# The Impact of Moral and Ethical Perspectives on Support for Universal Health Care

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# The Impact of Moral and Ethical Perspectives on Support for Universal Health Care

The United States is the only country in the developed world that still lacks Universal Health Care (UHC) for its citizens (Alspaugh, 2021). This lack of medical coverage results in several negative outcomes for average Americans, such as life expectancy significantly below the global average, 78.8 compared to 81.7 years (Papanicolas, Woskie, and Jha 2018). This lack of UHC does not even result in a cost savings, with healthcare costs in the US continuing to rise where expenditures topped 18.3% GDP in 2021 and are significantly higher than peer GDP expenditures ranging from 9.6% to 12.4% (*National Health Expenditures*, July 2023). These poor outcomes come as no surprise as the US bears a staggering un-insurance and underinsurance rate combining at over 30% of the total US population (Himmelstein et al., 2005; Finegold, 2021; Schoen et al., 2005). A practical answer to these concerns, adopted by many peer countries, is the concept of Universal Health Care (UHC). UHC has historically led to lower overall healthcare costs over time, lower mortality and better overall population health, and is seen by some as more morally or ethically justifiable as compared to privatized health care (William C. Hsiao, Cheng, and Yip 2019; Panpiemras et al. 2011; Galvani et al. 2017; *Making Fair Choices on the Path to Universal Health Coverage*, 2014). However, public perception in the United States is generally negative towards UHC, with recent polling indicating that only 36% of Americans believe that the government should implement UHC.

Considering the obvious benefits to UHC, this prompts the questions: What is the reasoning behind this lack of relative support in the US, and what can be done to address this? The main goal of this project is to examine the ethical reasoning of Americans behind this lack of support. Examining economic or practical policy arguments against implementation is outside the scope of this project. We are examining the impact of two ethical constructs specifically, moral conviction (the perception that one's feelings about a given attitude are based on one's beliefs about right and wrong) and social consensus (the degree of social agreement that a proposed act is evil or good) which we believe individually, and jointly in interaction, affect public support for UHC (Skitka, 2005; Jones, 1991).

We believe availability of healthcare is a moral issue; thus, we have chosen the constructs of moral conviction and social consensus because they are known to have significant impact in assessment and support of other topics seen as ethically sensitive (e.g., the death penalty, legality for abortion, etc.). Furthermore, we also will briefly examine two different theories of ethical values prioritization, that of utilitarianism (the ends justify the means), and deontology (behavior is right or wrong regardless of the outcome). Ideally, by more fully understanding the ethical beliefs underpinning support or opposition towards UHC, we can design interventions to improve its public perception.

# Literature Review

The initial goal of our research in determining how ethics and morality impact perception and support for UHC was initially to narrow the scope of our study. Ethics and morality are an extremely broad topic; We began by seeking to understand UHC from the perspective of one of the fundamental theories of ethics, Utilitarianism and Deontology (Brady and Wheeler, 1996). Utilitarian reasoning can be defined as ethical judgement based on outcomes, not intentions. In contrast, Deontological reasoning can be defined as ethical judgement based on whether or not behavior adheres to a preconceived set of ‘rules’, this includes concepts like ‘rights’, ‘ideals’, and explicitly recorded law. We plan to measure the degree of Utilitarian and Deontological orientation and examine its effect on support for UHC.

Furthermore, ethical judgements are not always made in a vacuum, the perspective of friends, family, and society in general can influence one’s conclusions. The ethical construct of ‘social consensus’ accounts for this behavior. Jones’ and colleagues defines social consensus as the “degree of social agreement that a proposed act is evil or good” (Jones 1991). We plan on adapting prior existing social consensus manipulations to examine the effect of social consensus on support for UHC (Kobayashi, 2018).

## Utilitarianism and Deontology

Recent events clearly show the relevance of Deontological and Utilitarian reasoning in healthcare. Policy making surrounding the COVID-19 pandemic resulted in several clashes between Utilitarian and Deontological values (Tseng, 2021). For example, valuing the patient’s deontological ‘right’ to bodily autonomy means allowing for patients to refuse a vaccine. Regardless of the benefits, some deontologists would find mandatory vaccination unacceptable. In contrast, if mandatory vaccinations resulted in net improvement in health outcomes, the utilitarian perspective would see that as ethically justifiable, even if it results in ignoring individual bodily autonomy.

