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One hill I'm willing to die on: Moral conviction as a catalyst for advocacy on behalf of controversial health- and public-policy-related attitudes

Ann Marie Lewis
Iowa State University

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**One hill I'm willing to die on:
Moral conviction as a catalyst for advocacy on behalf of controversial health- and public-
policy-related attitudes**

by

Ann Marie Lewis

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

Major: Psychology

Program of Study Committee:
Kevin L. Blankenship, Major Professor
Kristi A. Costabile
Marcus Credé
Michael F. Dahlstrom
L. Alison Phillips

The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this dissertation. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2020

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ABSTRACT

The grassroots spread of health and social movements is a highly important but largely understudied social process. Advocating on behalf of your beliefs to others violates the principles of Politeness Theory (Brown & Levinson, 1978) and therefore poses social risk. However, people do advocate for these beliefs, to a degree; as noted by Skitka (2002), people seem to select a limited number of positions to incorporate into their self-concept, choosing some to represent the self as a symbolic act. She argues that some of these attitudes most deeply ingrained and most motivating to act are those that are “moral mandates”.

Within this work, I discussed this construct of morality in the context of attitude structure (e.g. Teeny & Petty, 2018), attitude strength (e.g. Skitka, Bauman, & Sargis, 2005), observed behavioral intentions and effects (e.g. Cole Wright, Cullum, & Schwab, 2008), the self (discussing implication of Skitka, 2002), and regulatory orientation (Zaal, Laar, Ståhl, Ellemers, & Derks, 2011), focusing the discussion and subsequent research on the latter two.

I then completed three empirical studies. In Study 1, I tested the factor structure of various operationalizations of morality, as well as attitude structure and strength, and their ability to predict outcomes previously associated with moral conviction. Moral conviction and moral acceptability were determined to be the most theoretically and predictively distinct conceptualizations, and evidence was found for basis being a significant interactor with morality in predicting the replicated outcomes.

In Study 2, I examined how morality interacts with perceived controversy and majority status, to elucidate the nature of morality as a counteractive force to social risk. I found that

majority significantly increased the positive effect of morality on advocacy, but also found significant 2- and 3-way interactions with attitude bases.

In Study 3, I experimentally tested the effects of perceived morality on both intentions and actual advocacy behavior, manipulating the perceived regulatory orientation (i.e. risk sensitivity) and belief in the attitude as central to the self-concept. Alone, these manipulations had no significant effect. However, significant effects were found in interaction with basis.

Conclusions focused on several key areas. First, range restriction and potential fragile effects appeared to undermine consistency in determining significant effects. I strongly suggest the attitudes research field expand its use of stimulus sampling. on the nature of morality in interaction with basis. Different conceptions of morality interacted differently with cognitive and affective basis. Future work into the effect of morality on attitude outcomes should incorporate basis as a primary variable. Secondly, morality and high affect generally increased intent to advocate, however, at maximum levels the opposite was found, suppressing advocacy not necessarily through social pressures but likely an untenable amount of dissonance or a change in perceived utility. Finally, models utilizing frame manipulations left morality accounting for no significant variance. Future work should be done to determine the relationship between these frames and morality, as a mediating relationship remains a possibility.

CHAPTER 1. INTRODUCTION

Humans are an unusually communicative species. Our higher brain function as well as our motor systems allow us to express an infinite variety of concrete and abstract thoughts (Hauser, Chomsky, & Fitch, 2002). Communication is a key element of interpersonal bonding for humans, and communicating shared experiences can be a significant source and method of maintaining crucial social ties (Davison, Pennebaker, & Dickerson, 2000; Duck, 1994).

But we do not always express experiences, thoughts, or opinions we know are shared. A student wears a candidate's t-shirt during a controversial presidential campaign season. An entire family marches together in a protest of police action. A grandparent insists their grandchild eat their vegetables because "they're good for you!" Someone hawks their goods to passersby on the sidewalk, hunting for eye contact and making their pitch. A young mother asks her pregnant friend, "You've read what's in vaccines, right?"

Attitudes are valenced positions toward an attitude object -- an abstraction of some person, thing, group, or idea (Fazio & Olson, 2003). Attitudes develop in part to help us identify advantageous resources and harmful threats (Katz, 1960; Smith, Bruner & White, 1956). Attitudes may be construed as a fixed thing you develop and add to over time, made up of beliefs (smoking introduces dangerous carcinogens to your lungs and increases your risk of lung cancer), feelings (the thought of smoking grosses me out), and/or behaviors (I've never smoked; this tripartite model from Rosenberg & Hovland, 1960); alternatively, attitudes may be seen as a group of cognitive, affective, or other internal elements that activate when you are confronted with the attitude object -- not a singular object, but those associations salient at the time the attitude activates (Schwarz & Bohner, 2001). Some researchers dissect the different

'pieces' of attitude content and test effects separately, while others emphasize the overall judgment made based on the sum of them (Maio & Haddock, 2007), but it is generally accepted that attitudes vary in how much they are founded on cognition, affect, and/or behavioral evidence.

The foundations of your attitude may be unique to you and your unique experience with the attitude object. But, to the degree that one person's evaluation of the attitude object is seen as agreeing with the evaluation of others, you may also say that attitudes are shared. Shared attitudes are often seen as socially bonding. Others who see the same things as desirable that we do are more likely to be like us, more likely to offer us relevant benefits through association, and less likely to be threats to us themselves (Byrne, 1961; Newcomb, 1956; Riek, Mania & Gaertner, 2006). Finding or emphasizing shared attitudes (shared interests, shared opinions, similar politics, etc.) is a common process when forming relationships (McPherson, Smith-Lovin, & Cook, 2001; Secord & Backman, 1964). Shared attitudes may be the primary foundation for certain social groups, such as clubs, internet blogging communities, or religions. Threats to an attitude, even direct contradictory evidence, may even lead to stronger attitudes, or stronger affiliation with these attitude-based groups (Nyhan & Reifler, 2010; Druckman, 2012; Festinger, Riecken, & Schachter, 1956).

Most communities impose some form of discouragement from expressing dissenting beliefs. Highly collectivistic communities who value group harmony may impose more severe restrictions than highly individualistic communities who value diversity (Jetten & Hornsey, 2014; Hornsey, Jetten, McAuliffe, & Hogg, 2006). Members of more individualistic communities may be more lax, but still demonstrate changes in what attitudes they choose to express based on

their audience and perceived social norms (Devine, Plant, Amodio, Harmon-Jones, & Vance, 2002; Rutland, Cameron, Milne, & McGeorge, 2005).

Politeness Theory (Brown & Levinson, 1978) explains some of the pressures that may drive social control of attitude expression. They described two forms of threat to one's face, or public image: positive face threat, which is a threat to one's good image or social status, and negative face threat, a threat to one's ability to remain self-directed and autonomous.-

Expressing an attitude counter to one's audience's own position may be viewed as both positive and negative face threatening. My disagreement indicates that what you want is not wanted by others (Holtgraves, 1992). Further, if I express my attitude in a way that implies I believe you should agree with me, or if I'm expressly trying to convince you to, I threaten your autonomy (O'Keefe & Shepherd, 1987).

We see some of the possible social backlash of advocacy in the outcomes of researcher persuasion on participant beliefs, public policy persuasion, or and public education. Although researchers and politicians may not be worried about how they personally are perceived by their listeners, the backlash to various arguments is an instance of the same backlash one might face in advocating on a more personal level. Leathar (1981) discussed problems inherent in health publicity, which generally attempts to persuade viewers to avoid something enjoyable rather than obtaining something positive. Leathar described viewers as attributing classist attitudes to the message, resulting in perception of "official establishment material telling people what they should and shouldn't do" (p.42). He also notes that this type of material causes anxiety, resulting in defensiveness. It's possible that if persuasive content directly challenges the target's own behavior, this may result in an ego-defensive rejection of the

source, which would be an undesirable outcome for most humans motivated by social acceptance.

Researchers have studied in depth how the listener reacts to counterattitudinal expression, but little has been done to study the source of persuasive behavior and the drivers that lead expressors to overcome social pressures against their attitude expression. This may be in part an artifact of laboratory experiments, and that it is simpler to experimentally manipulate a message and evaluate its effects than to observe participant-initiated behaviors in a realistic way. Yet, the factors that predict persuasive behavior are still in need of research.

The persuasive goals of commercial business are obvious. Some politically persuasive behavior has also been addressed: as part of a framework to describe political protest, Wright, Taylor, and Moghaddam (1990) noted that this act of persuasion may be individual, for the betterment of one's own situation, or collective, for the betterment of one's group. Yet, Gore and Rotter (1963) noted, "the apparent desirability of some social outcome is a poor predictor to the degree to which an individual will commit himself . . . This is particularly true when the social action runs counter to majority opinion and entails risk of rejection, failure, or some other punishment." They suggested that in addition to expectancies, social action may be motivated by personality (in their research, specifically internal vs. external locus of control). But little has been done to test the qualities of the attitude itself that may lead to one topic vs. another being the target of one's passion beyond expectancies, and beyond personality. Even the most passionate activist seems unlikely to speak up in every social situation about every issue.

While our own motivations are neither always accurately represented nor even always clear to our own selves (Ferguson, Hassin, & Bargh, 2008), the rhetoric of argument may shed light on its rationale. Within this paper, I will discuss the field of controversial health and public policy attitudes and make the argument that the language used to discuss them regularly ties the passion of the opinion to a sense of morality. The very rules of politeness discussed above are an issue of morality; manners may be part of what makes you a good person (Buss, 1999). In Western cultures, “strategic politeness reflects the paramount concern for . . . what is *owed* [emphasis added] to the individual” (Bargiela-Chiappini, 2003, p.14). As many health or public policy regulations affect the group, it may also group protection based morals (Janoff-Bulman & Carnes, 2013; Haidt & Graham, 2007).

This line of research has practical applications. As our world becomes increasingly interconnected via technology, the paths of interpersonal influence become more numerous and more complex. As social movements spread, as myths are perpetuated, and as socially normative stances change, the content of shared knowledge and the direction of the public interest changes. For the sake of public health, understanding the spread of medicine-related attitudes is vital. For the sake of violence prediction, understanding how political beliefs morph and radicalize through social contact is valuable. And for the sake of public education, understanding how people in disparate areas acquire and pass on fact or misinformation may be key to countering it.

In the following sections I will define the scope of the current work, including the attitudes that will be covered as well as the geopolitical-social context for the targeted pool of participants. I will also discuss relevant theory and research needed to introduce research

questions for a series of studies that will expand on the existing field. Next, I will describe these studies in detail, proposing the methods and materials needed to test my research questions. Finally, I will discuss the implications (and limitations) of that work, and how it contributes to the greater body of social psychological theory.

CHAPTER 2. SCOPE OF THE CURRENT WORK

In attitude research, there are a wide variety of attitudes with a wide variety of content compositions or metacognitive features. To find reliable relationships during this first, exploratory stage of research, it is important to select a sampling of attitudes that are coherent. Further, with an interest in influence intentions, I want to select an attitude sample with a high likelihood that at least some participants will express these intentions. As advocacy and persuasion are highly interesting for predicting social movements with wide-reaching political, economic, and public health effects, selecting controversial attitudes highly relevant to the current social atmosphere will offer more immediately meaningful implications from this research.

For all these reasons, I will constrain my studies to controversial topics in the public health and policy domains. These topics should generate a range of attitude content and metafactors, with at least some variation in the degree of motivation for interpersonal influence. Nevertheless, these topics may confound some aspects of the attitude content (e.g. belief that the science involved is authoritative) with individual difference (e.g. deference to authority). These issues of 1. how the relationships of attitude content and metafactors to influence intentions vary between attitude areas, and 2. how the influence of attitude content and metafactors may also be explained by personality, will have to be explored in future work. My work will also be constrained to attitudes that are controversial within the United States, to further focus the results to a relatively coherent and available participant pool. To generalize findings to a more general world population, a great deal of research into cultural effects and region-specific attitude content would need to be done.

Furthermore, attitudes are culturally-bound, as attitude objects are imbued with a great deal of implication and association with culturally-specific context (Hui & Triandis, 1985; Crandall & Martinez, 1996). In order to limit the work to a group of individuals who will have a reasonably similar experience in a reasonably similar context with the public policies and public health issues discussed herein, I will limit my study to current United States residents. While this may limit generalizability of this work, it will generate useful insights about a population of hundreds of millions, and set the methodological foundation for future work into other populations.

On the Characteristics of United States Residents

The United States is a western, educated, industrialized, rich, and democratic (WEIRD) society. Its citizens rely strongly on analytical reasoning and believe in equity and fairness (Henrich, Heine, & Norenzayan, 2010). Spence (1985) argued that United States culture is individualistic, is focused on individual accomplishment, connects work and prosperity with moral worthiness, and believes in zero-sum competition. Triandis, Bontempo, Villareal, Asai, and Lucca (1988) suggested an important distinction about American individualism: that Americans are more likely to suborn ingroup goals to their own personal goals. Further, despite the adage “You can be anything you want to be,” Americans are motivated to maintain the appearance of self-consistency and see the self as largely immutable (Heine, 2001).

On the Moral Characterization of Controversial Health and Public Policy Attitudes

A great deal of anti-health-science argumentation is morally-themed. In one study, 25% of assessed anti-vaccination websites used outright moral arguments, while 38% used implied

moral reasons by describing morally repugnant activities involved in vaccine development, such as aborted fetuses, animal torture, and human experimentation (Kata, 2010). One French anti-vaccine organization has stated, “We regard the obligatory nature of vaccination as a violation of moral and physical personal liberty, and of freedom of conscience” (Ligue Nationale pour la Liberté des Vaccinations, as quoted in Blume, 2006, p.633). Significant argument has been made about the balance between government control over health decisions or bodily autonomy in times of crisis versus the individual right to self-direction, often involving a discussion of the amount of risk the problem poses, and whether it merits a state of emergency (Bayer & Colgrove, 2003). Morally-charged argument may even be religiously-themed, as moral communities may align with religious community (Graham & Haidt, 2010). In 2013, an outbreak of measles in the Netherlands was linked to an orthodox protestant community, and religious beliefs were given as a reason for non-vaccination in 93.6% of cases (Knol, et al., 2013). Further, connecting morals and religion may lead to religious activities that reinforce one’s social identity as a holder of this attitude. Due to the evident connection of morality to some controversial health beliefs and government policy, this attitude domain is ideal for the current research.

Controversial Health and Public Policy Attitudes in the Current Research

The attitude topics I will cover are:

1. Childhood immunizations
2. Abstinence-only sex education in public schools
3. Use of the death penalty as a deterrent to crime
4. Genetically modified foods

5. Laws preventing discrimination based on sexual orientation
6. Policies intended to reverse human-caused climate change
7. Additional gun control legislation

Childhood immunizations have been found to be both effective and safe in the prevention of communicable disease, yet there is a growing social movement against them that allege that these immunizations are ineffective, contain unsafe ingredients, cause autism, et cetera (Hobson-West, 2007; Kata, 2012; Salmon, Dudley, Glanz, & Omer, 2015).

