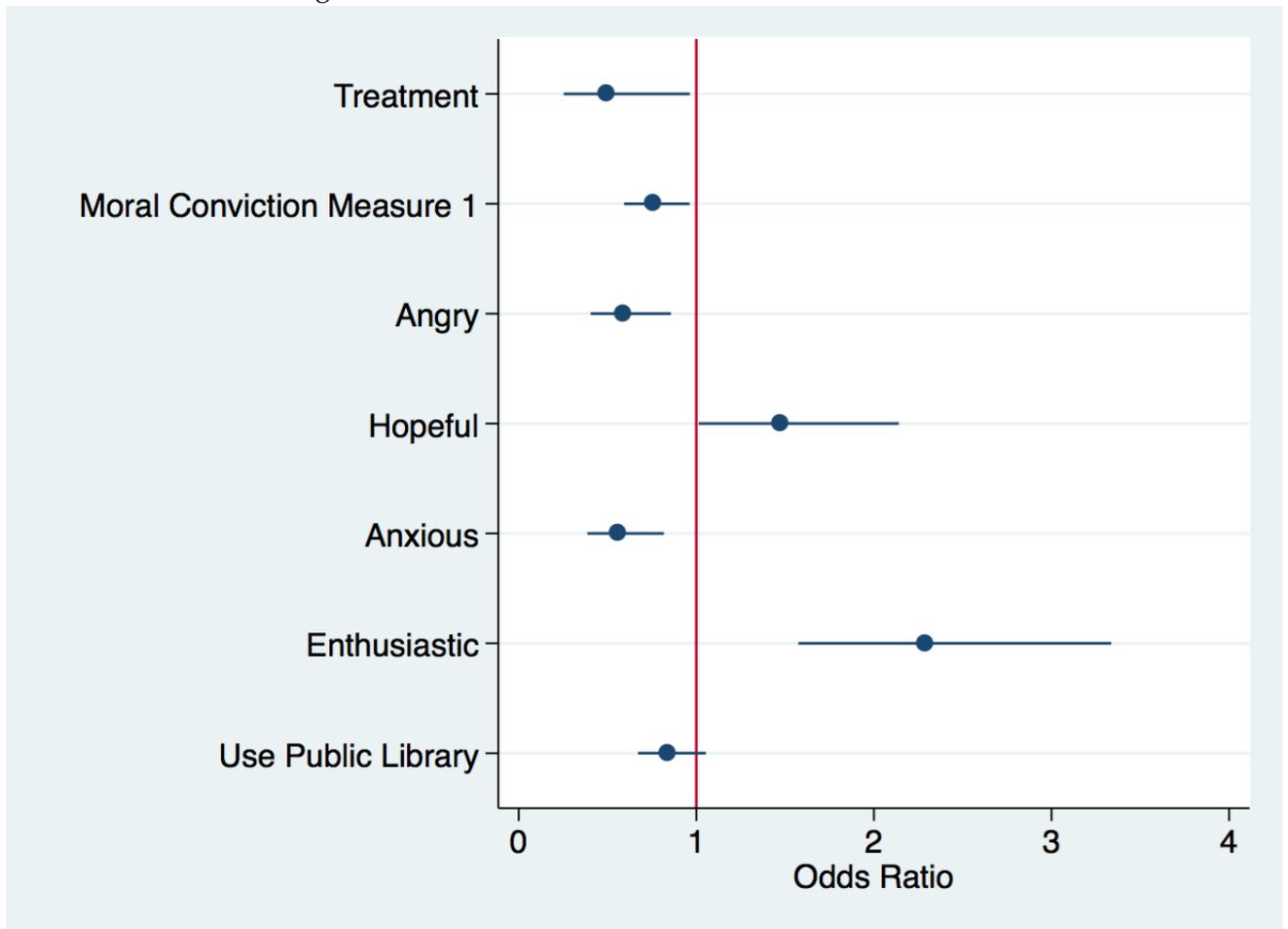Figure 1: Odds Ratio - Moral Conviction Measure 1