Another functional example of how Deontology and Utilitarianism relate to not just healthcare in general, but UHC specifically, is the real world circumstance of medical triage (Wagner, 2015). During emergency triage situations, extreme limitation on medical resources results in forced life or death decisions, critical patients (e.g., major blood loss, severe 3rd degree burns, dismemberment, etc.) are given comfort care over life prolonging treatment so that resources that are limited (e.g., supplementary blood, oxygen, electrostimulation devices, etc.) are reserved for those with a greater chance of survival. This is consistent with the utilitarian viewpoint of obtaining the best medical outcome with the limited resources available. This Utilitarian reasoning is paralleled in Universal Health Care, as a minimum level of care is guaranteed to all citizens, but only so many healthcare resources are available. In a typical hospital setting, critically ill patients are given priority and physicians do not restrict access to medical resources. This is consistent with the Deontological ethical belief that medical professionals should try to save the life of each patient. This a-priori priority setting mimics the necessary decisions that exist in UHC, as individual countries and thus downstream healthcare providers, must determine what is important based on their own value system.

## Social Consensus

Universal Health Care is provisioned by the state, and like many other shared services, it is highly likely that ‘social consensus’ is impactful. In circumstances where the degree to which people in one’s social group agree about an issue is high, clear and shared understanding of what is ethical becomes rather apparent. Even if the individual does not ‘intuitively’ agree with the position, conforming to the majority opinion is extremely typical (Asch, 1956; Deutsch M, 1955). The personal judgement of ethicality, whether through the lens of deontology or utilitarianism, is not needed. In situations where social consensus is low, however, individual moral judgement occurs instead.

Universal Health Care is a particularly appropriate topic to examine the effects of social consensus, as prior literature indicates that social consensus has impact on other highly ideological issues. Differences in perceived social consensus reduced bias and have changed perceptions in topics from climate change to weight discrimination (Goldberg, 2019; Farrow, 2009). When attitudes about specific negatively viewed groups or changes were assessed (e.g., being overweight, climate change as impending disaster, etc.) merely the perception that a majority of one’s social circle had the opposing view was enough to moderate biases due to group membership or previously held stereotypes. Support for Universal Health Care has struggled with both issues in the United States. Stereotypes about “death panels” ruthlessly removing healthcare for the elderly or sick are still seen as having ‘truth-value’, even after significant factual investigation indicates that it is at best inaccurate, and at worst, an outright fabrication (Frankford, 2015). Significant group bias exists as well, with the majority of republicans deeming universal coverage as both unfavorable and unnecessary, and the majority of democrats seeing it as needed (Dalen 2015; Beland 2016).

We believe that both Deontological and Utilitarian viewpoints have valid bearing as a framework when evaluating UHC, and that likely, social consensus can have some impact on the acceptance of UHC by itself, and jointly with Deontology and Utilitarianism. The relatively scant research that has been done on the interaction between social consensus and Deontology indicates that higher levels of deontological orientation results in less conformation to social consensus (Pincus, 2014). However, Pincus and colleagues were not able to directly manipulate the level of social consensus. Furthermore, the interaction between social consensus and Utilitarianism is a novel topic that is relatively unexplored. Thus, it is an open question whether social consensus on UHC can successfully be increased or decreased, and what the effect of this manipulation would be on the impact of Deontological and Utilitarian viewpoints on general ethical perception.

Considering the previous literature, our first hypothesis is social consensus does indeed affect support towards UHC. When social consensus is in favor of UHC, we hypothesize that relative support will increase, and when social consensus is in opposition to UHC, we believe the converse will occur. Furthermore, we believe that Deontological and Utilitarian orientation can impact the effect of this social consensus on support. Our second hypothesis is that greater Deontological orientation will decrease the effect of social consensus. Essentially, those with strong deontological orientation will not be affected by our social consensus manipulation. Our third hypothesis is that greater Utilitarian orientation will increase the effect of social consensus. In other words, greater Utilitarian orientation will lead to even greater support when social consensus is in support, and greater opposition when social consensus is in opposition.