Abstinence-only education correlates with higher rates of teenage pregnancy and no significant decrease in sexual activity (Kohler, Manhart, & Lafferty, 2008; Stanger-Hall & Hall, 2011). However, a single study by Jemmott, Jemmott, & Fong (2010) was featured in a New York Times article (Lewin, 2010) that quoted proponents of abstinence-only education calling the research 'game changing' and stating that they hoped it would alter public policy, although Jemmott and colleague's previous, highly-similar studies generally showed no significant or long-lasting change in sexual behavior for control (abstinence of sex-unrelated) interventions (e.g. Jemmott, Jemmott, & Fong, 1998).

The United States' use of the death penalty is an outlier in developed nations, particularly as we continue to reserve (and exercise) the right to execute minors. "People give a wide variety of reasons when asked why they support the death penalty, including that the death penalty has a deterrent effect, [and] that it is cheaper than life imprisonment..." (O'Neil, Patry, & Penrod, 2004, referencing Bohm, 1987). Proponents appear to believe that the death penalty results in the punishment of the deserving and reduction of crime. However, in a review of studies that examined supposed deterrent effects of the death penalty, Donohue and

Wolfers (2005) concluded that small sample sizes and inconsistent controls generate highly fragile findings, undermining any conclusions in favor of deterrence. Peffley and Hurwitz (2007) found that an argument against the death penalty, the “race gap” in which more black convicts are executed than white convicts, actually increased support of the death penalty in white respondents. Perlin (2016) argued passionately that some individuals in the legal system inappropriately facilitate conviction and execution of the mentally incompetent, or are passively complicit in continued injustice.

Genetically modified foods, a modern evolution of an ancient practice, pose benefits for human nutrition, potential increases in the world food supply, and a decrease in the use of agrochemicals with little or no demonstrated negative effect on the consumer (Uzogara, 2000; Bouis, Chassy, & Ochanda, 2003; Godfray et al. 2010; Carvalho, 2006), but there is a strong market for non-GMO goods as well as proposed and current legislation that would either require GMO-containing goods to be labeled as such or restricted entirely from the marketplace (Baker & Burnham, 2001; Costa-Font, Gil, & Traill, 2008).

There is convincing evidence that sexual orientation is largely an inborn characteristic, yet in recent studies, up to 47% of LGBT workers reported workplace discrimination or harassment (Mallory & Sears, 2017; Sears & Mallory, 2011). In one recent study, 30% of the United States’ population agreed that homosexuality is a result of factors such as upbringing or environment (in contrast to something one is born with, both, neither, or no opinion), and 46% believe that new civil rights laws to reduce discrimination against LGBT people are not needed (Gallup, 2018).

Human-caused climate change is at this point not only an agreed fact (Maibach, Myers, & Leiserowitz, 2014; Cook et al., 2013; Cook et al., 2016), but new research indicates that it is worse than originally estimated. A special report for policymakers revises the previous 2 degrees Celsius goal for limiting global warming down to a lower threshold of 1.5 degrees in order to avoid serious effects to food supply, land use, and human conflict (IPCC, 2018). Yet, Dunlap, McCright, and Yarosh (2016), using data from ongoing Gallup polls, reported that only 65% of the total public said that changes in the earth's temperature over the last century are due to human activities, and when split by party only 43% of Republicans concur (p.9). Further, only 41% of the total public believe that global warming will pose a serious threat to them or their way of life in their lifetimes, to which a staggeringly low 23% of Republicans agree (p.11).

Mass shootings are an area of high concern in the United States recently (39% of Americans are *Very worried* or *Somewhat worried* that they or someone in their family will become a victim of a mass shooting; Gallup, 2018). Although poll respondents in the United States are putatively more and more supportive of stricter gun control legislation, the data continues to appear controversial: 57% are against laws that ban so-called assault rifles, 42% favor increased rates of gun carry by teachers in schools as a method of preventing shootings, 24% oppose 30-day waiting periods for all gun sales, and 24% believe new gun control laws would not reduce the number of mass shootings in the U.S. at all (Gallup, 2018). In the most recent use of the question "Do you think having a gun in the house makes it a safer/more dangerous place to be?", 63% responded "Safer" (Gallup, 2018, citing a poll run in 2014). However, much of this argument focused on the stranger danger of guns, and ignores more intimate threats. According to work by Siegel and Rothman (2016), rates of gun ownership

within a given state was strongly related to suicides by gun, and gun ownership was associated with higher rates of suicide by any means for male owners. Kellermann et al. (1992) took a more granular approach, finding via case-by-case analysis with matched pairs that even after controlling for psychotropic medication, prior arrest, drug and alcohol abuse, and education, the presence of a gun in the home posed an increased risk of suicide. Several of the same researchers took the lens to violent death of women (Bailey et al., 1997) and found that firearms in the home not only increased rates of suicide, but rates of homicide by spouse, intimate acquaintance, and close relatives. When states pass laws that restrict access to firearms for people subject to a restraining order, female partner homicides decrease 7% (Vigdor and Mercy, 2006). Finally, lest classism lead us to associate these numbers primarily with a risky-lifestyle population with arrest records and drug abuse, military veterans who kill themselves are between 1.3 and 1.6 times more likely than non-veterans to use a gun to do it (Kaplan, McFarland, & Huguet, 2009).

CHAPTER 3. ATTITUDE STRENGTH AND MORAL CONVICTION

What is Attitude Strength?

Attitude strength has been historically difficult to define; it is often used to refer to those variables that contribute to it (see the following section, *What are attitude strength contributors?*). However, most scholars agree that it is best understood as a construct resulting in consistent and coherent effects on an attitude's lifecycle and outcomes. Strong attitudes are those which durable and impactful (Krosnick & Petty, 1995). Durability may be broken down into persistence, or consistency over an extended period of time (Boninger, Brock, Cook, Gruder, & Romer, 1990; Haugtvedt & Petty, 1992), and resistance, resisting attempts to change those attitudes (Eagly & Chaiken, 1995), while impactfulness may be broken down into being a significant influence on information processing (Jonas, Diehl, & Brömer, 1997; Brannon, Tagler, & Eagly, 2007), as well as a significant predictor of attitude-related behavior (Fazio & Zanna, 1978). The question of strength itself is still unsettled -- whether it is a latent construct, effecting these characteristics, or whether it is an attitude heuristic used to indicate that it generates one or more of these effects (Krosnick & Petty, 1995, p.3; see Figures 3.1 and 3.2). Within this paper, I will use "strength" consistent with the second meaning (as a heuristic), and will refer to these symptoms of strength as "strength consequents."

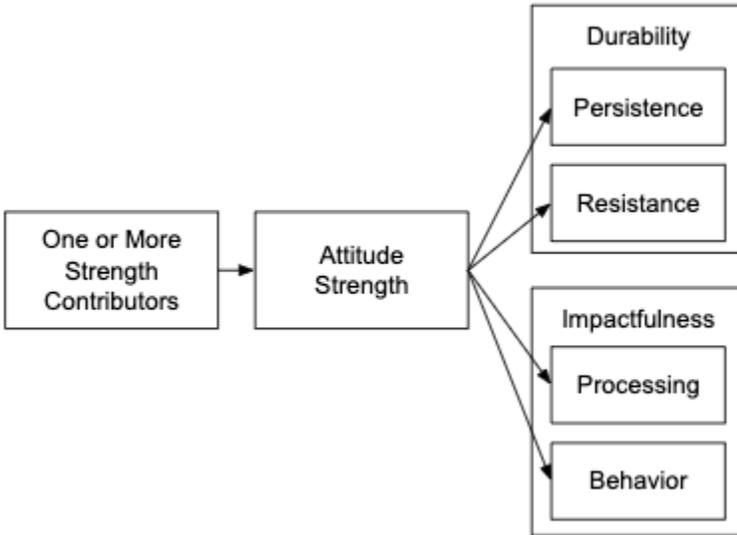


Figure 3.1. Attitude strength as a latent construct.

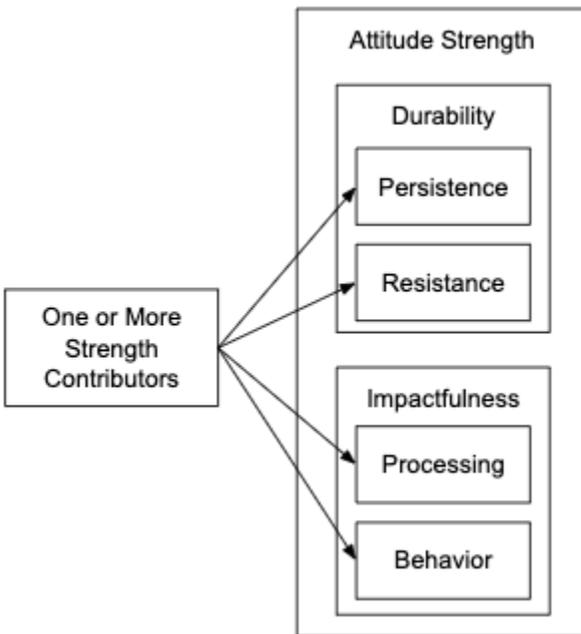


Figure 3.2. Attitude strength as a heuristic.

What are Attitude Strength Contributors?

The factors which have been found to increase attitude strength/precede attitude strength consequents are numerous. Some of the contributing factors studied thus far are a history of cognitive elaboration (Petty, Haugtvedt, & Smith, 1995; Petty & Cacioppo, 1986), correctness (Petrocelli, Tormala, & Rucker, 2007; Fazio & Zanna, 1978), clarity or confidence (Petrocelli et al., 2007; Fazio & Zanna, 1978), importance (Krosnick, 1988; Pomerantz, Chaiken, & Tordesillas, 1995), relevance (Haugtvedt & Wegener, 1994; Boninger, Krosnick, & Berent, 1995), and extremity (Judd & Brauer, 1995; Bassili & Krosnick, 2000). See Krosnick and Petty (1995) for an overview.

Within this paper, I refer to attitude strength contributors as such because, although each can be shown to have the apparent effects strength might have on persistence, durability, information processing, and behavior, many of these contributors are only moderately to weakly related to each other (Krosnick, Boninger, Chuang, Berent, & Carnot 1993; also Krosnick, Jarvis, Strathman, & Petty, 1994, as described in Krosnick & Petty, 1995), and their presence may not all be necessary for a given attitude to be strong.

Given this unusual relationship, it may be helpful to discuss these contributors in terms of their sufficiency and necessity (Cummins, Lubart, Alksnis, & Rist, 1991; Thompson, 1994) for attitude strength. A given contributor, e.g. centrality, may be sufficient for attitude strength; that is, when centrality is high, strength is high. However, that contributor may not be necessary for attitude strength; when centrality is low, that does not support that the attitude is weak (Prislin, 1996). If these relationships were correct for every contributor to strength, that would make these variables strength-sufficient conditions.

However, if a weak attitude is observed when one of these conditions is extant, then the condition is neither necessary nor sufficient. No single contributor is necessary, and a given contributor may not even be sufficient for attitude strength, but each contributes to the whole of the latent construct, which influences those outcomes we measure. Their relationship to each other remains fuzzy (e.g. centrality may lead to accessibility, or importance may lead to increased elaboration, or relevance may increase accessibility and importance) as they are aspects of a framework of focus, leaning upon and propping up each other (e.g. Bizer & Krosnick, 2001; Petty & Cacioppo, 1979). Further, as lenses such as self-perception theory (Bem, 1972) and the inclusion of behavior as a part of attitude structure (Rosenberg & Hovland, 1960; Breckler, 1984) imply, the consequents of attitude strength (durability, etc.) may be observed by the actor, and feed back into strength contributors (elaboration, centrality, importance, etc.) in a cycle of interdependence (Zanna, Olson, & Fazio, 1981; Chaiken & Baldwin, 1981).

What is Moral Conviction?

According to Skitka (2002), “people should be motivated to affirm their sense of self by selectively endorsing self-expressive moral positions or stands, or what will be referred to as moral mandates”. She characterizes moral mandates as a “special class of strong attitudes” (p.589). Skitka, Bauman, and Sargis (2005) introduced the concept moral conviction as that contributor to strength that distinguishes non-moral strong attitudes from moral mandates (strong attitudes with high moral conviction). They treat it as separate from other attitude strength contributors, referring to moral conviction as a reflection of attitude content, and other contributors as aspects of attitude structure (pp. 897-898, 914). This may put moral conviction on par with other aspects of attitude content, such as its basis in cognition, affect, or

self-observed behavior (Fabrigar & Petty, 1999; Crites, Fabrigar, & Petty, 1994; Rosenberg & Hovland, 1960; Bem, 1972). However, Skitka (2002) notes a relationship that may give moral conviction a particular power in guiding behavior; she notes that the motivation for self-congruence (Steele, 1988) may make potential immorality a threat to one's very identity, and strongly motivate action that will reaffirm their moral self-perception. Although the notion of identity will be discussed in more detail later in this paper, within the framework of social identity theory (Tajfel, Turner, Austin, & Worchel, 1979; Turner & Oakes, 1986), it follows that perceived immorality in a group member could also pose a threat to one's identity and motivate attempts at social influence.

However, the use of moral conviction and moral mandate interchangeably (Skitka et al., 2005) is interesting, as it emphasizes Skitka's repeated claim that all moral mandates are strong attitudes, although not all strong attitudes will be moral mandates (Skitka, 2002; Skitka & Houston, 2001). This supports the assertion that moral conviction is not simply another attitude strength contributor, existing at a parallel level in conjunction with the others. The rules of causality suggest that it may actually be a source of those structural strength contributors, causing an increase in structural contributors, although this would not rule out the possibility that moral conviction may simultaneously offer a separate, direct effect on attitude strength consequents (that is, provide an indirect effect via an increase in a strength contributor(s) in addition to a direct effect on the consequent). Potential support for this theory could be found in Luttrell, Petty, Briñol, & Wagner (2016), as simply perceiving an attitude to be morally founded generated attitude strength consequents. This could be due to morality existing a causal influence on attitude strength contributors, although it is also possible that, as an

attitude must be strong to have high moral conviction, the correlation between the two takes the perceiver from perceived morality to perceived strength contributors (e.g. perceived elaboration, Barden & Petty, 2008) to greater strength consequents.

CHAPTER 4. ADVOCACY AS AN EFFECT OF ATTITUDE STRENGTH AND MORAL CONVICTION

A Cohesive Definition of Advocacy

Before addressing advocacy effects in the specific, I would like to define some terms as I will use them. Although I have thus far referred to “persuasive behavior” to orient us within the domain of research as it is typically labeled, in order to clarify the behavior I am most interested in I will here redefine persuasion itself as something more specific (that which is directly intended to alter a specific target’s view, and not behavior that may affect views through normativity, enforced behavior, or other indirect paths).

Terms as I use them include:

A **source** (Chaiken, 1980; Petty & Cacioppo, 1984; Wilson & Sherrell 1993) is an individual, group, or entity who is the persuader, the expressor, or the source of interpersonal communication or influence.

A **target** (Friestad & Wright, 1994; Kirmani & Campbell, 2004; Briñol, McCaslin, & Petty, 2012) is an individual who is the persuadee, the listener, or the target of a source’s interpersonal communication or influence goals.

