# Chapter 1: Introduction – Broad Overview of Research

## A: Overview

1. Why is this study being undertaken? - public perceptions and human belief need to be changed, either due to new information (e.g., discovery of a new drug, or best practice) or due to changing circumstances (e.g., a global pandemic).
2. What main questions will we answer? – Social Consensus is known to be a useful tool, how useful is it (effect size), and what individual differences or covariates can affect it’s effectiveness?
3. What problems are we foreshadowing? - human beliefs can be difficult to change, especially when the issue is highly polarized, or seen as central to one’s perception of ‘right and wrong’ (e.g., Abortion, Immigration, Climate Change, etc.). Greater moral conviction towards one’s beliefs blunts the effectiveness of ‘social consensus’ magnifying the importance of understanding this further.

## B: Statement of the Problem

1. How can social consensus be used to change beliefs, and in what conditions is it effective? We wish to empirically show that social consensus manipulation can increase and decrease beliefs in a variety of issues. Additionally, that the effect of social consensus can be leveraged with a broader categorization (e.g., consensus of American public vs. consensus of peer students/rival students vs. consensus of close friends).
2. Skitka’s “Domain Theory of Attitude” implies that changing moral conviction can lead an attitude to shift from a ‘moral imperative’ (difficult to change belief) to a preference or convention (easier to change belief). However, this has not been empirically assessed as a way of changing beliefs. Additionally, how do different baseline levels of moral conviction around issues affect the willingness to change beliefs?
3. How can we maximize the effectiveness of social consensus to change beliefs? Social consensus is generally very effective at changing beliefs, except in conditions of high moral conviction. In theory, reducing moral conviction should increase the effectiveness of social consensus, however, this has not been empirically tested.

## C: Purpose

1. How can social consensus be used to change beliefs?
   1. How individual differences affect social consensus
   2. What type of social consensus is most effective
2. How does moral conviction affect belief change?
   1. How do different issues differ in baseline levels of moral conviction, and how do these baseline differences affect openness to belief change?
   2. What manipulations are best at increasing/decreasing moral conviction?
3. How do changing levels of moral conviction interact with the effects of a social consensus intervention?

## D: Research Question or Hypothesis/Significance of Study

* Study 1
  + We predicted high social consensus would lead to more positive support for highly polarized issues (H1)
  + Utilitarian and Deontological Orientation, of the ethical standards of judgement questionnaire (ESJQ) would be significant predictors of support for these polarized issues (H2)
* Study 2
  + We hypothesize that the moral conviction manipulation would be a significant predictor of support for our four topics (e.g., our hypothesis had no *a-priori­* directional effect), as compared to the control condition (H1).
  + Moral piggybacking and moral responsibility interventions would increase moral conviction relative to the control, and that the pragmatic and hedonic interventions would decrease moral conviction relative to the control (H2).
* Study 3
  + Decreases in moral conviction will lead to significantly greater effect of social consensus or, increases in moral conviction will lead to ‘inoculation’ against social consensus (H1).
* Significance of the Study – START THE SENTENCE TO DIRECTLY REFERENCE PERSUASION AND BELIEF CHANGE – ESPECIALLY IN POLARIZED TOPICS - Effective persuasion/dissemination of up-to-date information can critically impact public health and safety. Gaining further understanding of one of the best ‘tools’ available in the form of social consensus has direct applications in improving persuasion/science communication. Furthermore, addressing one of the largest theoretical weaknesses in this tool (e.g., high levels of moral conviction acting as ‘inoculation’ against social consensus) improves applicability, especially considering how many vital contemporary issues are held with high levels of moral conviction (e.g., climate change).
  + For instance… COVID 19 harm caused by inability to persuade or change beliefs – misinformation can cause harm (TWO EXAMPLES)
  + Applies to healthcare as the origin, but we expand further and go towards why changing beliefs here can be applicable more broadly.