# Study 1

The purpose of Study 1 was to determine if perceptions of social consensus could be increased or decreased experimentally. Furthermore, if the effect of increased social consensus (increasing support) or decreased social consensus (decreasing support) would replicate in the context of support for Universal Health Care. Lastly, we wished to determine if individual differences in utilitarian and deontological orientation affected support for UHC, and if this effect was nullified when perception of social consensus was increased.

## Method

### Study Sample

We conducted a stated preference survey of societal views on and personal support of Universal Health Care (UHC), capital punishment, anthropogenic (human-caused) climate change, and slavery, among students enrolled in a Psychology course at a Midwestern University. Participants were recruited through an online survey platform and were offered course credit in exchange for their participation.

### Survey Design and Development

Development of the survey instrument drew on prior literature on support for universal healthcare, perspectives on deontological and utilitarian moral orientation, as well as prior work on perception of social consensus. Our social consensus manipulation exercise was adapted from work on estimation of social consensus conducted by Kobayashi and colleagues (2018). Our final survey questionnaire directed participants to estimate perceived social consensus on support for different social issues, and then receive artificially high or low feedback on the degree of social consensus which allegedly exists among the population. We presented each participant with the same four social issues (support for UHC, capital punishment, climate change, and slavery); these scenarios were intended to provide variation in social characteristics, such as relative liberal/conservative leaning of issues and recent or past historical relevance. Participants then provided their level of support for our social issues after the social consensus manipulation. Support levels were captured as continuous variables ranging from 0 (strong disagreement) to 100 (strong agreement), with 50 representing relative neutrality. Participants also were measured for their deontological and utilitarian orientation, health literacy, numeracy, as well as demographic information related to gender identity, age, race/ethnicity, and year in school.

### Intervention

Randomization of participants to either intervention condition was achieved using a randomization algorithm that guarantees each element was selected approximately equivalent amounts of times. We subjected participants in our intervention groups to a series of preference estimation tasks. Balance was sought between the social issues chosen such that there were a variety of public policy perspectives, both liberal and conservative, presented. Participants in our ‘high’ social consensus condition were given artificially high feedback on the degree to which society agreed on the four aforementioned issues; The feedback was manipulated to be 20% higher than the actual American survey values recorded in the literature. Likewise, participants in our ‘low’ social consensus were given artificially low feedback; feedback was manipulated to be 20% lower than survey values. Participants were prevented from changing their responses in prior answers in the survey.

### Power and Statistical Analysis

We planned to recruit approximately 180 participants. Sample size was determined a-priori using G-power 3.1.9.7 with the following parameters: seeking the difference between two independent means (two groups), an effect size of .5, an alpha of .05, and a power of .95, for a linear multiple regression. Our four ‘item issues’ that we surveyed (climate change, death penalty, support for UHC, slavery) were all treated as continuous variables. We examined the effects of experimental condition (high or low social consensus) and individual differences (deontological and utilitarian orientation, health literacy, multiple measures of numeracy) on our outcome measure. We examined the main effect, as well as interactions between deontology and utilitarianism with our experimental conditions for our predictors. All tests were conducted in R and considered statistically significant when P <.05.

### Study 1 Hypothesis:

Hypothesis 1: We hypothesize that when participants perceive that a strong social consensus towards universal healthcare exists, they will be more likely to support universal healthcare, as opposed to when they perceive a lack of that same social consensus.

Hypothesis 2: We hypothesize that in conditions of high social consensus, there will be no effect on support for Universal Health Care due to the individual differences in utilitarianism and deontology (e.g., that an interaction here nullifies the effect).

## Results

### Study Sample

Data collection took place between February 24th and December 9th, 2023. A total of 324 responses were collected. Our final sample was primarily white (74%), female (57%), and Juniors (38%); further demographic information can be found in the table below. Participants received course credit for participation in the study.

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### Study Outcomes

Descriptive statistics will be summarized in the tables below. Our hypothesis was tested using a linear regression fitted to our support for UHC outcome measure. In support to H1, we found that in conditions of strong social consensus, there was a statistically significant effect in our planned comparison of our active intervention condition. Furthermore, we evidence in support of H2, there did not seem to be any effect of utilitarianism and deontology when looking at conditions of high social consensus.