Attitude expression (Powell & Fazio, 1984; Roese & Olson, 1994) or **opinion sharing** (Paridon, 2004) is any verbal or behavioral expression of one’s attitude, irrespective of the audience’s perception of, acknowledgement of, or agreement with that attitude.

Attempted persuasion (Friestad & Wright, 1994; Williams, Fitzsimons, & Block, 2004) or **persuasive behavior** (Slaughter, Peterson, & Moore, 2013) is any behavior intended to alter the content or other properties of the target's attitude. It requires that the target's attitude or attitude properties are known or believed by the persuader to be different or potentially different from what is desired, as persuasion is fundamentally a process of change (O'Keefe, 2002).

Advocacy is activity that is intended to proliferate one's attitude, or to proliferate behavior that supports one's attitude (Waisbord, 2009). Advocacy does not require attempted persuasion. It may be motivated by goals of raising salience ("awareness"; Niederdeppe, Bu, Borah, Kindig, & Robert, 2008) or normalization (Jackson, Bailey, & Foucault Welles, 2017; Chase, 2003), in addition to explicitly persuading the target. Persuasive intent should increase face threat.

Persuasion may or may not involve attitude expression. For example, I may persuade someone to adopt an attitude by making that attitude seem normative, without ever implying I hold that attitude myself. Advocacy may or may not have the goal of persuading a disagreeing target. I may advocate simply to reinforce/maintain my self-image (a value-expressive function, Katz, 1960, or a method of implied social comparison, Fein & Spencer, 1997), reinforcing a group identity I associate with that attitude (Fraser, Clayton, Sickler, & Taylor, 2009), or highlighting similarities and/or differences between I and my listener to evoke different group membership boundaries (Ghaziani, 2011). However, advocating always involves attitude

expression, generally one's own. It is possible to advocate for a third party's attitude, although in many cases the target attributes the attitude to the source anyway (Jones & Harris, 1967; Tetlock, 1985).

Contrary to what the name may imply, collective action is not only action taken as a group, but any action taken as a member of a group for that group's good (Van Zomeren, Postmes, & Spears, 2008, 2011; Wright, Taylor, & Moghaddam, 1990) -- in this way, it is simply advocacy with a specific salient identity with a specific type of goal.

Advocacy could be classified among a number of potentially meaningful dimensions. It may vary by the degree of individuality, social distance, intent to influence, social acceptability, and behavioral control. Within this work, I will not attempt to address all of these axes. Rather, as my interest is in overcoming pressures against advocacy, I have selected advocacy behavior that is individual, avoiding diffusion of responsibility, and at close social distance, heightening the face threat.

Advocacy as an Effect of Strength Contributors

Attitude strength contributors have been found to predict a number of advocacy behaviors. Visser, Krosnick, and Simmons (2003) found that attitude importance and attitude certainty increased the likelihood of attempts to persuade others, and importance predicted voting behavior. Intent to vote and sign a petition are commonly used in behavioral intention measures of attitude strength; Barden and Petty (2008) demonstrated that simply the belief that one has thought a lot about a topic (a heuristic measure of the elaboration strength contributor) was enough to significantly increase these. The effect of attitude certainty on advocacy is stronger when the attitude-holder is presented with weak arguments on behalf of

their position -- those who originally believed they could not argue effectively for their side advocated more after seeing arguments even worse than theirs (Akhtar, Paunesku, & Tormala, 2013).

Uncertainty has its own interesting effect on advocacy; although people with moderate certainty have low intent to advocate, intentions rise in individuals with low certainty (Cheatham & Tormala, 2017). This is consistent with my earlier discussion of advocacy as a self-affirming or group-identity-affirming activity. Cheatham and Tormala dissolved the uncertainty effect on advocacy with a self-affirmation intervention. Further, in an analysis of the content of argumentation, they discovered that the way in which low-certainty individuals advocate appeared to be a method of information-gathering, rather than to appear more certain or to self-persuade (p.14).

Cheatham and Tormala (2015) explored the difference between persuasion intentions and sharing intentions in advocacy. They demonstrated that attitude correctness and confidence together predict sharing intentions, but that only correctness predicted persuasion intentions.

Teeny and Petty (2018) brought more nuance to the definition of advocacy in these experiments by drawing a distinction between advocacy that is spontaneous (proactive) and advocacy that is requested (reactive). In their work, they operationalized advocacy as simply sharing one's opinion with another person when asked or unasked, an individualistic approach with small social distance. However, rather than studying typical attitude strength contributors, they examined the relationship of attitude structural bases, cognitive and affective. After correlational work as well as an experimental manipulation of perceived basis, the authors

concluded that an affective basis or perceived affective basis was more predictive of spontaneous advocacy than a cognitive basis. The authors suggested the effect could be related to the greater energy and spontaneity of behavior that strong affect engenders.

Advocacy as an Effect of Moral Conviction

Skitka and Bauman (2008) connected the strength of moral conviction on political topics and candidates to rates of voting and intentions to vote, even when controlling for attitude extremity. In line with Teeny and Petty's finding that an affective basis predicts advocacy, Skitka and Bauman note, anecdotally, that morally-colored attitudes generate strong emotions, even overriding competing emotions, in response to seeing others or one's own violation of their principles (pp.32-33). Although only implicitly, they seem to attribute some of the motivating force of moral conviction to take action to be the negative consequences of **not** doing it by referring to the negative emotions of not acting when your morals dictate you should.

Van Zomeren, Postmes, and Spears (2008) explored an integrative social identity model of collective action. Using data from a number of studies into group-disadvantage-related predictors of collective action measures, the authors categorized predictors according to three socio-psychological perspectives, termed *injustice*, *efficacy*, and *identity*. Efficacy aligns to perceived behavioral control, a long theorized interactor with attitude in predicting behavioral outcomes (e.g. Theory of Planned Behavior: Armitage & Conner, 2001; Ajzen, 2011; Ajzen, 1991; see figure 4.1). Identity aligns well with the attitude strength contributors of importance and relevance. The most interesting domain is injustice, which I would argue is the enactment of threat. Further, in a moment reminiscent of Skitka and Bauman's musings on the role of emotion in moral attitudes, Van Zomeren et al. noted that affective injustice and politicized

identity were more strongly predictive than non-affective injustice and non-politicized identity. In later work (2012), they demonstrated that moral conviction predicted collective action intentions (endorsing items like 'I would participate in a demonstration against an increase in tuition fees' and 'I would like to sign a petition against this issue') and collective action (signing a Greenpeace petition), mediated by identity, efficacy, and group-based anger (in response to injustice), having replaced the incitement of the emotion with the emotion itself. This work is consistent with the theory of moral exclusion (Opatow, 1990), as group identity results in the dehumanization and negative treatment of out group members. This is further in line with Intergroup Emotions Theory, as salient group identity leads to assessment of events based on implications to the group, and triggers group emotions (Mackie, Smith & Devos, 2000; Mackie, Smith, & Ray, 2008).

Zaal et al. (2011) also linked moral conviction to collective action, but specifically for individuals with prevention and not promotion orientation. While experimentally manipulating orientation, they controlled for perceived importance in an attempt to isolate moral conviction from other strength contributors. However, in Chapter 5 of this work it will become relevant that for Zaal and colleagues, promotion- and prevention-orientation were conceptualized as oriented toward what one wants to do vs. what one believes one should do (p. 678), which is perhaps a narrow view of these regulatory focus constructs. Furthermore, the manipulation of regulatory focus came before the check of moral conviction strength, which may have confounded the results for people who are sensitive to injunctive pressure, even perhaps heightening their belief that a given attitude is one of deep moral concern. However, the authors tested the effect of moral conviction in light of hostile and benign (they say *benevolent*)

forms of collective action, finding that moral conviction appears to override the generally negative reaction to hostile action.

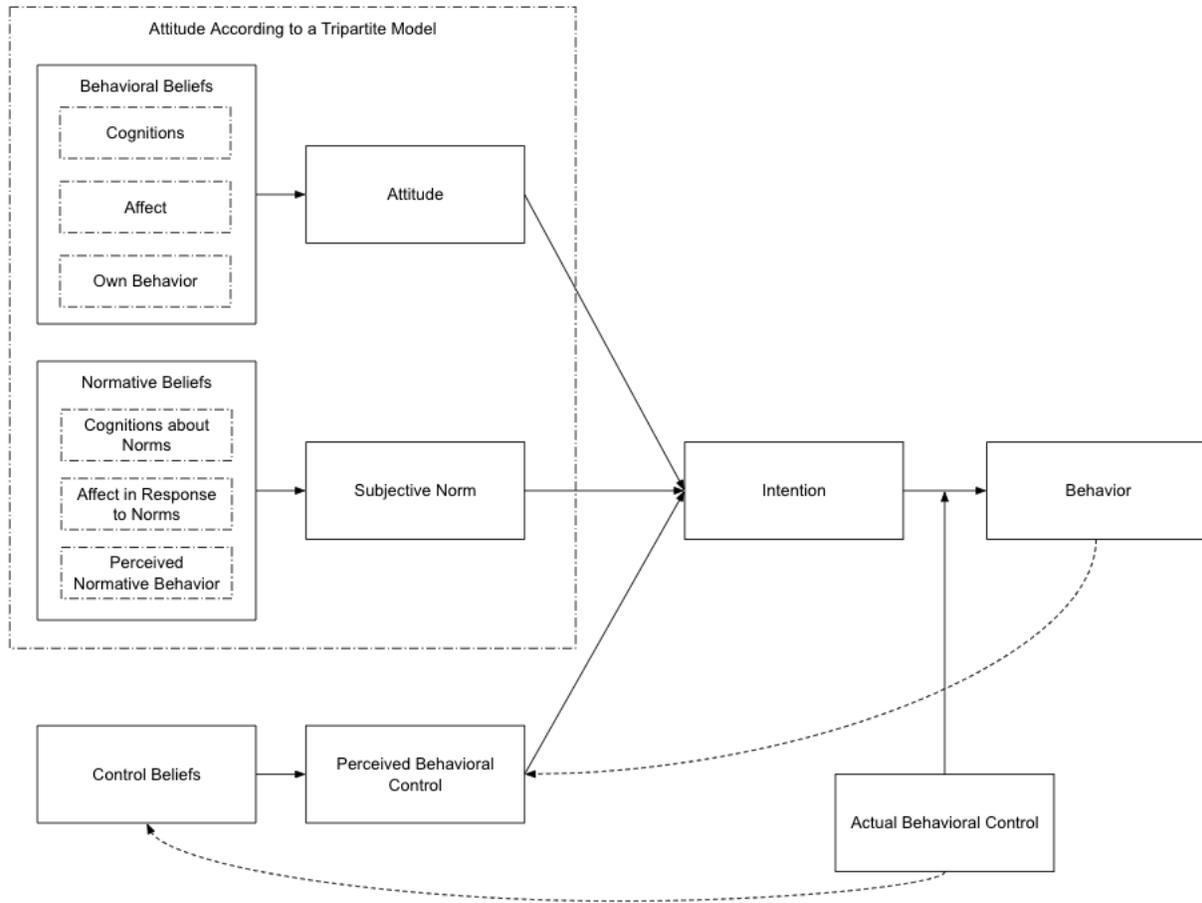


Figure 4.1. The Theory of Planned Behavior, with an integration of the Tripartite Model of Attitudes.

CHAPTER 5. THE RELATION OF MORAL CONVICTION TO THREAT

Moral Mandates are Concerned with What One *Ought* and May be Motivated by Threat

Stitka and colleagues have argued that moral conviction lends to an attitude a moral mandate (Stitka & Houston, 2001; Stitka & Mullen, 2002; Mullen & Stitka, 2006). One might call this mandate the ‘ought’ or ‘should’ (see Anscombe, 1958, p.5); it is a difficult concept to isolate, but I aver that “it would be good for everyone to do X” is significantly different in meaning from “everyone has a responsibility to do X”, the second of which is the *ought* which is meant here.

Zaal, Saab, O’Brien, Jeffries, Barreto, & Van Laar (2015) identified that politicized identity not only predicted collective action, but also negative emotions toward people who disagreed; this was mediated by the degree to which participants believed that supporting the goal was morally obligatory. Zaal, Van Laar, Ståhl, Ellemers, & Derks (2012) found that prevention orientation (which appeared to make moral conviction more salient, Zaal et al., 2011) had high willingness for collective action when the goal was of high importance, even if achieving the goal was unlikely. The authors describe prevention focus interacting with what individuals under that focus believe is “necessary”.

In sum, prevention orientation has been characterized as a focus on obligation. Obligation comes with the implication that to not do something is wrong, resulting in negative consequences. These consequences pose a threat to the attitude holder. This interpretation aligns with the original characterization of the promotion/prevention orientation as a general

principle that explained phenomena such as the hedonic principle -- i.e. humans approach pleasure and avoid pain (Higgins, 1998).

When we say one ought to do something, it could be associated with one of several belief schemas:

1. It would be good to do X.
2. It would be good to not do X.
3. It would be bad to do X.
4. It would be bad to not do X.
5. It would make you a good (or better) person to do X.
6. It would make you a good (or better) person to not do X.
7. It would make you a bad (or worse) person to do X.
8. It would make you a bad (or worse) person to not do X.

The distinction between statements 1-4 and 5-8 is one of essentialism, the core concept of the fundamental attribution error/correspondence bias (Ross, 1977; Jones & Harris, 1967; Gilbert & Malone, 1995). This bias has been found to be strongly rooted in United States culture (Choi, Nisbett, & Norenzayan, 1999; Morris & Peng, 1994). If morality is related to judgments of obligation that may have implications for your fundamental worthiness as a human, it follows that moral attitudes would be, in a word, fundamental, and uniquely predictive of behavior.

Highly Moral Attitudes May Relate to Regulatory Orientation and to the Self

When ought self-guides are active, participants express an affinity for avoidant self-regulatory strategies (Higgins, Roney, Crowe, & Hymes, 1994). Ought goals, or duties and responsibilities with a prevention focus, related more to arousing emotions (e.g., agitation or

fear) than did ideal goals (Higgins, Shah, & Friedman, 1997; Higgins, Bond, Klein, & Strauman, 1986). This could be explained by cognitive dissonance theory.

Cognitive dissonance theory states that cognitive dissonance is an aversive psychological state generated when one holds two incongruent beliefs (Festinger, 1962, 1957). When the dissonance is experienced negatively (an aversive state, as cognitive dissonance is typically characterized), it motivates the individual experiencing it to make the two beliefs less incongruent (Cooper & Fazio, 1984; Croyle & Cooper, 1983; Elliot & Devine, 1994).

To reduce dissonance, you might use a number of strategies, for example, changing one of the dissonant cognitions (Festinger, 1957), justifying one of the dissonant cognitions with additional cognitions that are consistent with the other (Festinger, 1957), trivializing one of the dissonant cognitions (Simon, Greenberg, & Brehm, 1995), denying responsibility or choice in the matter (Gosling, Denizeau, Oberlé, 2006), et cetera. In Skitka et al. (2005), participants preferred to distance themselves from those who disagreed with their moral mandates -- holding a belief in their attitude, and simultaneously holding another belief that said they had something in common (physical or social connection) with someone who disagreed with their attitude, they chose to change the second belief by decreasing the amount they had in common. The same effect was found by Cole Wright et al. (2008), especially for moral attitudes with an associated strong emotional response.