Table 1: Logit Regressions, Vote Yes on Ballot Initiative

	Model 1	Model 2	Model 3	Model 4
Treatment	-.705	-.476	-.666	-1.333
	(.341)**	(.595)	(.538)	(.555)**
Moral Conviction Measure 1	-.280			
	(.123)**			
Moral Conviction Measure 2		.315		
		(.258)		
Moral Conviction Measure 3			-.259	
			(.128)**	
Moral Conviction Measure 4				-.229
				(.266)
Angry	-.529	.164	-1.026	-.357
	(.191)***	(.343)	(.333)***	(.282)
Hopeful	.387	.132	-.012	.283
	(.191)**	(.356)	(.311)	(.334)
Anxious	-.576	-1.043	-.290	-.759
	(.191)***	(.354)***	(.294)	(.310)**
Enthusiastic	.829	1.486	.985	1.289
	(.192)***	(.415)***	(.330)***	(.390)***
Use of Public Library	-.173	-.276	-.377	-.684
	(.115)	(.201)	(.184)**	(.232)***
Female	-.749	.097	-.063	-.961
	(.357)**	(.617)	(.558)	(.587)
Age	.011	-.028	-.010	-.015
	(.015)	(.028)	(.023)	(.023)
Ideology (Left to Right)	-.199	-.112	-.137	-.124
	(.137)	(.215)	(.224)	(.234)
Interested in Politics	-.191	.006	-.195	.339
	(.166)	(.303)	(.240)	(.302)
Education	.179	-.302	.297	-.524
	(.124)	(.260)	(.200)	(.216)**
Income	-.142	.431	-.132	.451
	(.110)	(.208)**	(.172)	(.231)*
Political Knowledge	-.003	-.602	-.421	-.364
	(.236)	(.402)	(.429)	(.302)
White	-.845	-.539	-.540	.294
	(.411)**	(.734)	(.580)	(.636)
Republican	2.040	.246	3.027	-.077
	(.579)***	(.816)	(1.033)	(.837)
Constant	3.259	3.361	4.062	4.675
	(1.448)**	(2.119)	(2.343)*	(2.216)**
N	295	145	145	149
Pseudo R^2	0.4265***	0.5514***	0.4598***	0.5378***
e(chi2)	170.925	107.614	88.505	108.035

$* = p < 0.10$; $** = p < 0.05$; $*** = p < 0.01$

Table 2: Logit Regressions, Likely to Vote on Ballot Initiative

	Model 1	Model 2	Model 3	Model 4
Treatment	.195 (.358)	.332 (.562)	-.969 (.652)	-.441 (.469)
Moral Conviction Measure 1	.294 (.122)**			
Moral Conviction Measure 2		.793 (.283)***		
Moral Conviction Measure 3			.119 (.156)	
Moral Conviction Measure 4				.021 (.199)
Angry	-.092 (.220)	.062 (.341)	-.758 (.400)*	-.145 (.264)
Hopeful	.245 (.220)	-.092 (.371)	-.206 (.394)	-.588 (.287)**
Anxious	.203 (.229)	.471 (.335)	.431 (.399)	.004 (.259)
Enthusiastic	.201 (.209)	-.023 (.355)	.243 (.364)	.405 (.267)
Use of Public Library	.026 (.121)	.157 (.163)	.153 (.227)	.276 (.159)*
Female	.040 (.374)	.023 (.572)	.767 (.706)	-.257 (.483)
Age	.036 (.019)*	.014 (.026)	.018 (.028)	.009 (.020)
Ideology (Left to Right)	-.051 (.142)	.055 (.205)	.239 (.247)	-.505 (.194)***
Interested in Politics	.555 (.170)***	.739 (.297)**	1.013 (.313)***	-.024 (.254)
Education	-.0007 (.133)	-.075 (.257)	.402 (.245)	.089 (.181)
Income	.135 (.127)	.248 (.206)	.158 (.220)	.058 (.175)
Political Knowledge	-.151 (.254)	.196 (.314)	-.666 (.591)	.034 (.275)
White	-.161 (.418)	1.367 (.614)**	.583 (.706)	.852 (.478)*
Republican	.314 (.568)	-.203 (.776)	-.384 (.909)	1.669 (.742)**
Constant	-3.355 (1.520)**	-5.699 (2.245)**	-2.722 (3.156)	1.523 (1.839)
N	295	145	145	149
Pseudo R^2	0.2377**	0.2377**	0.2298*	0.1416
e(chi2)	42.313	30.932	24.992	22.314