# Literature Review: Moral Conviction

Our next step in expanding our understanding of how ethics and morality affect UHC was based on the concept that strength of belief is not the only thing that matters. The fundamental reasoning behind why an individual believes in something can also be important to attitude change and formation. We can define an ethical position held due to core beliefs about what is fundamentally right or wrong (i.e., abortion should be legal, due to the core belief that women should have full bodily autonomy) as ‘moral conviction’. We plan to measure the degree of moral conviction that is held towards UHC and how that affects support; We also seek to determine if moral conviction is experimentally manipulable for the topic of UHC.

Given our goal of changing attitudes towards UHC, it is important to understand how different levels of ‘moral conviction’ shape those attitudes. Attitudes that individuals hold based on a low level of moral conviction (e.g., Coke vs. Pepsi) are viewed more as subjective preferences where legitimate disagreement is acceptable (Skitka, 2010). Attitudes held with a higher level of moral conviction are instead seen as universal and objective. Universality can be defined as the perception that an individuals’ assessment of a topic is not just right, but an absolute, that others around them do or should share. Objective here can be defined as the perception that an individual’s assessment of a topic is not just right, but a ‘readily observable, objective property of the world’. Determining whether UHC is fundamentally seen as something with low moral conviction (and thus a more easily changeable preference) or with high moral conviction (and thus seen as an objective and universal right) has immense importance in determining how to change attitudes related to it.

It is not trivial to assume that there is high moral conviction towards the provisioning of Universal Health Care. In fact, there are few contemporary topics that are seen as universally moral (the issue’s rightness or wrongness is non-negotiable and objectively grounded), and many are seen as nonmoral (the issue’s rightness or wrongness is dependent on an individual or social decision). Wright and colleagues (2008) demonstrated that relatively few topics, such as rape, incest, and executing the mentally handicapped, were seen as moral, whereas several other contentious issues were not universally seen as moral (owning guns, vegetarianism, promiscuity).

Fortunately for the impact of moral conviction on UHC, there is evidence that the morality of an issue can change. Things that were once preferences (cigarette smoking in the 20’s-30’s) can evolve into morally weighted judgements (smoking seen as an ‘uncouth’ habit), that can even have real consequences (e.g., public smoking being banned in many venues) as the society around the concept changes (Rozin, 1999). Furthermore, moral convictions can also be manipulated using framing effects (Kodapanakkal, 2021; Clifford, 2017; Wisneski & Skitka, 2017). The use of persuasive arguments containing harm, fairness, and liberty based keywords (e.g. harm, misuse, freedom, liberty, immoral, consequences, etc.), as well as persuasive arguments that focused on disgust based claims or containing disgusting images related to the issue (e.g. factory farmed tilapia are forced to live in their own waste, photos of aborted fetuses) can enhance perceived moral convictions in otherwise morally neutral individuals. Moral conviction can also be increased by presenting issues as ‘rights’, necessary for society; Kutlaca and colleagues increased perceived moral conviction for public education by presenting it as a basic entitlement. For subjects that were already strongly in favor of higher education, the increased moral conviction was effective in improving persuasiveness (Kutlaca, 2013). However, for subjects that were not in favor of higher education, increasing moral conviction was not sufficient to persuade them. Conversely, perceived moral conviction can be decreased by using persuasive arguments that focus on more pragmatic elements such as cost or inefficiency keywords (e.g., costly, unfeasible, monetary costs). However, the evidence regarding this is more mixed, as Clifford and colleagues (2017) were unable to reduce moral conviction on ‘food politics’ (e.g., support for factory farming, genetically modified food, animal welfare) when presenting a factually neutral non-persuasive argument.

Considering the previous literature, our first hypothesis is that moral conviction will indeed affect support towards UHC. When initial moral conviction towards a position is low, we hypothesize that moral framing will be most effective for attitude change in participants. We hypothesize that when initial moral conviction towards a position is high, moral framing will increase polarization (increase in support if in favor, further decrease in support if opposed). Finally, we hypothesize that when initial moral conviction towards a position is high and the subject opposes the issues, non-moral framing will be most effective for attitude change.