Further, there is evidence that some elements of the self are more central than others (Sedikides, 1995; Markus & Kunda, 1986). Like attitudes, central conceptions are more elaborate and chronically salient (Markus & Kunda, 1986); they are in essence self-attitudes. Skitka (2002) has argued that people seem to select a limited number of positions to

incorporate into their self-concept (making them “an expression of their commitment”). These appear to be more symbolic self-symbols than fully rational representations of beliefs, as “Once an expression of their commitment to a specific value has been identified, people may feel little pressure to develop other attitudes around that same value” (p.589).

Centrality has been studied as an attitude strength contributor (Prislin, 1996). Honkanen and Verplanken found that centrality could mediate the relationship between values and behavior, including when subjects were under enhanced self-focus (2002; 2004). However, Sherman and Gorkin (1980) found that dissonance-alleviating behavior increased in response to hypocrisy when the attitude was more central. The relationship between centrality, or the essentialism of an attitude to the self, and a heightened aversive state brought on by violation of the ought self, more salient with prevention orientation, could be interactive.

CHAPTER 6. THEORETICAL FOCUS OF THE CURRENT WORK

Although the above review of literature have raised a number of interesting questions, within the course of this work I will limit the scope of my questions.

Firstly, Dwyer (2009) discussed the many ways researchers have discussed morality, and argued convincingly that the distinctions between acceptability, permissibility, wrongness, and okayness, are meaningful. Rohan (2000) similarly argued that the language used for 'values' suffers from an epidemic of inconsistency. In Chapter 5, I have laid out a number of statements that vary on approach and avoidant orientations, as well as essentialism (e.g. "It would make you a good (or better) person to not do X."). In order to lay the foundation for a coherent discussion of any relationship between moral judgments and advocacy, I intend to test these as alternate phrasings to typical measures of morality/moral conviction, in order to better explain how moral judgments are or are not tied to threat as well as the self- or world-concept.

Secondly, my core question is that potential relationship between morality and advocacy. Advocacy is a specific subset of behavior with specific goals, with a high degree of social risk. More importantly, any given person likely picks and chooses between multiple attitudes, some of which they advocate for and some of which they don't. Thus, I believe it holds that there should be some relationship between metafactors of an attitude (content, strength, and/or morality) and the intent to engage in advocacy on behalf of it. I intend to test these metafactors to determine which factors have the strongest relationship to advocacy intentions.

Finally, morality has been found to interact with regulatory focus, and in my discussion of the ought self I have connected it to the target's own self-concept. In Study 3, I will

experimentally test the effects of perceived morality on both intentions and actual advocacy behavior, manipulating the perceived regulatory orientation (i.e. risk sensitivity) and belief in the attitude as central to the self-concept. This experimental test will allow me to see effects my sample may otherwise obscure as well as give evidence for possible causality.

CHAPTER 7. STUDY 1

Study Goals

In this study I will try to better understand how approach and/or avoidance, and essentialism contribute to perceptions of morality, as well as whether they better predict the consequents of moral conviction that have been demonstrated before. I hypothesize that avoidance (perceived negative effects of engaging in or endorsing something) and more essentialist frames (those with greater implications for one's goodness or badness as a person) will better predict holistic measures of morality than approach and non-essentialist frames. I also predict this same pattern in their prediction of the effects of moral conviction I will be replicating.

Design

This was a semi-naturalistic approach. In this study I compared a number of potential measures of moral conviction in their ability to predict outcomes that have been linked to moral conviction before:

1. Endorsement of hostile collective action in service of attitude-consistent outcomes (Zaal, Van Laar, Ståhl, & Ellemers, 2011)
2. Intolerance of dissenting others (Cole Wright, Cullum, & Schwab, 2008)

By testing these measures simultaneously I intended to highlight which measures clustered together, which measures explained the most variance, and which combinations of measures might most accurately reflect the attitude quality that causes the effects of moral conviction.

As attitudes toward a given attitude object vary between individuals, and attitudes toward various attitude objects vary within an individual, I expected to see sufficient variation in the attitude measures to observe their predictive value on the measured outcomes, while gaining benefit from dealing with these attitudes as they exist in reality (i.e. not experimentally manipulated).

Each participant responded to several attitude objects from the pool defined in Chapter 2. While much attitude research uses a single attitude to test processes, the question of what makes an attitude particularly worth fighting for, above and beyond similar attitudes, suggests that some range of attitude objects should be used. The assumption that these attitudes specifically will generate variation in participant response is supported by Cole Wright et al., (2008) who had participants code a very similar set of attitudes in the same domains of health, minorities, public policy, and the environment. Sixty participants classified 40 provided issues as nonmoral or moral. Of those 40, 39 issues evoked disagreeing classifications. Only “music preferences”, one of the most neutral issues presented, was rated by all participants as nonmoral. All other attitudes were classified as a moral issue by 2 (“speed limit” and “exercise”) to 90 (“rape”) percent of participants. Some of the most similar attitudes and their nonmoral and moral classification percentages are given in table 7.1. As the authors used a simple binary classification problem, I expected variation on a continuous moral scale like those I will be using to generate increased variation, as people who may be unwilling to commit to the category they feel is more marked may be willing to render a less polarized judgment and use an intermediate interval.

Table 7.1. Subset of moral classification percentages given in Cole Wright et al., 2008 (p.1465)

	Nonmoral	Moral
Sexual promiscuity	79	21
Death penalty	72	28
Reduction of pollution/consumption	87	13
Homosexual marriage	76	25
Women/minorities given preferential consideration	79	21
Preserve/protect environment	76	25
Owning guns/dangerous weapons	96	3

Participant Source

Participants were recruited online via Amazon's Mechanical Turk (MTurk) where they were given monetary compensation for participation. Participants were required to be age 18 or older and be current residents of the United States. Participants were also intended to be barred from participation in this study if they have completed another study in this series (Study 2 and/or 3); in fact, collection for this study closed before either Studies 2 or 3 began.

In 2014, Paolacci and Chandler reviewed MTurk as a source of psychological experiment participants. They noted the participants were "younger (about 30 years old), overeducated, underemployed, less religious, and more liberal than the general population (Berinsky, Huber, & Lenz, 2012; Paolacci, Chandler, & Ipeirotis, 2010; Shapiro, Chandler, & Mueller, 2013). Within the United States, Asians are overrepresented and Blacks and Hispanics are underrepresented

relative to the population as a whole.” Heen, Lieberman, and Miethe (2014) compared several respondent services and found that MTurk had a racial profile most similar to the actual United States population, although still under-representative especially in the case of latino respondents. Nearly half of Heen et al.’s MTurk respondents were under the age of 30.

MTurk’s participant pool has been compared to other sample services as well as standard university student pools. Kees, Berry, Burton, and Sheehan (2017) found that MTurk participants were significantly (and to a large degree) more likely than typical student samples or other professionally gathered samples to pass an instructional manipulation check that relied on careful attention. In contrast, Goodman, Cryder, and Cheema (2013) found that MTurk participants showed greater inattention compared to traditional samples, as well as lower extraversion and self-esteem, and a higher likelihood of internet searching for correct responses in the case of questions with factual answers. However, the same research noted that MTurk participants demonstrated the same decision-making biases as standard samples, with similar effect sizes. Hauser and Schwarz (2016) found that MTurk participants were more attentive than undergraduate samples, perhaps because they had learned to be attentive due to the use of instructional manipulations in a large number of MTurk tasks. Shapiro, Chandler, and Mueller (2013) found rates of clinical and subclinical symptoms of depression, anxiety, and trauma exposure in MTurk participants that were similar to rates in the general population. They do note what may be over-reporting of symptoms, which may be due to motivations to meet screening criteria, or to provide answers the participant believes the researcher wanted. They also suggest screening IP addresses for locations outside the United States when one is trying to reach a U.S. population.

This study followed several recommendations to maximize data quality from this source. Firstly, the study content does not require factual answering, only answering that is subjectively truthful. Secondly, I utilized MTurk's option to screen by location for United States residents only. Thirdly, I used an explicit check of attention. This will be discussed in the procedures and measures below.

Participants

In total I collected responses from 200 participants after exclusions (see *Attention Check*). 88 participants self-reported as female, 110 as male. Self-reported age ranged from 19-74, with a mean of 37.09. 140 self-reported their race as white, 40 as black, 10 as Asian, 3 Indian American or Alaskan Native, 3 as multiracial, and 4 as other. 32 participants described their ethnicity as latino/a. Regarding highest attained level of education, 64 participants had completed no more than high school, 103 had completed an Associate's or Bachelor's degree, and 32 reported post-baccalaureate academic or professional degrees. 37 participants said they were currently a student.

Procedures

After giving consent, participants were redirected to an online survey composed of several questionnaires/measures. First, they responded to a questionnaire about their attitudes toward various topics, covering attitude valence, bases, strength contributors, and morality. Only valence and bases were measured in the listed order; all other measures were presented in random order. Valence direction order (positive or negative valence first) were counterbalanced between participants. Questions referred to only one attitude object until

these measures were complete; blocks of questions in reference to each attitude object were randomly presented. Second, participants answered questions about their intentions to advocate on behalf of those attitudes or to persuade others to the same belief in hypothetical situations with various audiences, for the topics “childhood immunizations”, “abstinence-only sex education in public schools”, and “use of the death penalty as a deterrent to crime”. Third, participants completed several questionnaires measuring individual differences in trait face concerns, social self-efficacy, and Big 5 personality dimensions. Fourth, participants rated their level of endorsement to a series of possible collective actions, both benevolent and hostile, in support of the given issues, as well as their level of acceptance of others who disagreed with them on the given issues. Fifth, participants completed a demographic survey. Participants ended their participation with a debrief of the study’s purpose and contact information for

STUDY 1

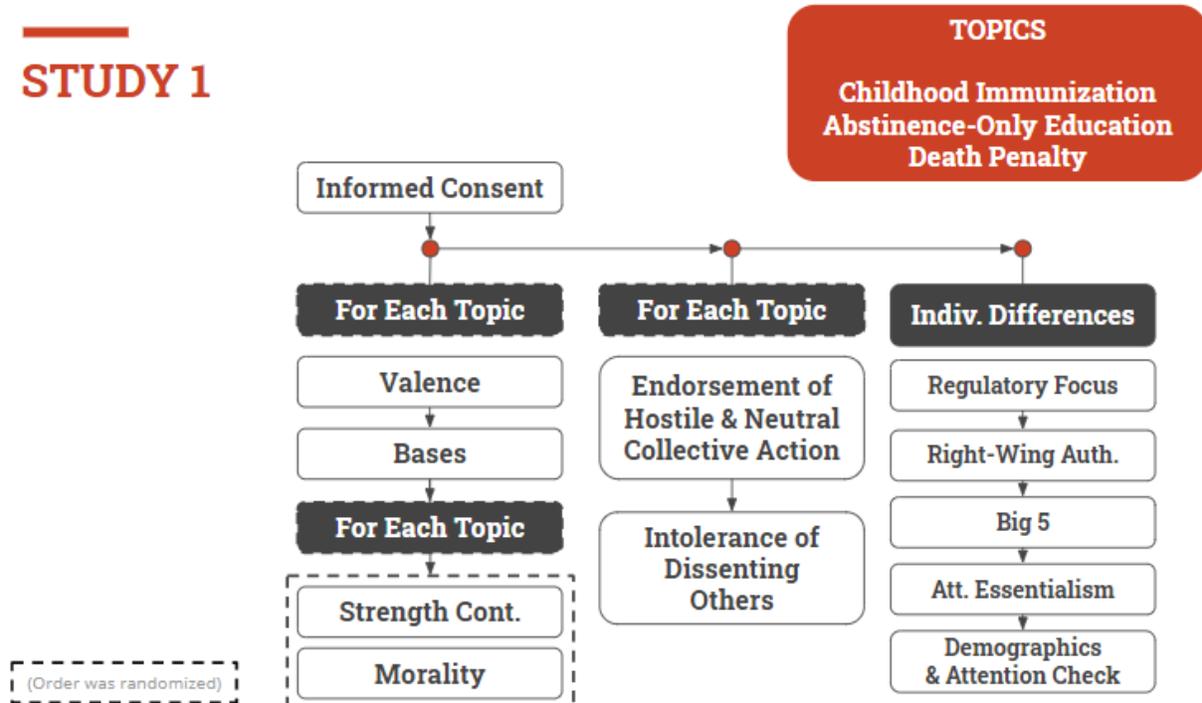


Figure 7.1. Order of measures within Study 1, moving down each column before proceeding to the next node.

follow-up or questions about the study. Participation was expected to take approximately 20 minutes. Participants were paid \$1 for the task. As Mechanical Turk does not allow prorated compensation, in the case of an incomplete task, participants were asked to contact the researcher to be paid according to each quarter of the total questions completed, rounded down; no participants requested partial payment.

Measures

Attitude Valence

Participants read instructions prior to responding to this measure. They were told that they would be asked about their positive and negative feelings toward a specific topic. First, they were asked to consider only their (for example) NEGATIVE thoughts and feelings about the issue, given an explanation of attitudes that normalizes both ambivalence and non-ambivalence, and asked to ignore any positive thoughts or feelings that they have. Then they rated the magnitude of their negative thoughts and feelings on a 7-point scale from *no negative thoughts or feelings* to *maximum negative thoughts and feelings*. They then received similar but inverted instructions for positive thoughts and feelings. This ordering occurred for half of participants; the other half received positive first and negative second. However, the order was consistent within participants for all attitude topics. This method is a minor adaptation of a reactions questionnaire used by Priester and Petty (1996) as a measure of attitude and ambivalence.

Attitude Bases

Participants rated their belief in a cognitive and/or affective basis for the given topic. These were rated on a 7-point scale, from *not driven at all by emotions/beliefs* to *completely*

driven by emotions/beliefs. Similar measures have been used before in other studies of attitudes (e.g. Crites, Fabrigar, & Petty, 1994) and reflect our understanding of attitude bases as falling in or across cognitive and affective domains (Edwards, 1990; Rosenberg, Hovland, McGuire, Abelson, & Brehm, 1960).

Attitude Strength Contributors

Participants were asked about several attitude strength contributors: clarity, correctness, importance, relevance, and prior elaboration. On a 5-point scale of *Not ____ at all*, *Slightly ____*, *Moderately ____*, *Very ____*, and *Extremely ____*, participants answered the following questions (all wordings are mild variations of those used in the given citation):

1. Overall, how certain are you that the attitude you just expressed toward _____ is really the attitude you have? (Petrocelli, Tormala, & Rucker, 2007)
2. Overall, how confident are you that your attitude toward _____ is the right attitude to hold? (Petrocelli, Tormala, & Rucker, 2007)
3. Overall, how important to you is your attitude toward _____? (Boninger, Krosnick, & Berent, 1995)
4. Overall, how likely do you believe the issue of _____ is to affect you personally? (Dean et al. 2012)
5. Overall, how deeply have you thought about the issue of _____? (Tormala & Petty, 2004)

Morality

The following are a number of holistic and granular measures of morality.