## E: Summary of Methodology

1. Brief summary of methods – Unsure how to parameterize

## F: Definition of Terms

1. Universal Health Care (UHC) - Universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship. It covers the full continuum of essential health services, from health promotion to prevention, treatment, rehabilitation and palliative care.
   1. Tracking universal health coverage: 2017 global monitoring report. Geneva: World Health Organization; 2017 (https://www.who.int/publications/i/item/9789241513555, accessed 27 July 2023
2. Capital Punishment – The process of sentencing convicted offenders to death for the most serious crimes (capital crimes) and carrying out that sentence.
   1. (Kasten 1996)
3. Climate Change – Climate change is a measurable systemic change in the state of the climate driven by natural events or anthropogenic activities that alter the composition of the atmosphere.
   1. Salonen, A.O., Reiser, D. (2023). Climate Change. In: Idowu, S.O., Schmidpeter, R., Capaldi, N., Zu, L., Del Baldo, M., Abreu, R. (eds) Encyclopedia of Sustainable Management. Springer, Cham. https://doi.org/10.1007/978-3-031-25984-5\_75
4. Utilitarianism – Ethical judgement based on outcomes, not intentions
   1. (Brady and Wheeler, 1996)
5. Deontology - 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.
   1. (Brady and Wheeler, 1996)
6. Social Consensus – The degree of social agreement that a proposed act is evil or good
   1. (Jones 1991)
7. Moral Conviction - Morally convicted attitudes represent something psychologically distinct from other constructs (e.g., strong but nonmoral attitudes or religious beliefs), are perceived as universally and objectively true, and are comparatively immune to authority or peer influence. Morally convicted attitudes are 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).
   1. (Skitka, 2021; Skitka 2010)

# Chapter 2: Review of the Literature

## A: Introduction of Topics, Purposes, and Methods

## B: Description and Discussion/Critique of Scholarly Literature

## C: Inferences for Forthcoming Studies

# Introductory Paragraph Draft

Human belief change and persuasion has many direct applications in society. Providing information regarding best practices, scientific consensus, and state-level policy priorities in general can directly improve quality of life for ordinary people. However, dissemination of up-to-date information can be objectively worthless if the message itself does not adequately lead to belief change for the behavior at hand. For example, COVID-19 vaccine hesitancy was estimated to result in at least 232,000 preventable deaths, and a significant majority of those who refused vaccination had been exposed to persuasive misinformation through social media and other outlets (Jia et al., 2023; Lee et al., 2022). Changing beliefs also has common application with regards to political policy; Universal Health Care (UHC) has been shown to result in better overall population health outcomes, yet the United States is the only country in the developed world that still lacks Universal Health Care (UHC) for its citizens (Alspaugh, 2021). Changing the generally negative public perception of UHC in the United States (36% of Americans support UHC) would increase the likelihood of UHC adoption, and in doing so, improve population health (Pew Research Center, 2020).

Belief change is a multifaceted process, and prior literature lists many factors affecting openness to belief change for a given topic. Individual differences in (a) deontological and (b) utilitarian orientation broadly shape priorities and how issues are interpreted; (c) social consensus (e.g., the level of agreement on an issue amongst friends, family, peers, or other in-groups) consistently influences individuals; and (d) differences in attitudes due to core beliefs about what is fundamentally right or wrong (e.g., abortion should be legal, due to the core belief that women should have full bodily autonomy), which we define here as Moral Conviction, ‘inoculates’ individuals against changing their beliefs. Assessing how each of these individual factors interact and influence belief change broadly has real and direct implications for public health and safety.