# Study 2

The purpose of Study 2 was to determine if perceptions of moral conviction could be increased or decreased experimentally in the context of UHC. We plan to learn how the effect of increased moral conviction would affect support for UHC, both for individuals in favor of UHC, and for those that oppose UHC. Furthermore, we also plan to learn how the effect of decreased moral conviction would likewise affect support for UHC, both for individuals in favor of UHC and for those that oppose UHC. We selected two additional issues to contrast with UHC in our experimental protocol. We retained the issue of capital punishment, as literature indicates that this issue arouses significant moral conviction for at least some portion of the population (Kasten, 1996). Furthermore, we selected the issue of choosing to exercise, as an inherently non-moral issue, wherein literature indicates that the choice to exercise has generally not been seen to reflect perceptions of the inherent goodness or badness of exercise itself (Wright, 2008).

## Method

### Study Sample

We conducted a stated preference survey of support and the degree of moral conviction for that support on Universal Health Care (UHC), capital punishment, and physical exercise, among students enrolled in a Psychology course at a Midwestern University. Participants were recruited through an online survey platform and were offered course credit in exchange for their participation.

### Survey Design and Development

Development of the survey instrument drew on our prior work in Study 1 regarding support for universal healthcare and capital punishment. Additionally, we adapted our moral conviction manipulation from existing literature in the field of moral conviction (Tauber, 2013; Kutlaca, 2013; Skitka, 2014). Our final survey questionnaire directed participants to rate their support for one of our topics, as well as the degree of moral conviction they feel regarding that position. Then, our participants receive a brief paragraph framing the topic with a highly moral perspective, a non-moral perspective, or a neutral perspective. We presented each participant with the same three issues (support for UHC, capital punishment, and exercise); these scenarios were intended to provide variation in moral significance, as there is no previous literature as to whether UHC is seen as a moral concept in America, capital punishment being seen as an issue that is seen as generally moral, and with previous literature indicating exercise as particularly non-moral (Wright, 2008). Participants then provided their level of support and the degree of moral conviction they feel regarding that support, for our issues after the moral conviction manipulation. Support levels were captured as continuous variables ranging from 0 (strong disagreement) to 100 (strong agreement), with 50 representing relative neutrality. Moral conviction was captured similarly, with values ranging from 0 (Strongly disagree that there is moral conviction behind my stance) to 100 (Strongly believe this stance is based on moral conviction). Participants also were measured for their, health literacy and subjective numeracy, as well as demographic information related to gender identity, age, race/ethnicity, and year in school.

### Intervention

Randomization of participants to either intervention condition for each topic was achieved using a randomization algorithm that guarantees each element was selected approximately equivalent amounts of times. We assessed support for a series of topics in our participants. Balance was sought between the issues chosen such that there was both what we believed a-priori as an issue with moral conviction, as well as a non-moral issue was presented. Participants in our high moral conviction condition were presented with a short essay illustrating a moral argument in favor of the perspective; These essays were generally focused on ‘values’ and ‘rights’ and stated to be explicitly worth moral consideration. Likewise, participants in our non-moral condition were presented with a short essay illustrating a non-moral argument in favor of the perspective; These essays were generally focused on economic and practical reasons, and stated to be explicitly based on self-interest (defined as personal benefit). Finally, participants in our morally neutral condition were presented with a short essay stating non-controversial, bland, factual information; These essays were essentially short collections of ‘fun facts’ that, while true, do not attempt to explicitly state the morality or non-morality of the issue. Participants were prevented from changing their responses in prior answers in the survey.

### Power and Statistical Analyses

We planned to recruit approximately 220 participants. Sample size was determined a-priori using G-power 3.1.9.7 with the following parameters: seeking the difference between three independent means (three groups), an effect size of .5, an alpha of .05, and a power of .95, for a linear multiple regression. Our three ‘item issues’ that we surveyed (capital punishment, support for UHC, exercise) were all treated as continuous variables. We plan on examining the effects of experimental condition (moral, nonmoral, or neutral) and individual differences (health literacy and subjective numeracy) on our outcome measure. We will examine the main effect, as well as interactions between support for our issues and strength of moral conviction for our predictors. All tests will be conducted in R and considered statistically significant when P <.05.

### Study 2 Hypothesis:

Hypothesis 1 – Non-moral framing will be more effective for attitude change in participants with high moral conviction that oppose the issues.

Hypothesis 2 – Moral framing will be more effective for attitude change in participants with low moral conviction on the issues.

Hypothesis 3 – Moral framing will increase polarization (increase in support if in favor, further decrease in support if opposed) in participants with high moral conviction on the issues.