Moral conviction

This measure is composed of 4 questions that ask to what extent the participant's attitude is a reflection of [their] core moral beliefs and convictions, connected to [their] beliefs about fundamental right and wrong, based on moral principle, and a moral stance, measured on a 5-point scale of *not at all*, *slightly*, *moderately*, *much*, and *very much* (Skitka & Morgan, 2014). This scale has been reported to return a Cronbach's alpha of .93 to .99 (Morgan, 2011).

Non-essentialist promotion and prevention

This measure was composed of the first 4 questions presented in Chapter 5, wherein participants will rate their agreement with the following statements on a 7-point scale from *strongly disagree* to *strongly agree*:

It would be good to support X.

It would be good to not support X.

It would be bad to support X.

It would be bad to not support X.

These questions were written to encapsulate a bimodal affect system (see Cacioppo & Berntson, 1999) in the context of promotion- and prevention-oriented self-regulation (see Higgins, 1998). However, they put the focus on the action, and not the outcome as it may reflect on the self of the actor.

Essentialist promotion and prevention

This measure was composed of the latter 4 questions presented in Chapter 5, wherein participants will rate their agreement with the following statements:

It would make you a good (or better) person to support X.

It would make you a good (or better) person to not support X.

It would make you a bad (or worse) person to support X.

It would make you a bad (or worse) person to not support X.

These were written similarly to the previous four, but recast the goodness and badness of the act in terms of self-oriented outcomes.

Moral acceptability/permissibility

This is a single item taken from Schnall et al. (2008), measuring morality on a 7-point spectrum scale of acceptability and permissibility, from *Extremely immoral* to *Perfectly okay*. A score near the *Perfectly okay* half of the scale would indicate something both permissible and acceptable, a score near the center of the scale would indicate something permissible but not acceptable, and a score near the *Extremely immoral* end of the scale would indicate something impermissible and unacceptable.

Unipolar measures of morality and acceptability

This measure of morality is a single item taken from Wheatley and Haidt (2005), measuring morality on a unipolar scale from *Not at all morally wrong* to *Extremely morally wrong*. Wheatley and Haidt used an unusual response method of a mark made on a continuous

line that was converted into a score from 1-100; in this study I used a 5-point scale similar to other unipolar measures in this study. This is a holistic assessment that does not break morality down into any potential parts, and does not incorporate any assessment of whether something is acceptable, even if it is permissible.

With the measure of morality, participants also responded to a variation modified to represent the question of permissibility raised by Schnall et al. (2008). While Schnall and colleagues seem to assume that acceptability is always predicated on permissibility, this approach should more clearly isolate the concept. It measures acceptability on a unipolar scale from *Not at all okay* to *Perfectly okay*.

Endorsement of Hostile Collective Action

Utilizing the approach of Zaal, Va Laar, Ståhl, and Ellemers (2011), participants answered the following questions (from both subscales) in random order. The hostile forms subscale was averaged as the outcome of interest. Although Zaal and colleagues utilized an 9-point scale, to remain consistent with other measures in this study that use a bipolar scale, participants responded on a scale from 1 (*completely disagree*) to 7 (*completely agree*). Using the 9-point scale, Zaal and colleagues reported a Cronbach's alpha of .92 for benevolent forms of collective action, a Cronbach's alpha of .78 for hostile forms of collective action, and a correlation of moral conviction to support for hostile forms of collective action of .31, significant at the $p < .001$ level.

Support for benevolent forms of collective action

'I would be willing to support . . .

becoming a member of a collective action group that takes a stance against

_____.

becoming a volunteer for a collective action group that takes a stance against

_____.

taking part in a demonstration against _____.

serving as a fundraiser for a collective action group that takes a stance against

_____.

Support for hostile forms of collective action¹

'I would be willing to support . . .

the organization of protests that actively block employees of organizations that promote _____ from reaching their workplace.²

the occupation of the buildings of organizations that promote _____.

throwing up barricades at organizations that promote _____, keeping their employees from going to work.

defacing the buildings of organizations that promote _____.

committing sabotage at organizations that _____.

Intolerance of Dissenting Others

Utilizing the approach of Cole Wright et al., (2008), participants were asked to imagine discovering that someone disagreed with them about each of the issues in three distinct _____

1 These questions were modified with the addition of the word 'promote' as appropriate.

2 This question was modified by replacing 'wild strikes' with wording clearer and applicable to U.S. participants.

contexts: a close friend or family member, someone they do not know well but see often (a classmate, colleague, or neighbor), and a stranger. This is a divergence from Cole Wright and colleagues' approach as the original questions were worded for current university students (e.g. a roommate). This wording as the benefit of distinguishing context by social risk (i.e. likelihood of future interaction with the target) and intimacy, as well as being the same contexts used in Studies 2 and 3 for measuring advocacy intentions. These ratings were made on a 7-point scale, from *extremely/moderately/slightly unlikely*, to *slightly/moderately/extremely likely*, with *neither likely nor unlikely* as a midpoint. Cole Wright and colleagues' used this scale to report an effect of moral classification (a binary category) on intolerance (in any context) at $\eta^2 = .76$. The interaction of belief type and context was found to be $\eta^2 = .11$.

Composite Regulatory Focus Scale

The Composite Regulatory Focus Scale (Haws, Dholakia, & Bearden, 2010) was developed in response to an analysis of existing chronic regulatory focus scales at the time. It measures promotion and prevention orientation across emotive, cognitive, outcome-oriented, and self-oriented frames. Out of 10 total items, 5 address promotion and 5 address prevention. The authors indirectly refer to using a Likert scale from *strongly disagree* to *strongly agree*, but do not specify the number of points in the scale. Based on several samples, they claimed a Cronbach's alpha of .69 to .84 for the promotion focus questions and .67 to .77 for the prevention focus questions. In a test-retest scenario they measured a coefficient of stability of .67 for the promotion focus questions and .64 for the prevention focus questions. Haws and colleagues did not report any composite reliability calculations.

Right Wing Authoritarianism Scale

The short version Right Wing Authoritarianism Scale (Zakrisson, 2005) is a derivation of Altemeyer's (1998) longer scale, with specific changes that exclude items that refer to specific religions or ethnicities (as part of a block of questions that correlate too strongly with social dominance orientation), as well as some wording changes that make some items less extreme. This version is composed of 15 items. During testing of this short version, Cronbach's alpha was measured at .72, while factor analysis revealed an imperfect but apparently acceptable fit ($P = 0.19$; GFI = 0.93). Factor loadings were weakest for the conventionalism factor, with a lowest loading of .27. It uses both positive and negatively-worded items.

Big 5 Personality Measure

For the sake of testing convergent validity between Big 5 personality facets, face concerns, and social self-efficacy, participants will complete an 11-item Big 5 measure. This scale is a shortened version that has been shown to strongly correlate with longer, more widely used scales, while maintaining good test-retest reliability and predictive validity (Rammstedt & John, 2007). The scale may be used in a 10-question form, however, I included an optional 11th items recommended by the authors that may improve correlation of the agreeableness facet with other measures that have greater numbers of items. Rammstedt and John report a part-whole correlation of the BFI-10 with the BFI-44 (John, Donahue, & Kentle, 1991) at .83, with average test-retest stability of .75. The BFI-10 has much lower order dimension intercorrelations than typically found in Big 5 scales, with Rammstedt and John reporting an average intercorrelation of .11.

Demographic Rescreen

Although participants were screened for United States Residency prior to beginning the survey, to check their response and collect additional demographics, participants answered questions regarding their gender, age, nationality, nation of residence, race, ethnicity, parents' education level, own education level, and current student status.

Attention Check

In order to minimize the effects of inattention on data quality, I included an instructional manipulation check, embedded in the rescreen form. Following a pattern given in Kees, Berry, Burton, and Sheehan (2017), participants were given the following instructions: "Research shows that people, when answering questions, prefer not to pay attention and minimize their effort as much as possible. If you are reading this question, please select 'none of the above' on the next question." This was followed by the question "What was this study about?" to which participants may respond "Attitudes," "Politics," "Family relationships," and "None of the above." These answers should have been tempting to the inattentive participant, as they are all plausibly related to the study content.

Analysis

I conducted all analysis using R 3.5.3 (R Core Team, 2019). The measures included in this study were planned to be treated in two ways: first, as individual correlates to the behavior of interest compared against each other, and second, as sources of questions upon which an exploratory factor analysis can be applied.

The first treatment was planned to be, in a way, the opposite of a meta-analytic review in which the goal is to smooth the effect of individual measures in order to reveal the

underlying effect strength. Instead, as these measures have different theoretical backgrounds and methodological justification, I wanted to explicitly compare their validity as predictors of so-called moral behavior. To do this, I planned to compare the correlation coefficients for significance. To achieve that, I intended to transform the coefficients using Fisher's r-to-z (Fisher 1915, 1921), then use Steiger's (1980) Equations 3 and 10 to compute the asymptotic covariance of the estimates. I could then compare coefficients in an asymptotic z-test.

The second treatment would reconsider the relationship of these measures to each other not by highlighting their differences, but determining their similarities. Although each comes from a different theoretical or methodological approach, in an attempt to minimize jangle effects (Judge, Erez, Bono, & Thoresen, 2002; Kelley, 1927) we should consider whether some are more related than others. With exploratory analysis of the individual questions, I hoped to be able to suggest future approaches to improve measurement and reconcile disparate literature.

Power Analysis

According to the study plan, the first analysis would correlate each measure of moral conviction, the composite of strength contributors, and attitude bases to each outcome, controlling for attitude valence (positivity-negativity) and extremity (positivity+negativity). This would result in 11 partial correlations with each of the two Y variables in the following configurations³:

1. Cognitive basis → outcome
2. Affective basis → outcome

³ An asterisk (*) indicates questions that were reverse-coded.

3. Strength contributors → outcome
4. Moral conviction (Skitka & Morgan, 2014) → outcome
5. Nonessentialist promotion (see Chapter 5, questions 1 and 3*) → outcome
6. Nonessentialist prevention (see Chapter 5, questions 2 and 4*) → outcome
7. Essentialist promotion (see Chapter 5, questions 5 and 7*) → outcome
8. Essentialist prevention (see Chapter 5, questions 6 and 8*) → outcome
9. Moral acceptability/permissibility (Schnall et al. 2008) → outcome
10. Unipolar moral judgment (Wheatley & Haidt 2005) → outcome
11. Unipolar acceptability judgment (modification of Wheatley & Haidt 2005) → outcome

Zaal, Van Laar, Ståhl, and Ellemers (2011) reported an effect size of moral conviction on hostile forms of collective action of $R = .31$, significant at the $p < .001$ level. They also report that an interaction of interest, prevention orientation x moral conviction, returned an effect size of $B = .30$, $R^2 = .04$, $p = .004$, with the effect significant for participants high in prevention focus at $B = .73$, $p < .001$. All measures were standardized.

Cole Wright et al., (2008) reported an effect of moral classification (a binary category) on intolerance at $\eta^2 = .76$. Another interaction of interest, belief type and context, was found to be $\eta^2 = .11$.

To determine significance of main effects, Zaal and Colleagues' results suggest I may expect a medium effect size (Cohen, 2013). Cole Wright and colleagues' numbers seem unusually large, suggesting quite a large effect, but the interaction is more reasonable at, again, a medium effect size. As eta-squared can be inflated in small effect sizes, I used a medium effect size in these calculations.

I did not include the possible individual controls that were described in the measures section in this power analysis. As controlling for any variance should only better reveal unique variance in the correlation of interest, this approach is a conservative one to power analysis. However, to compare coefficients, I will have the possibility of 55 ($11! / 2!(11-2)!$) unique coefficient pairs. Although I will exclude any coefficients that are not significant (knowing this is in itself possibly a result of type 2 error), I will clearly significantly increase the chance of error by repeated testing of the same sample. Further, these tests will be conducted across three attitude topics, worsening the issue.

The results of this study are likely to be suggestive rather than conclusive (even precluding the caveats normally associated with well-framed research). However, it behooves me to make some adjustment for error. I intended to present raw results, in which no adjustments have been made to significance thresholds, and within which the degree of consistency in significance across attitude topics may be seen as a test of robustness to topic. Following this, I would re-perform identical correlation calculations and coefficient comparisons, save for generating the initial correlation in a bootstrapped procedure of 1000 samples. It has been demonstrated that samples of 65, when subjected to 1000 replications, provide correlation estimates much closer to population estimates, reducing sample-specific idiosyncrasies (Sideridis & Simos, 2010). Finally, I will offer significance judgments of coefficient comparisons both at the accepted $\alpha = .05$ level as well as a level adjusted via the Holm-Bonferroni method (Holm, 1979).

Taking these assumptions, I anticipated single coefficients without additional controls at a medium effect size (.30). Using a $\beta = .80$ and $\alpha = 0.05$, using G*Power 3.1.9.4 (Faul, Erdfelder,

Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007), I calculated that a single calculation will require a sample size of $n = 84$. Assuming a reduction of α to .01, I would require $n = 125$, while a reduction of α to .001 would require $n = 182$.

Finally, the multiple measures of morality offer an opportunity to assess the questions and their theoretical backing via exploratory factor analysis. Garson (2008, as cited in Laves, Lalonde, Mecheri, & Rebaï, 2015) recommended a sample size of 10 per question in EFA, and with 15 questions this would result in a sample size of 150.

Considering the needs of both analyses, I collected 200 responses to achieve sufficient power for my purposes.

Results

Attention Check

Prior to analysis, I removed all responses that did not give the correct response to the attention check. Out of 250 total completed entries, 50 failed this check (the survey was reissued for more participants to take until the requisite number of participants passed this check). Paid online activities are likely to be of interest to makers of bots, and MTurk's best practices include a time (generally within days) upon which all respondents will be paid if not rejected or accepted sooner by the task-giver through which inattentive or busy individuals may cede the right to reject bad-faith responses, so one or more attention checks is best practice.

Exploratory Factor Analysis

To explore the relationships between and within morality measures, I initially conducted an exploratory factor analysis. To begin, I separated the data out by attitude topic, with the intention of bringing it back together to see the analysis across topics.

EFA for the issue of childhood immunizations

A parallel analysis suggested that the number of factors was 4.

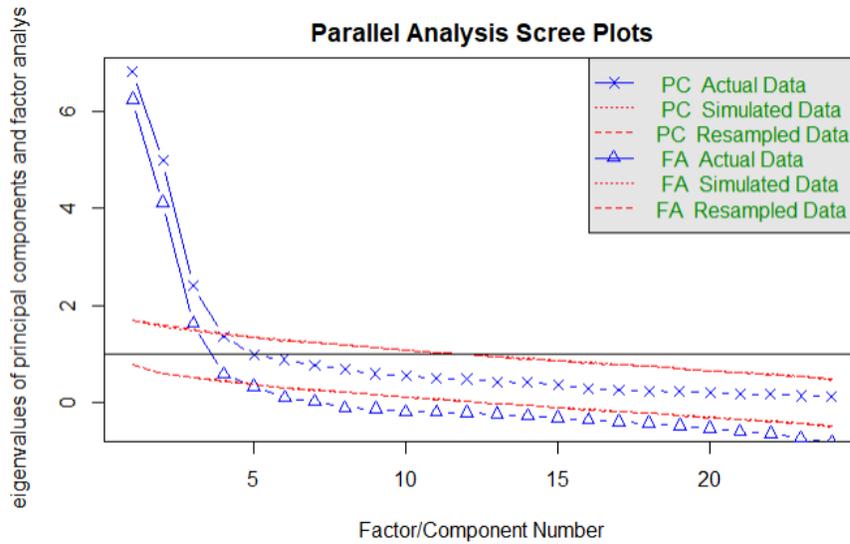


Figure 7.2. Parallel analysis for all attitude measures for the issue of childhood immunizations.