## Belief Change/Persuasion

Crano and Prislin 2006 – Attitudes and Persuasion

Overall coverage from 1999-2004

* An attitude represents an evaluative integration of cognitions and affects, experienced in relation to an object
  + Can vary in strength, which has implications for persistence, resistance, and attitude/behavior consistency.
* Attitude Change models: What factors affect attitude change?
  + “Classical model” States that messages are presented, processed (and if successful, move recipient attitudes towards a position). This revised attitude may influence subsequent behavior. If the person doesn’t process the message, they will use shortcuts (e.g., dad’s usually right!) to form an attitude, which is less resistant to change and less stable – this is a ‘dual process’ model (Chen & Chaiken 1999; Petty & Wegener 1999).
    - E.g., If the message is well reasoned, data based, and logical, it will persuade, if not, it will fail.
    - However… this doesn’t mesh well w/ our understanding of moral conviction, wherein strong beliefs can reinforce even against well reasoned arguments.
  + “Unimodel” directly accounts for the effects of the source and message in persuasion (Kruglanski and Thompson 1999)
* Minority Influence Research: How can a minority persuade majority to accept it’s position
  + E.g., majority sources typically produce immediate change (this is a social consensus effect!)
  + This is very challenging, and long term changes from minority sources are very challenging.
* Dissonance – Attitudes may be a CONSEQUENCE as well as a CAUSE of behavior
  + Posits that dissonance from cognitive issues interfere with belief consistent actions.
* Social Consensus – Level of consensus is the defining feature of majority/minority status.
  + Consensus does bias information processing (Erb & Bohner 2001); it does NOT merely act as a cue that fosters heuristic adoption of a position.
  + Mackie (1987) agrees with this position, systematic processing of consensually advocated positions because of their presumed validity, likelihood (greater) of adoption, and positive identity implications.
  + Minority dissent (e.g., being shown a dissenting opinion that has low social consensus) has some benefits, improving thought processes and critical/divergent problem analysis (De Dru & West 2001)
* Attitude Strength:
  + Dimensionality: Attitude strength has multiple dimensions, wherein attitude importance, attitude accessibility, and attitude commitment are all distinct constructs, each affected differently by subjective experience (Bizer & Krosnick 2001; Holland et al., 2003)
  + Resistance to Persuasion: Resistance can originate due to both cognitive and affective reactions (Fuegen & Brehm 2004). Sociably desirable strategies that attack an appeal are more likely to be used than those that derogate the source of the appeal (Jacks and Cameron 2003).
    - Longitudinal studies show persistent effect of counterargument over time, but only a delayed impact of strengthening the existing attitude (Pfau et al., 2004)
    - Notably, resistance strengthens initial attitudes to the extent that it is seen as succeeding even in the face of strong messages from expert sources (Tormala and Petty 2004a; Tormala and Petty 2004b). This relates to expert inoculation from morally convicted positions.
  + Ambivalence: How do we process neutral attitudes vs positive or negative ones?
    - Defined as – Attitudes have two separate dimensions (instead of one biopolar one), but can also be seen as a distinct aspect of attitude strength.
    - Information processing is more effortful at high levels of ambivalence vs strong levels of love OR hate (van Harreveld et al., 2004)
    - High levels of ambivalence are associated with weaker attitude/behavior relationships and greater openness to change.
    - The experience of ambivalence motivates the search for corrective information, making those with ambivalent attitudes ESPECIALLY susceptible to consensus influence (Hodson et al 2001)
* Attitude-Behavior Consistency: This is important because attitudes PREDICT behavior… obviously can’t go crazy on this, but we need to follow up with it b/c it is the essential assumption that undergirds the value of attitude change.
  + What moderates attitude-behavior consistency? Strong behaviors were more predictive of actual behavior, and were stable irrespective of the behavior exhibited between two attitude assessments (e.g., does this attitude change even if I couldn’t do the thing?) (Holland et al., 2002b)
  + Self-Interest: Strong attitudes might not result in behavior if doing the behavior violates the norm of SELF-INTEREST (Ratner and Miller 2001). Fear of publically supporting favored causes where there is no personal stake (e.g., student protests against Israel) can prevent nonvested individuals from acting on their interests.

Albarracin and Shavitt 2018 – Annual Review: Attitudes and Attitude Change

Overall coverage of attitude change and attitudes between 2010-2017

* Attitude research began in 1918 (Thomans & Znaniecki), and 1923 (Jung)
  + Attitudes have a subject, which can be an object, person, or abstract idea
  + Applicable for marketing, advertising, political behavior, and health
* Attitude can be measured with direct report, or inferring from evaluative reactions (implicit measures)
* Attitudes in context w/ people
* Attitudes in context of social relationships
* Attitudes in a sociohistorical context

## Utilitarian and Deontological Orientation

* Utilitarian and Deontological orientation influence how individuals perceive issues, as well as concepts of ‘right’ and ‘wrong’ (Brady and Wheeler, 1996).
  + This directly affects openness to belief change and the effectiveness of persuasion.
    - 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.
* Many highly polarized beliefs are rooted in utilitarian and deontological values (Tseng, 2021).
  + During the COVID-19 pandemic, healthcare professionals were forced to adopt utilitarian policies (e.g., mandatory vaccination), which many found unacceptable. This has resulted in ‘moral injury’ arising from the conflict between individual deontological moral judgement and organization/country level utilitarian moral judgements (Akram, 2021).
  + Arguments for the use and disuse of capital punishment often fall on deontological/utilitarian lines (Steiker, 2006).
    - Deontology: Killing an innocent is never an acceptable trade-off, thus the death penalty is unacceptable; Death penalty can prevent—through incapacitation of the offender or general deterrence—the loss to murder of even one innocent life, then it is a morally justified or perhaps even morally required penal response (e.g., any numbers of killers should die, if it saves one innocent)
    - Utilitarianism: The death penalty is a waste of resources (monetary cost) thus, it should not be done.