## Results

### Study Sample

Data collection is estimated to take place between November 2023 and April 2024. Responses will be collected. Our final sample will have demographic characteristics; further demographic information will be found in a table below. Participants received course credit for participation in the study.

### Study Outcomes

We will summarize descriptive statistics in a detailed table. We plan on analyzing hypothesis 1 with a linear model fitted to our support for UHC outcome measure. Ideally, we would like to see our nonmoral experimental condition lead to a decrease in moral conviction (or at least no increase/change), and then looking at subjects that had an initial amount of high moral conviction, we would hope to see an increase in support across our three issues. We would expect the increase in support across these three issues to be less in subjects that had initial amounts of high moral conviction, being presented with our moral experimental condition. We plan on analyzing hypothesis 2 with a linear model fitted to our support for UHC outcome measure. Ideally, we would like to see that for participants with low moral conviction, that the moral experimental condition has a greater effect in increasing support than our nonmoral or control conditions. We plan on analyzing hypothesis 3 with a linear model fitted to our support for UHC measure. Ideally, we would see that in participants with high initial moral conviction, a moral framing would lead to either an increase in support for those that favor, and a decrease in support for those that oppose, the issue; In contrast, we would be very surprised if the moral framing lead to no change in support for those with high moral conviction. We believe it is relatively implausible that individuals feel strong moral conviction and do not support or oppose the issue as well.

# Literature Review: Social Consensus Interacting with Moral Conviction

The final step that we plan to take in expanding our understanding of how ethics and morality affect UHC is integrating the literature from our prior two studies; We wish to determine how moral conviction can affect the impact of social consensus on support for UHC. Strong social consensus from close peers has been shown to have significant influence on the ethical perception of issues, which usually results in the individual conforming to the ethical perspective of their peers. However, feelings of strong moral conviction can ‘inoculate’ individuals against this influence (Kobayashi, 2018; Goldberg, 2019; Skitka, 2015; Skitka, 2014). This strong peer independence effect stems from the desire for increased psychological distance (Skitka, 2005; Kidder, 2016). Individuals that measure highly on moral conviction for a position do not want to associate with or even be physically nearby those who don’t share their core moral convictions.

Furthermore, it is incorrect to assume that UHC, if the government did implement it, would easily receive the support of the public due to approval from an authority figure. In general, authority influences (expert, or scientific authority) are deferred to. However, deference to that authority depends on whether the decision laid down is consistent with the individuals’ own moral convictions. For example, we see evidence of this in the context of the U.S. conflict over federal and state legality of abortion procedures; the U.S. Supreme Court (generally considered a legitimate authority) laid down a controversial ruling that allows for significant abortion restriction, and in general, most Americans tend to defer to the rule of law. However, for Americans that have moral conviction about the ‘right to choose’, this ruling is not consistent with their beliefs. This results in both a lack of deference to this ‘legitimate authority’ as well as decreased perception of that authority as continuing to be legitimate (Bauman, 2009; Gibson, 2023). Thus, while some in the public may increase their support of UHC if it is implemented due to deference for US government authority, there is likely still a significant proportion that have true moral conviction against UHC and will still oppose its existence. Being able to change the attitudes and perceptions of those individuals, even with their strong moral convictions, has irreplaceable value.

Considering the previous literature, our first hypothesis is that increased moral conviction will weaken the effect of social consensus. Conversely, our second hypothesis is that decreases in moral conviction will strengthen the effect of social consensus. Both of these effects are relevant, as they would indicate what strategies for public behavior change would be most successful. If our first hypothesis was true, if we saw significant social consensus in favor of UHC, then we would tailor our messaging to reduce perceptions of moral conviction. In contrast, if the second hypothesis was true, in circumstances of pre-existing low social consensus, messaging that focuses on increasing moral conviction could be more effective.

# Study 3

The purpose of Study 3 is to examine the effects of social consensus on moral conviction, and their joint behavior in affecting support for UHC. This is a synthesis of the results of Study 1 in which we examined the effects of social consensus on support for UHC and Study 2, in which we examined the effects of moral conviction on support for UHC. For Study 3, we wish to answer the novel question of whether it is possible to manipulate both social consensus and moral conviction simultaneously. Specifically, we would like to know if experimentally increased moral conviction does indeed ‘inoculate’ against the effects of social consensus. Conversely, we are also exploring whether there is greater effect of social consensus in our condition of decreased moral conviction.