EFA for the issue of abstinence-only sex education in public schools

A parallel analysis also suggested that the number of factors was 4.

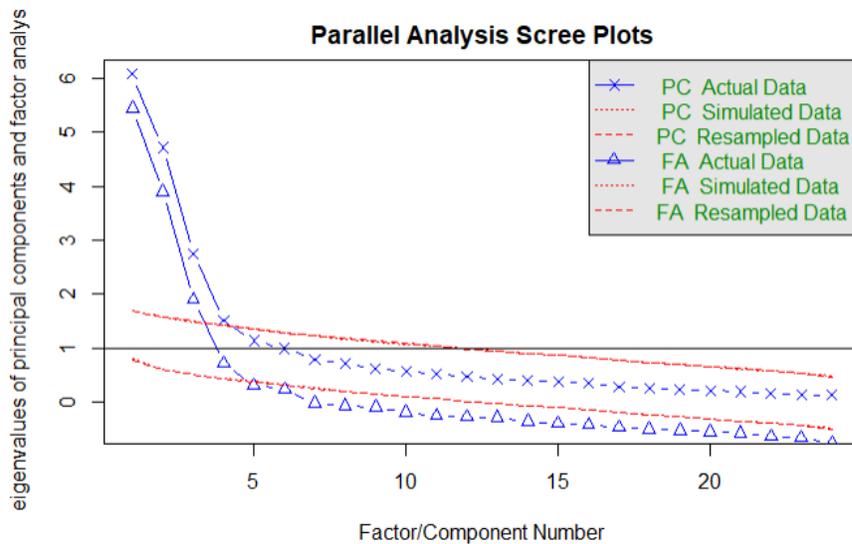


Figure 7.3. Parallel analysis for all attitude measures for the issue of abstinence-only sex education in public schools.

EFA for the death penalty

A parallel analysis also suggested that the number of factors was 4.

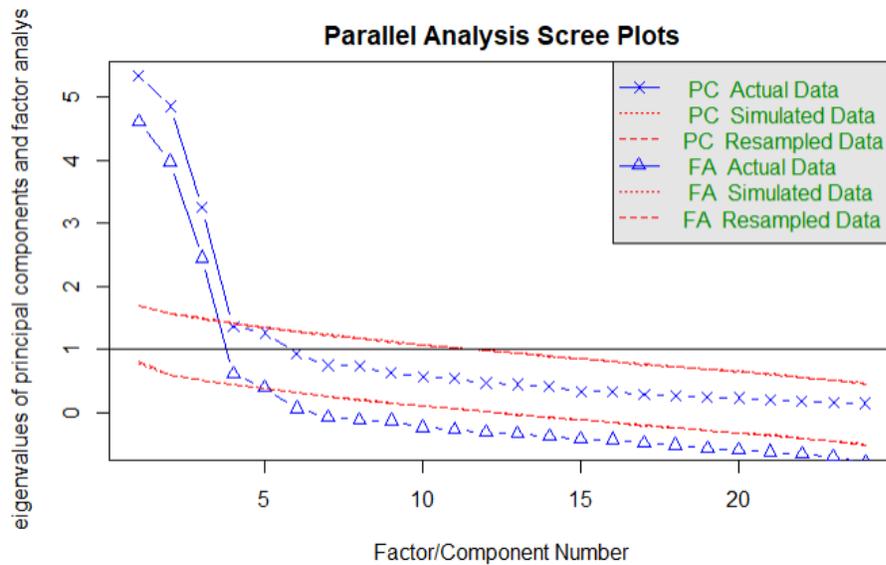


Figure 7.4. Parallel analysis for all attitude measures for the issue of the death penalty.

EFA across topics

Following the break out between topics, I collapsed across all three issues. While this

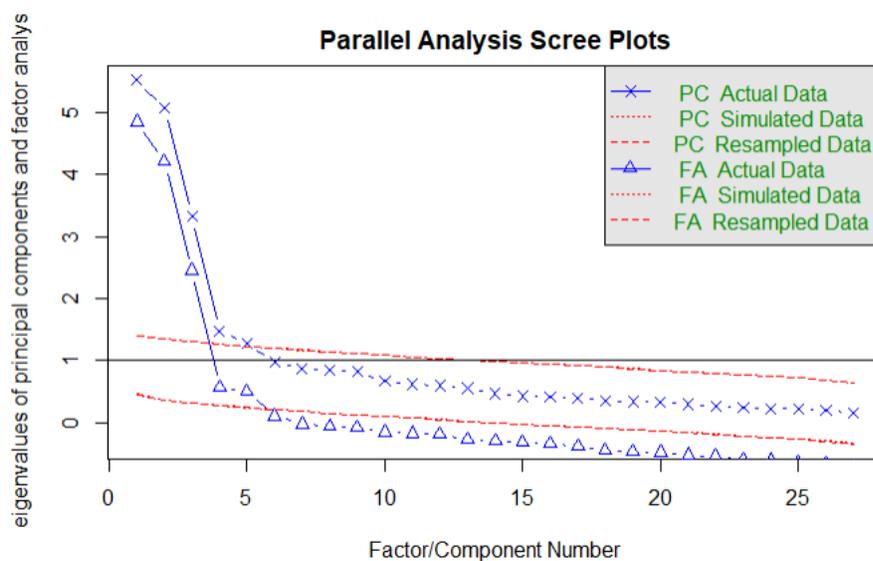


Figure 7.5. Parallel analysis for all attitude measures for all issues.

does mean the data is not fully independent, this was done for the sake of simplicity and power. In this case, the parallel analysis suggested that 5 factors would be sufficient.

5-factor EFA across Topics

Below are the results of the 5-factor structure across topics. The analysis used oblimin rotation with a minimum residual extraction method.

Table 7.2. Standardized loadings (pattern matrix) based upon correlation matrix for 5-factor cross-topic EFA.

	MR4	MR1	MR5	MR2	MR3
SS loadings	3.33	3.49	3.10	2.60	2.04
Proportion Var	0.12	0.13	0.11	0.10	0.08
Cumulative Var	0.12	0.25	0.37	0.46	0.54
Proportion Explained	0.23	0.24	0.21	0.18	0.14
Cumulative Proportion	0.23	0.47	0.68	0.86	1.00
With factor correlations of:					
	MR4	MR1	MR5	MR2	MR3
MR4	1.00	0.01	0.27	0.14	0.36
MR1	0.01	1.00	0.24	-0.41	0.06
MR5	0.27	0.24	1.00	0.11	-0.08
MR2	0.14	-0.41	0.11	1.00	-0.05
MR3	0.26	0.06	-0.08	-0.05	1.00

Further details:

- The mean item complexity was 1.7. The test of the hypothesis indicated that 5 factors are sufficient.
- The degrees of freedom for the null model are 351 and the objective function was 14.17 with Chi Square of 8348.31. The degrees of freedom for the model are 226 and the objective function was 1.12.
- The root mean square of the residuals (RMSR) is 0.03.
- The df corrected root mean square of the residuals is 0.03.
- The harmonic number of observations is 599 with the empirical chi square 304.69 with $\text{prob} < 0.00037$.
- The total number of observations was 600 with Likelihood Chi Square = 658.52 with $\text{prob} < 7.1e-44$.
- Tucker Lewis Index of factoring reliability = 0.916
- RMSEA index = 0.057 and the 90 % confidence intervals are 0.052, 0.062
- BIC = -787.18
- Fit based upon off diagonal values = 0.99

Table 7.3. Measures of factor score adequacy for 5-factor cross-topic EFA.

	MR4	MR1	MR5	MR2	MR3
Correlation of (regression) scores with factors	0.96	0.96	0.93	0.92	0.91
Multiple R square of scores with factors	0.92	0.92	0.87	0.84	0.82
Minimum correlation of possible factor scores	0.84	0.84	0.73	0.69	0.65

Table 7.4. Factor loadings for 5-factor cross-topic EFA.

	MR4	MR1	MR5	MR2	MR3
Valence				0.417	
Ambivalence					
Extremity			0.359		
Affective Basis					-0.326
Cognitive Basis					
Certainty					0.786
Confidence					0.751
Importance					0.523
Relevance			0.463		
Elaboration					0.477
Skitka1	0.849				
Skitka2	0.703				
Skitka3	0.914				
Skitka4	0.867				
Good to Support		0.780			
Good to Oppose		-0.322		0.609	
Bad to Support		-0.460		0.504	
Bad to Oppose		0.352	0.520		
Good Person to Support		0.349	0.646		

Table 7.4. Continued

	MR4	MR1	MR5	MR2	MR3
Good Person to Oppose				0.472	
Bad Person to Support			0.412	0.511	
Bad Person to Oppose			0.675		
Acceptability / Permissibility		0.852			
Supporting is Wrong		-0.550		0.396	
Opposing is Wrong			0.700		
Supporting is Okay		0.838			
Opposing is Okay			-0.408	0.729	
	MR4	MR1	MR5	MR2	MR3

My interpretation of the factors above are thus:

Factor 1 (MR4) - Skitka's measure of moral conviction. Since this is the EFA, this result only supports these are coherent and distinct, not that they are predictive.

Factor 2 (MR1) - These questions definitely cross-load on valence and extremity, but it otherwise contains the non-prevention-oriented acceptability items and generic endorsement of supporting the issue. Since questions worded against the opposition track with extremity, non-extremity-caused moral judgments should be worded in the support direction and should

separate acceptability from permissibility. I might call this Attitude-Specific Approach Orientation -- endorsement for proactive but not prescribed attitude promotion.

Factor 3 (MR5) - Extremity. This also incorporates relevance (probably a precedent to extremity). There is heavy loading from essentialist moral judgments (bad person, good person) and ones worded against the opposition (suggestive of prevention orientation). Hypothetically, it seems extremity may be influenced by perceived threat.

Factor 4 (MR2) - Valence. This has heavy cross-loading from the non-Skitka morality questions as they are valenced moral value judgments.

Factor 5 (MR3) - Cognitive attitude strength. All strength factors minus relevance, with negative loading from emotional basis. Ironically, cognitive basis itself does not load here; that was in fact due to failing to meet the 0.3 cutoff I used to clean up the table. Cognitive basis did load to some extent here, on extremity (see Factor 3, MR5), and on Skitka's Moral Conviction (see *Factor 1, MR4*).

As a note, affective basis cross-loaded on every factor, and only barely loaded past the threshold on the attitude strength factor.

4-factor EFA across topics

Although the parallel analysis across topics suggested a 5-factor structure, as the individual topics each suggested a 4-factor structure I also ran an EFA requested four factors be extracted. The analysis also used oblimin rotation with a minimum residual extraction method.

Table 7.5. Standardized loadings (pattern matrix) based upon correlation matrix for 4-factor cross-topic EFA.

	MR1	MR2	MR54	MR3
SS loadings	4.23	4.10	3.28	2.04
Proportion Var	0.16	0.15	0.12	0.08

Table 7.5. Continued

	MR1	MR2	MR54	MR3
Cumulative Var	0.16	0.31	0.43	0.51
Proportion Explained	0.31	0.30	0.24	0.15
Cumulative Proportion	0.31	0.61	0.85	1.00
With factor correlations of:				
	MR1	MR2	MR4	MR3
MR1	1.00	-0.16	0.20	0.01
MR2	-0.16	1.00	0.17	-0.12
MR4	0.20	0.17	1.00	0.37
MR3	0.01	-0.12	0.37	1.00

Further details:

- The mean item complexity was 1.5. The test of the hypothesis indicated that 4 factors are sufficient.
- The degrees of freedom for the null model are 351 and the objective function was 14.17 with Chi Square of 8348.31. The degrees of freedom for the model are 249 and the objective function was 1.78.
- The root mean square of the residuals (RMSR) is 0.04.
- The df corrected root mean square of the residuals is 0.05.
- The harmonic number of observations is 599 with the empirical chi square 625.88 with $\text{prob} < 2.3e-34$.

- The total number of observations was 600 with Likelihood Chi Square = 1044.11 with prob < 7.9e-98.
- Tucker Lewis Index of factoring reliability = 0.859
- RMSEA index = 0.074 and the 90 % confidence intervals are 0.068, 0.078
- BIC = -548.73
- Fit based upon off diagonal values = 0.98

Table 7.6. Measures of factor score adequacy for 4-factor cross-topic EFA.

	MR4	MR1	MR5	MR2
Correlation of (regression) scores with factors	0.95	0.95	0.96	0.91
Multiple R square of scores with factors	0.91	0.91	0.92	0.82
Minimum correlation of possible factor scores	0.82	0.82	0.84	0.65

Table 7.7. Factor loadings for 4-factor cross-topic EFA.

	MR4	MR1	MR5	MR2
Valence		0.336		
Ambivalence	0.349			
Extremity	0.421			
Affective Basis	0.392			
Cognitive Basis				
Certainty				0.793
Confidence				0.757
Importance				0.757

Table 7.7. Continued

	MR4	MR1	MR5	MR2
Relevance	0.412			
Elaboration				0.477
Skitka1			0.846	
Skitka2			0.698	
Skitka3			0.911	
Skitka4			0.863	
Good to Support	0.679	-0.416		
Good to Oppose		0.709		
Bad to Support		0.812		
Bad to Oppose	0.693			
Good Person to Support	0.820			
Good Person to Oppose		0.654		
Bad Person to Support		0.753		
Bad Person to Oppose	0.715			
Acceptability / Permissibility	0.589	-0.454		
Supporting is Wrong		0.790		
Opposing is Wrong	0.656			

Table 7.7. Continued

	MR4	MR1	MR5	MR2
Supporting is Okay	0.499	-0.469		
Opposing is Okay		0.402		
	MR4	MR1	MR5	MR2

The fit statistics for the 4-factor model are slightly worse than those for the 5-factor model. Primarily, it appears that the four factors divide into a positive affect/high affect approach, other valence, moral conviction, and strength. It appears the four factor model conflates the attitude-specific approach orientation with extremity.

Regressions

I also ran regressions on the original morality measures with the intent of doing Fisher's r-to-z. However, since there was such persistent cross-loading of both cognitive and affective basis, and since Skitka and others have supposed that morality is a visceral, impulsive, or otherwise emotional factor, it seemed valuable to test for interactions on basis. (This led me to never test for significant difference between Z as interaction was so consistent.) These regressions were run across topics. Full regression details may be found in Appendix B, Tables B.1.1-B.1.8.

Moral conviction, which stood on its own in the factor analysis, had a main effect on intolerance at all levels of social distance ($p=.036 < 0.01$). Moral conviction also interacted with affective basis at close moderate (acquaintance; $t(599)=1.07$, $p=0.04$) social distance.