$*= p < 0.10$; $** = p < 0.05$; $*** = p < 0.01$

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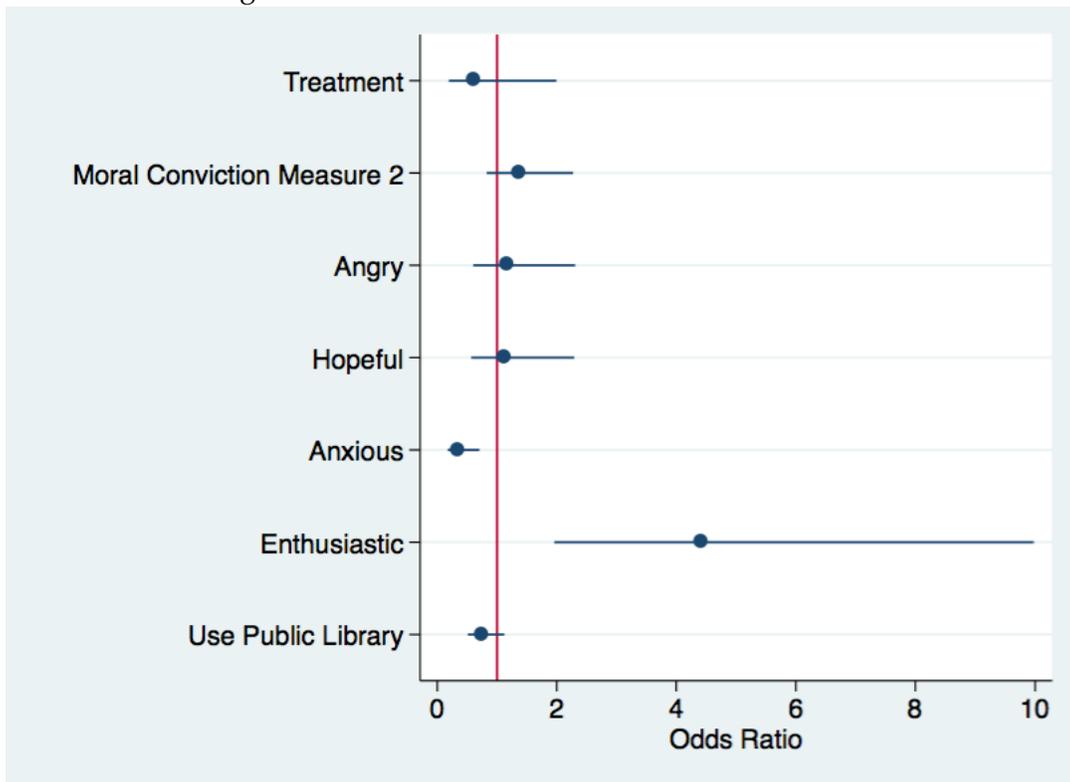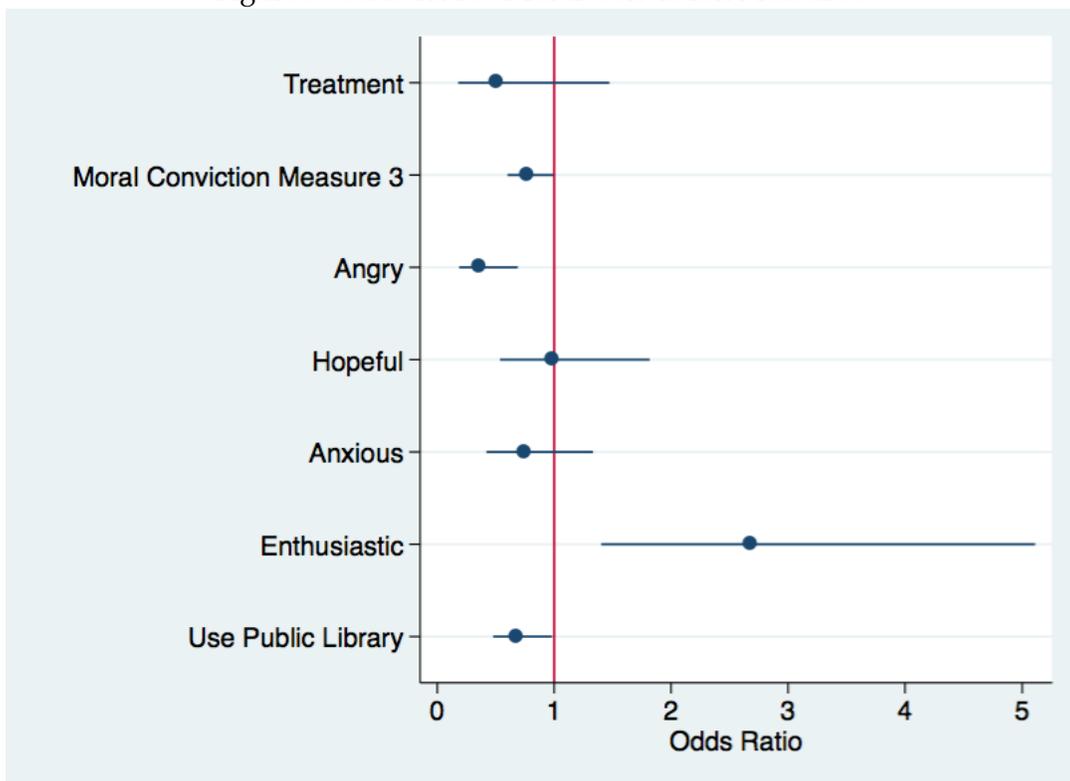Figure 2: Odds Ratio - Moral Conviction Measure 2

Figure 3: Odds Ratio - Moral Conviction Measure 3

Figure 4: Odds Ratio - Moral Conviction Measure 4