## Method

### Study Sample

We conducted a stated preference survey of societal support, in addition to personal support and the degree of moral conviction for that personal support on Universal Health Care (UHC) and capital punishment among students enrolled in a Psychology course at a Midwestern University. Participants were recruited through an online survey platform and were offered course credit in exchange for their participation.

### Survey Design and Development

Our survey instrument for Study 3 was primarily developed as a hybridization of our previous two survey instruments from Study 1 and Study 2. Our social consensus manipulation exercise was adapted as in Study 1 from work on estimation of social consensus conducted by Kobayashi and colleagues (2018). Our moral conviction manipulation was adapted as in Study 2 from existing literature in the field of moral conviction (Tauber, 2013; Kutlaca, 2013; Skitka, 2014). Our final survey questionnaire directed participants to rate their support for both of our topics, as well as the degree of moral conviction they feel regarding that position. Then, our participants receive a brief paragraph framing each topic with a highly moral perspective, a non-moral perspective, or a neutral perspective. Next, participants are asked to estimate perceived social consensus on support for our two topics, and then receive artificially high or low feedback on the degree of social consensus which allegedly exists among the population. Participants then provided their level of support and moral conviction for that support, on our two issues after the social consensus and moral conviction manipulation. Support levels were captured as continuous variables ranging from 0 (strong disagreement) to 100 (strong agreement), with 50 representing relative neutrality. Moral conviction was captured similarly, with values ranging from 0 (Strongly disagree that there is moral conviction behind my stance) to 100 (Strongly believe this stance is based on moral conviction). Participants also were measured for their deontological and utilitarian orientation, health literacy, subjective numeracy, as well as demographic information related to gender identity, age, race/ethnicity, and year in school.

### Intervention

Randomization of participants in our moral conviction manipulation for each topic was achieved using a randomization algorithm that guarantees each element was selected approximately equivalent amounts of times. Participants were randomized to either a highly moral, a non-moral, or a neutral condition as in Study 2. Randomization of participants in our social consensus manipulation for each topic was also achieved using a randomization algorithm similar to that used in the moral conviction manipulation. Participants were randomized to either a high or low social consensus condition, as in Study 1. Participants were prevented from changing their responses in prior answers in the survey.

### Power and Statistical Analyses

We planned to recruit approximately 220 participants. Sample size was determined a-priori using G-power 3.1.9.7 with the following parameters: seeking the difference between three independent means (two groups), an effect size of .5, an alpha of .05, and a power of .95, for a linear multiple regression. Our two ‘item issues’ that we surveyed (capital punishment and support for UHC) were all treated as continuous variables. We plan on examining the effects of experimental condition (moral, nonmoral, or neutral) and individual differences (health literacy and subjective numeracy) on our outcome measure. We will examine the main effect, as well as interactions between support for our issues and strength of moral conviction for our predictors. Furthermore, we plan to examine the potential interaction between differing levels of moral conviction, and the effect of social consensus. All tests will be conducted in R and considered statistically significant when P <.05.

### Study 3 Hypothesis:

Hypothesis 1 – Increases in moral conviction will weaken the effect of social consensus (‘Inoculation from social consensus’).

Hypothesis 2 – Decreases in moral conviction will strengthen the effect of social consensus.

## Results

### Study Sample

Data collection is estimated to take place between April 2024 and July 2024. Responses will be collected. Our final sample will have demographic characteristics; further demographic information will be found in a table below. Participants received course credit for participation in the study.

### Study Outcomes

We will summarize descriptive statistics in a detailed table. We plan on analyzing hypothesis 1 with a linear model fitted to our support for UHC outcome measure. Ideally, we would like to see another successful replication of our ability to manipulate moral conviction. Additionally, for participants who have had their moral conviction successfully manipulated to increase, we expect to see a significant decrease in the effectiveness of social consensus. We plan on analyzing hypothesis 2 with a linear model fitted to our support for UHC outcome measure. We expect to see that for participants with low moral conviction, there is a relatively increased effectiveness of social consensus on their support for our two assessed issues.

# Limitations

All three studies primarily are limited due to the majority of data collection being derived from Psychology 1000 students at a large midwestern university.

# References

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