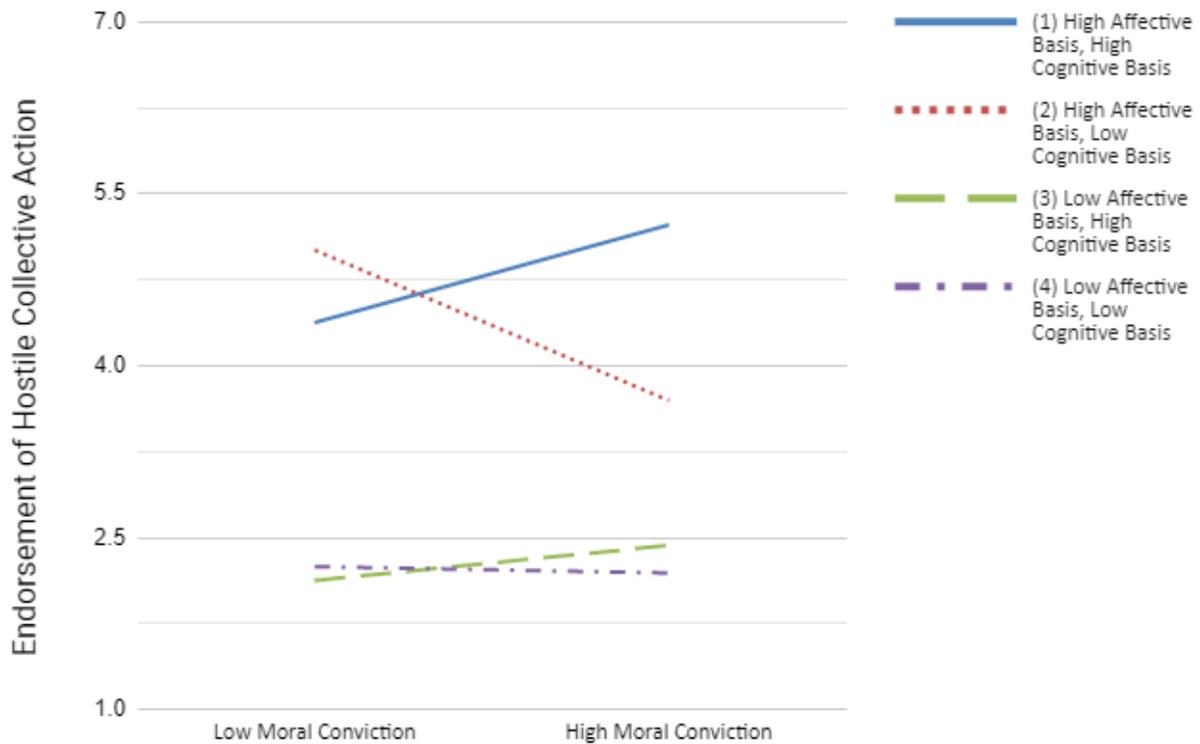


Figure 7.6. Willingness to engage in hostile collective action by moral conviction by cognitive and affective basis. (In this and all like charts, low and high levels were plotted at $-1/+1$ SD from the mean for that variable.)

Moral conviction also interacted with both affective and cognitive basis in predicting endorsement of hostile collective action ($t(599)=1.41$, $p<0.01$). In cases of low cognitive basis when affective basis is high, lower levels of moral conviction are associated with higher levels of willingness toward hostile collective action, which drops under higher levels of moral conviction. However, when cognitive basis is also high, this drop in willingness reverses, and increased willingness to engage in hostile collective action appears (see figure 7.6; these figures were created using Dawson's 3-way interaction plot method; Dawson 2020, Dawson 2014).

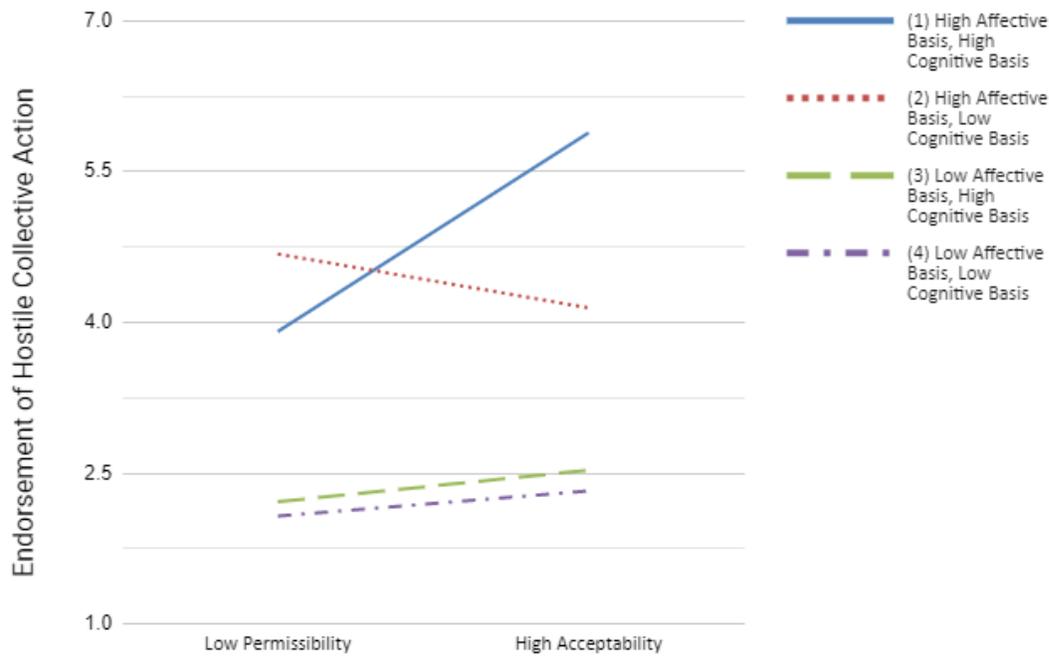


Figure 7.7. Willingness to engage in hostile collective action by bipolar acceptability/permissibility by cognitive and affective bases.

A similar pattern of significance was found for the combined acceptability/permissibility scale; there was a significant three-way interaction with both bases in predicting hostile collection action ($t(598)=1.49$, $p<0.01$, figure 5.7) and intolerance of dissenting others at high social distance ($t(593)=0.96$, $p=0.04$, figure 5.8). However, when the model contained moral conviction, affective basis remained significant or continued to explain notable variance as a main effect, while cognitive basis did not. When acceptability/permissibility was used in the model, both bases had a main effect or trended that direction for those outcomes that demonstrated significant effects. That moral conviction would appear to make cognitive basis less valuable without undermining the value of affective basis does not resonate with the claim that moral conviction is a more emotional than cognitive construct.

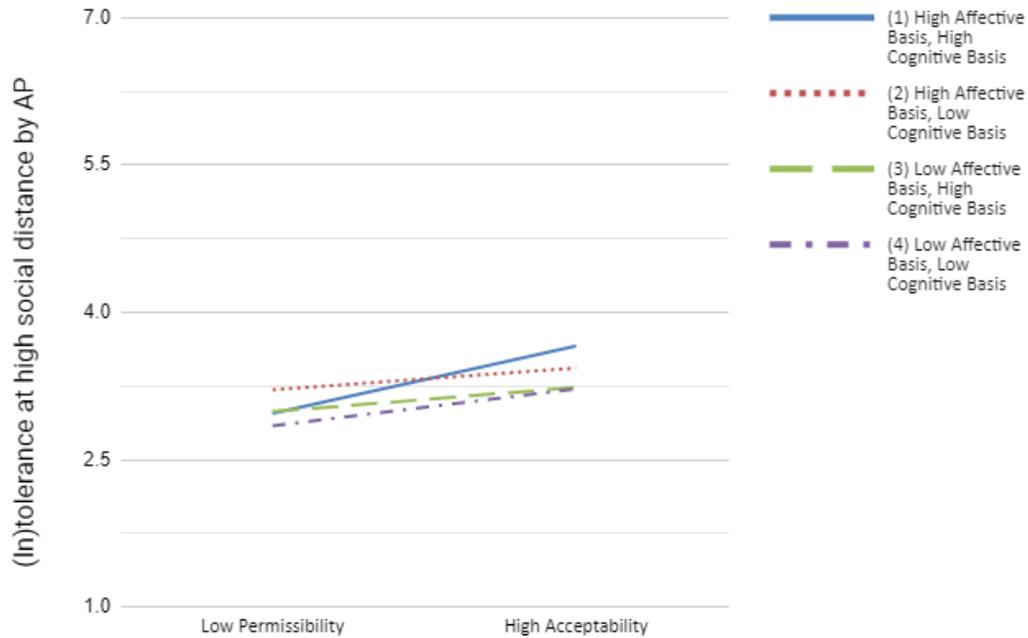


Figure 7.8. Intolerance of dissenting others at high social distance (stranger) by bipolar acceptability/permissibility by cognitive and affective bases.

The promotion, essentialist, and non-essentialist frames, and the unipolar morality displayed or trended toward the same three-way interaction on endorsement of hostile collective action, but did not display any significant main effects nor interactions on intolerance measures.

The unipolar measure of moral okayness (acceptability) showed a potential trend toward a three-way interaction on endorsement of hostile collective action ($t(599)=0.66$, $p=0.09$). The potential effect seems similar to that found within the acceptability/permissibility scale, wherein when something is not seen as perfectly okay, high affective basis is associated with greater endorsement of hostile collective action, but when something is seen as perfectly okay/permissible, this effect dips when cognitive basis is low (Figure 7.9).

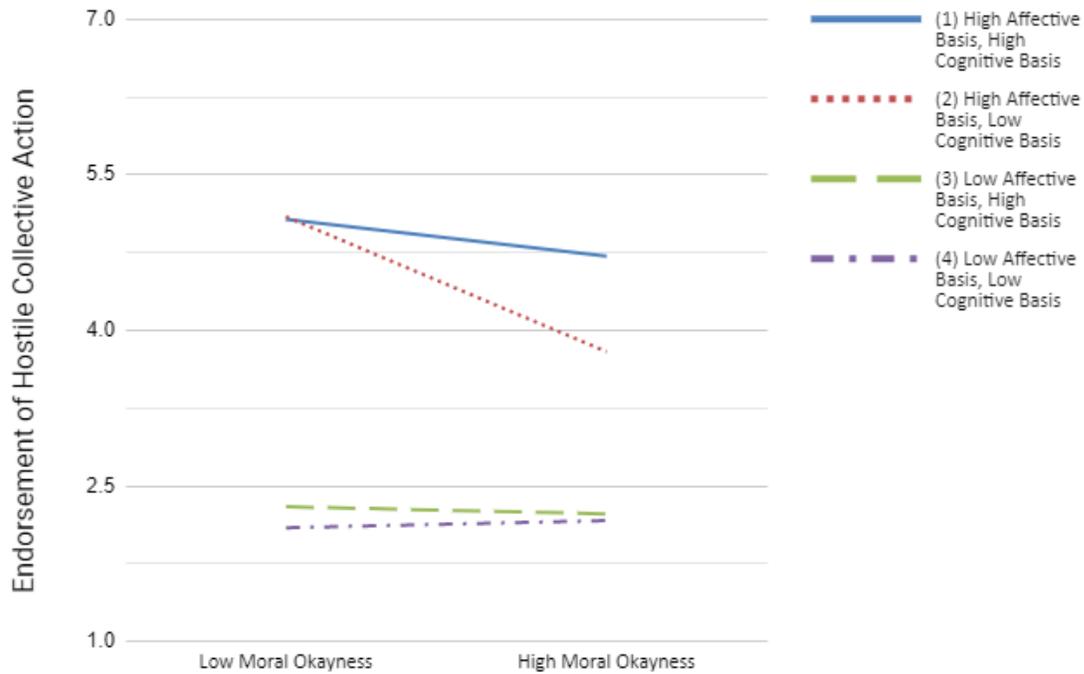


Figure 7.9. Willingness to engage in hostile collective action by unipolar moral okayness by cognitive and affective bases.

This is a reversal of the interactive effect found between affective basis and moral conviction, in which high affective basis negated the relationship between moral conviction and intolerance, strengthening the evidence and moral okayness interacts with cognitive basis, and moral conviction interacts with affective basis, in unique ways.

Conclusions for Morality Measures to be Used in Studies 2 and 3

For studies 2 and 3, I decided to use Skitka's measure and the support-worded unipolar measures of morality and acceptability. Exploratory factor analysis gave strong evidence that Skitka's measure is fundamentally different from the other measures, while the regressions offer evidence that it may vary from the others in the way it interacts with basis or the type of basis it may trend with. The acceptability measure had the highest loading on Factor 2, and I

think if you use acceptability it must be in conjunction with permissibility to separate the concepts for the participant.

Although I would not be measuring essentialist or promotion/prevention orientation morality using the questions I wrote for those concepts, this is because of the overlap with other concepts like extremity, emotionality, etc. I believed that it would be valuable to continue with the following studies, in which I tested for contextual effects that align to these constructs (prevention/promotion via majority status threat and self/identity polarization via controversiality) in Study 2 and experimentally manipulate them in Study 3.

Other Discussion

Based on the interactions observed in the regression models, I believe that it would be valuable to continue to explore the relationships between moral conviction and moral acceptability with attitude basis. Moral conviction more consistently interacted with affective than cognitive basis, although each appears to contribute its own unique effect capable of interaction. That high moral conviction may have the greatest effect at high levels of affective basis may explain previous assertions that morality is associated with visceral, affective response (and generally avoidant behavior -- the positive relationship between high affective basis and tolerance I believe is better explained by people with high need for affect valuing close interpersonal relationships more). However, I also found that when cognitive basis is high, morality may have inverse effects, engendering greater approach behavior.

The finding that at high levels of cognitive basis, okayness predicts less endorsement of collective action at high levels of okayness and no greater endorsement at low levels of okayness, is interesting, as it would suggest cognitive basis in the frame of moral beliefs of

principle increases approach, while in the frame of social and moral acceptability does not. I

believe this suggestion merits further study.

CHAPTER 8. STUDY 2

Study Goals

As Study 1 clarified the construct of morality in attitudes, Study 2 addressed my core question of that potential relationship between morality and advocacy. Advocacy is a specific subset of behavior with specific goals, with a high degree of social risk. More importantly, any given person likely picks and chooses between multiple attitudes, some of which they advocate for and some of which they don't. Thus, I believed it holds that there should be some relationship between metafactors of an attitude (content, strength, and/or morality) and the intent to engage in advocacy on behalf of it. Further, as a risky social act, I hypothesized that effects will be strongest for attitudes with high perceived controversy, as the generalized threat to one's stance is more salient and will generate more defensive advocating. Finally, consistent with the phenomenon of moral exclusion (Opatow, 1990), I believed that perception that one's attitude is held by the majority of other people will lead to increased advocacy, as majority status increases social safety, may increase the perceived benefit of virtue signaling, and may lead the attitude holder to see those who disagree as less deserving of moral behavior, i.e. politeness. I intended to test these metafactors to determine which factors have the strongest relationship to advocacy intentions.