## Social Consensus

* Even if the individual does not ‘intuitively’ agree with the position, conforming to the majority opinion is extremely typical (Asch, 1956; Deutsch M, 1955)
  + E.g., In circumstances where social consensus is high, personal judgement of ethicality is not needed, when social consensus is low, individual moral judgement occurs instead.
  + E.g. How ethical is it to use AI to write a cover letter for a job? What about to write a recommendation for an employee? As it’s new ground, there has not been any social consensus, thus, individuals must judge it’s moral worth for themselves.
  + These effects have been shown to reliably impact topics such as climate change (Goldberg, 2019) and weight discrimination (Farrow, 2009)
* Social Consensus (in certain subgroups) can result in significant propagation of misinformation.
  + For example, stereotypes about the existence of “death panels” removing healthcare for the elderly or sick in the Affordable Care Act, has been seen as plausibly true even though thorough research has shown that description as factually wrong (Frankford, 2015; DiJulio, Firth, and Brodie 2014)
  + The effects of social consensus can occasionally even outweigh expertise, as a survey of 9,972 otolaryngologists, conducted in 2013, found that 40 percent of the surgeons who are Republicans believed that the ACA created death panels, a percentage that stands in great contrast to the finding that only 8 percent of Democrats shared that belief (Rocke et al. 2014)
    - I.e. It is patently absurd that medical professionals believe this mistruth, yet significant social consensus amongst republicans leads this belief to persist, even amongst republican medical professionals.
* Some prior research has been done on the interaction between social consensus and deontology/utilitarianism – indicating that higher levels of deontological orientation results in less conformation to social consensus (Pincus, 2014)
  + However… Pincus was not able to directly manipulate the level of social consensus, thus directly testing this interaction has not occurred.
* Social Judgement Theory states that reactions to belief change are centrally influenced by how the message recipient judges the position being advocated – notably, what is acceptable and unacceptable shift depending on how personally significant the issue is to the person (centrality of an issue is similar and analogous, but not the exact same as moral conviction) (Sherif, Sherif, & Nebergall, 1965)
  + Indicates that highly ego-involved receivers (people with strong moral convictions?) are difficult to persuade (Okeefe, 2016)
    - They only accept a very narrow range of options, and are noncommitment (rejecting many possible alternative positions)
    - They can have perceptual distortion (e.g., the perceived position and meaning for a message can be different for those w/ different views on the issue)
* Social Consensus overlaps with Skitka’s “Domain Theory of Attitude” in that social convention is seen as while the influence of social consensus on normal convention is understood – strong moral conviction ‘inoculates’ individuals against the effects of social consensus (Skitka, 2021).

## Moral Conviction

* Moral conviction impacts belief change and openness to persuasion, in a way that is psychologically distinct from other constructs (e.g., strong but nonmoral attitudes or religious beliefs)
  + Differing degrees of moral conviction impact variables such as social distancing, it’s not merely a moral conviction binary (Wright et al., 2008)
* Beliefs with moral conviction are perceived as objective and universal (Morgan & Skitka 2020)
  + E.g., Moral Conviction consistently predicts both how much an individual believes their viewpoint on an issue is ‘objectively true’ and ‘universally applicable in all cases’.
  + People make faster evaluations (using IAT) of if behavior is universally right or wrong, if they first evaluate the behavior as morally right or wrong as compared to pragmatically good/bad, or pleasant/unpleasant (Van Bavel et al., 2012)
* High levels of moral conviction ‘inoculate’ against peer and authority influence (this includes social consensus).
  + First, individuals find that their obligations/rights stem from a ‘greater moral purpose’ underlying structures of authority, rather than the authority themselves (Kohlberg 1976, Rest et al. 1999). Moral conviction is not dependent on establishment, rules, or authorities.
  + Strength of moral conviction about physician-assisted suicide, and NOT prior perceptions of supreme court legitimacy/fairness was the largest predictor of how fair/accepting an individual was on the supreme court judgement regarding PAS (Skitka, 2009)
  + People continue to uphold morally convicted viewpoints, even when explicitly told that their peers/majority disagree with them. Moral conviction predicted resistance to peer influence with regards to accepting usage of torture against terrorism (Aramovich, 2012)
* Conversely, low levels of moral conviction are viewed as subjective preferences where legitimate disagreement is acceptable (Skitka, 2010)
* People differ significantly on what beliefs they hold with moral conviction, relatively few topics (e.g., rape, incest, executing the mentally disabled) are ‘universally’ viewed with moral conviction. Some ‘contentious’ issues are not universally seen as moral such as owning guns or being vegetarian. (Wright et al., 2008)
* Historical evidence exists indicating that moral conviction 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)
  + Some success has been found manipulating moral conviction using framing effects centering on arguments containing harm, fairness, or disgust, or alternatively, framing issues as ‘rights’ necessary for society (Kodapanakkal, 2021; Clifford, 2017; Wisneski & Skitka, 2017)
  + Notably, this evidence is somewhat mixed, Clifford and colleagues (2017) were unable to reduce moral conviction on ‘food politics’ e.g., support for factory farming, genetically modified food, animal welfare)