Design

This study, as in Study 1, used a cross-sectional design that intended to capitalize on naturally existing variance in multiple attitude topics. In this study I utilized those measure(s) of moral conviction that were found more predictive or scientifically valuable in Study 1 (namely,

moral conviction and a unipolar measure of acceptability) in conjunction with measures of perceived controversy of the topic, and the perception of one's attitude as in the minority or majority. These three variables were used in conjunction to test for effects on:

1. Self-reported spontaneous (unrequested) advocacy intentions, and
2. A behavioral measure of advocacy.

As possible controls for future work, I also measured attitude valence, attitude bases, attitude strength contributors, trait face concerns, right wing authoritarianism, social self-efficacy, and Big 5 personality variables.

Participants

As in Study 1, participants were recruited online via Amazon's Mechanical Turk (MTurk) where they were given monetary compensation for participation. Participants were required to be age 18 or older and be current residents of the United States. Participants were also barred from participation in this study if they had completed another study in this series (Study 1 and/or 3). See Section 2.1.4 for a discussion of the validity of an MTurk subject pool.

This study followed the same guidelines for maximizing data quality as those described in Study 1, namely, questions requiring subjectively truthful answer content, and a check of attention embedded in the measures.

In total I collected responses from 300 participants after exclusions (see *Attention Check*). 128 participants self-reported as female, 172 as male. Self-reported age ranged from 19-72, with a mean of 35.45. 201 self-reported their race as white, 67 as black, 19 as Asian, 1 Indian American or Alaskan Native, 8 as multiracial, and 4 as other. 57 participants described their ethnicity as latino/a. Regarding highest attained level of education, 85 participants had

completed no more than high school, 156 had completed an Associate's or Bachelor's degree, and 57 reported post-baccalaureate academic or professional degrees. 67 participants said they were currently a student.

Procedures

Firstly, procedures regarding consent, attitude valence, bases, strength contributors, and morality were as in Study 1, excepting the reduction of morality measures based on Study 1 results and a change in attitude topics to "genetically modified foods", "laws preventing discrimination based on sexual orientation", and "policies intended to reverse human-caused climate change". Second, participants answered questions about their intentions to advocate in various contexts. Third, participants were informed that, as these issues are highly relevant to today's current events, I wanted to publish some comments in more detail about people's rationale for their attitude on this topic (for each topic one at a time, according to counterbalancing procedures laid out for Study 1). They were told that not answering this question would not count against them for getting credit for participation, but if they were willing to explain their position they were asked to do so in a text essay box. Fourth, participants were presented with a measure of normativity that captured both their perception of the issue as controversial (a ratio of individuals with attitudes on either of the farthest ends of the scale) and their perception of themselves as being in the majority (the number of individuals who fall on their side or in the middle of the scale). Fifth, participants completed several questionnaires measuring individual differences in trait face concerns, social self-efficacy, right wing authoritarianism, and Big 5 personality dimensions. Finally, participants completed a demographics questionnaire and debrief as in Study 1. Participation was expected

to take approximately 20 minutes. Participants were paid \$1 for the task. No participants requested partial compensation.

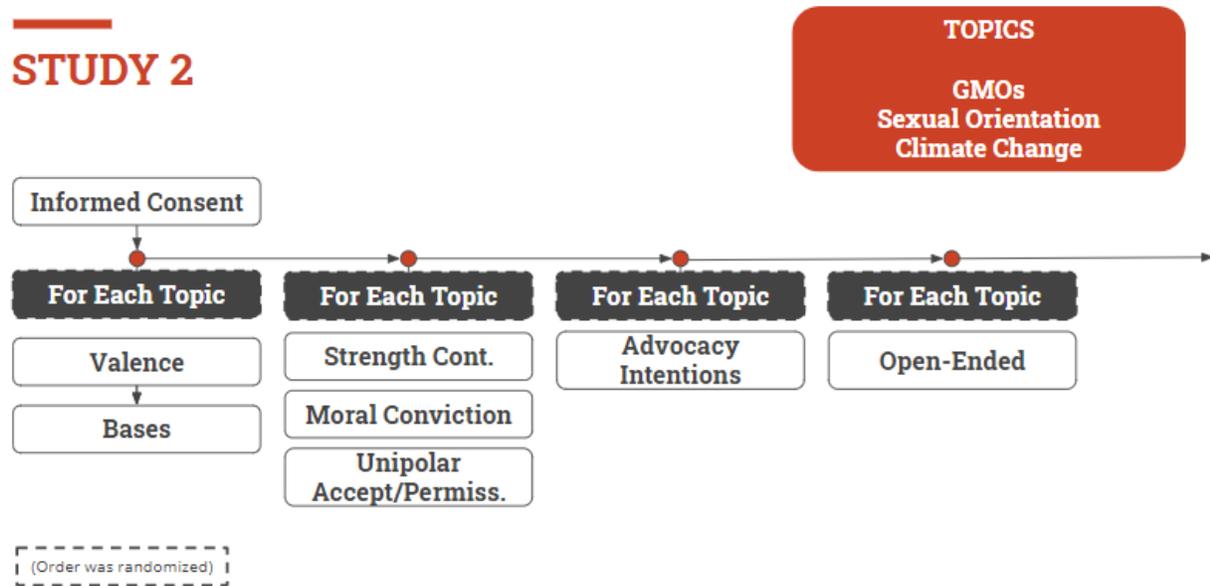


Figure 8.1. Order of measures within Study 2, moving down each column before proceeding to the next node.

STUDY 2, CONT

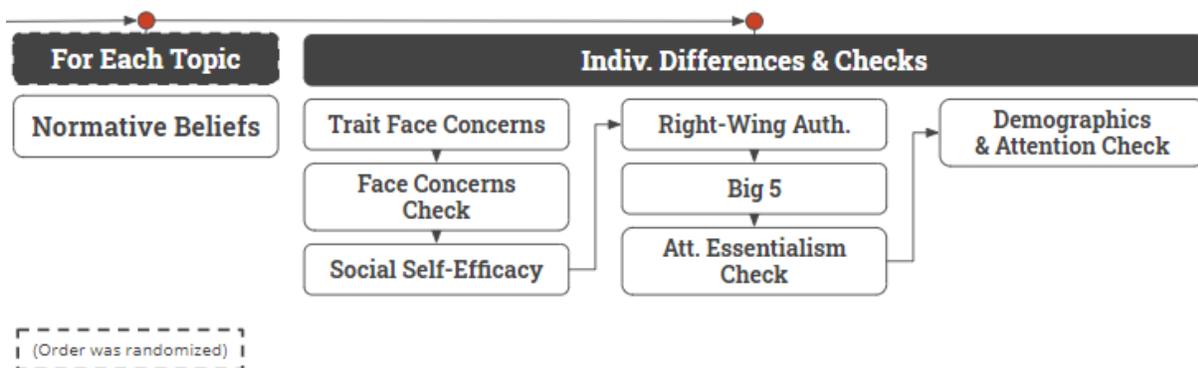


Figure 8.2. Order of measures within Study 2 continued, moving down each column before proceeding to the next node.

Measures

Firstly, measures of attitude valence, bases, strength contributors, and morality were as in Study 1, excepting the reduction of morality measures based on Study 1 results. The Big 5 personality measure was also as in Study 1. Measures specific to this study are listed below.

Advocacy Intentions

The measure of advocacy is taken from Cheatham and Tormala (2015), but specified spontaneous advocacy, based on a method used by Teeny and Petty (2018). The questions were worded to capture both sharing intentions and persuasion intentions across a range of audiences (close relationships, acquaintances, and strangers). This results in a 3 (audience) x 2 (sharing vs. persuasion) test of 6 statements. Cheatham and Tormala created composite indices by intention and context and reported alphas greater than .86.

Behavioral Measure of Advocacy

For this measure, participants read the following prompt:

You know that this is an academic study of attitudes. As these issues are highly relevant to today's current events, we would like to publish some comments in more detail about people's rationale for their attitude on this topic. Not answering this question will not count against you for getting credit for participation. If you are willing, please explain your position regarding _____ in the text box below. Your answer will remain anonymous.

This measure was operationalized as a continuous measure of advocacy by response length.

Attitude Normativity

Participants were asked about their perceived normativity of each of the 8 original attitudes through estimated frequency. For each attitude, participants were asked “What percentage of people in the United States do you believe have the following attitude toward _____?” They responded by typing numbers next to the following labels: *Extremely favorable*, *Somewhat favorable*, *Somewhat unfavorable*, *Extremely unfavorable*, *Mixed feelings*, and *Indifferent*. The numbers were required to add up to 100. It has been shown that normativity interacts with one’s motivation to comply with social norms (Ajzen & Fishbein, 1973). In this case, face concerns may be seen as a measurement for that motivation to comply.

Face Concerns

Participants completed a 21-statement face concerns measure (Zane, 2000). This is a trait scale that asks about general tendencies toward behavior that preserves one’s own face as well as others’ face. Participants rated their agreement on a 7-point scale of *Strongly disagree*, *Moderately agree*, *Mildly agree*, *Neither agree nor disagree*, *Mildly agree*, *Moderately agree*, and *Strongly agree*. Zane reports internal consistency of the scale with an alpha of .83.

Social Self-efficacy

To measure the degree to which participants may be confident in their ability to manage face, they completed the 8-question New General Self-Efficacy Scale (Chen, Gully, & Eden, 2001). The scale instructions were modified to focus the self-ratings of efficacy on social efficacy in the following way: “Use the scale below to indicate the extent to which you agree or disagree with each statement as it applies to you **when trying to achieve goals in a social context.**”

Participants rated agreement on a 7-point scale of *Strongly disagree*, *Disagree*, *Somewhat*

disagree, Neither agree nor disagree, Somewhat agree, Agree, and Strongly agree. Chen and colleagues reported alphas for the NGSE items between .85 and .88.

Analysis

I conducted all analysis using R 3.5.3 (R Core Team, 2019). Using ordinary least squares regression, I planned to regress sharing intentions, persuasive intentions, and the behavioral measure of advocacy on morality, perception of the topic as controversial, and perception of their attitude as being in the majority (see Figure 8.3). I controlled for valence, basis, and strength contributors.

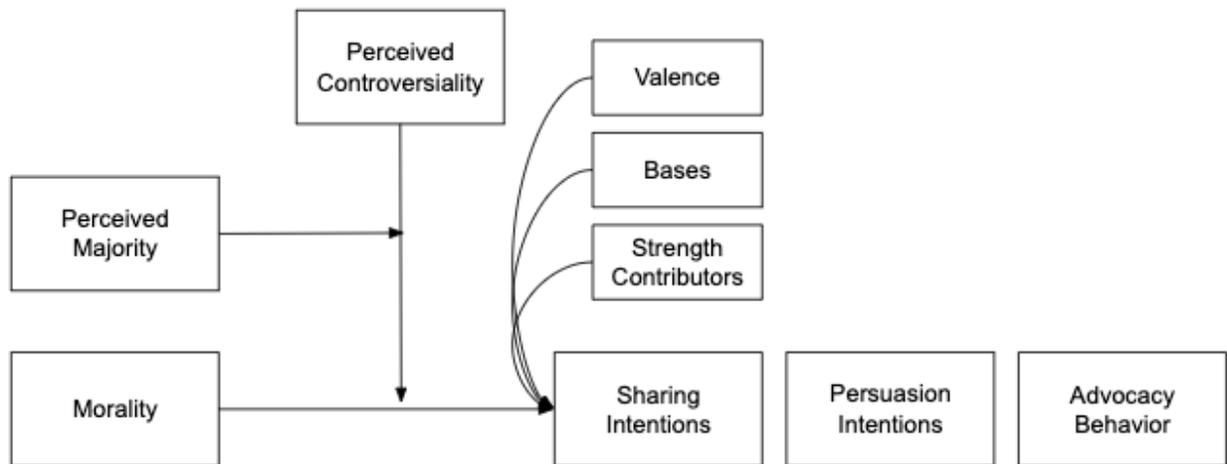


Figure 8.3. Study 2 test model, with multiple Y variable boxes representing separate analyses.

Power Analysis

In this study, I am assessing main effects and possible 2- or 3-way interactions between three variables on two outcomes.

Assuming a small effect ($\alpha = .10$), to find a single main effect with $p = .05$ and $\beta = .80$, I would need a sample size of 782. Assuming a medium effect ($\alpha = .30$), I would need a sample size of 84.

If I intend to find a three-way interaction with a medium effect size ($f^2 = .15$), under the same assumptions of error and power I would need a sample size of 77. The same three-way interaction with a small effect size ($f^2 = .02$) would require a sample size of 550.

Although there is evidence (see Study 1) for medium effects in morality and attitude-driven behavior, it would be overly liberal to assume medium effects in all variables. In order to generate a data set of reasonable proportions, I collected 300 responses. All analyses were conducted in G*Power 3.1.9.4 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) and assume two-tailed analysis.

Hypotheses

I predicted that moral conviction will significantly predict advocacy intentions and observed (behavioral) advocacy. Further, I believed this effect would be stronger when controversiality is high (as a greater moral conviction is needed to overcome the social risk in discussing a controversial topic), as well as when one perceived one's attitude as being in the majority, according to the theory of moral exclusion. I believed there was potential to find a three-way interaction, in which moral conviction best predicted advocacy when the attitude is seen as controversial, but one believes one's attitude is in the majority, as the disagreeing other presents a greater threat to be subdued to maintain the dominance of the majority group.

Results

Attention Check

As in Study 1, prior to analysis, I removed all responses that did not give the correct response to the attention check. Out of 374 total completed entries, 74 failed this check (the survey was reissued for more participants to take until the requisite number of participants passed this check). On a cursory inspection, while no clear patterns of repeated answering emerged (e.g. responding with 4 repeatedly on every 7-point scale), many respondents had nonsensical fragment answers to the open-ended questions. This may have been due to the presence of bots who still managed to pass the attention check. However, some participants may also become concerned, even when assured to the contrary, that a non-response will be counted against them, and may have submitted placeholder text with no bad faith intended. Due to this possibility, data from these participants was retained, although the non-answers were dealt with as will be explained below (see *Behavioral Measure of Advocacy*).

Conceptual Replication of Study 1

Before performing the procedure of interest, I felt it useful to validate the results of Study 1 by examining potential interactions of basis and morality measure. The advocacy outcomes were each regressed on cognitive basis, emotional basis, strength, moral conviction or okayness (one at a time), and interactions of basis and the morality measure. When testing okayness, valence was included as a control due to the directionality of the statement. This conceptual replication collapsed across all levels of social distance.

Summary results indicate that, when utilizing the measure of moral conviction, neither cognitive nor affective basis had a consistent main effect on any of the behaviors, each only

significant or suggesting that direction for proactive sharing, and varying in whether they reached or trended that direction depending on the issue at hand. More interesting was a significant interaction between moral conviction and cognitive basis in predicting proactive sharing ($t(299)=2.82, p<0.01$) and proactive persuasion ($t(299)=2.03, p=0.04$) for the issue of GMOs, while affective basis, cognitive basis, and moral conviction demonstrated a three-way interaction in predicting proactive sharing ($t(299)=-2.51, p=0.01$) for the issue of laws prohibiting discrimination based on sexual orientation. For this issue, proactive persuasion showed the same trend without crossing the preset alpha level ($t(299)=-1.91, p=0.06$). Finally,

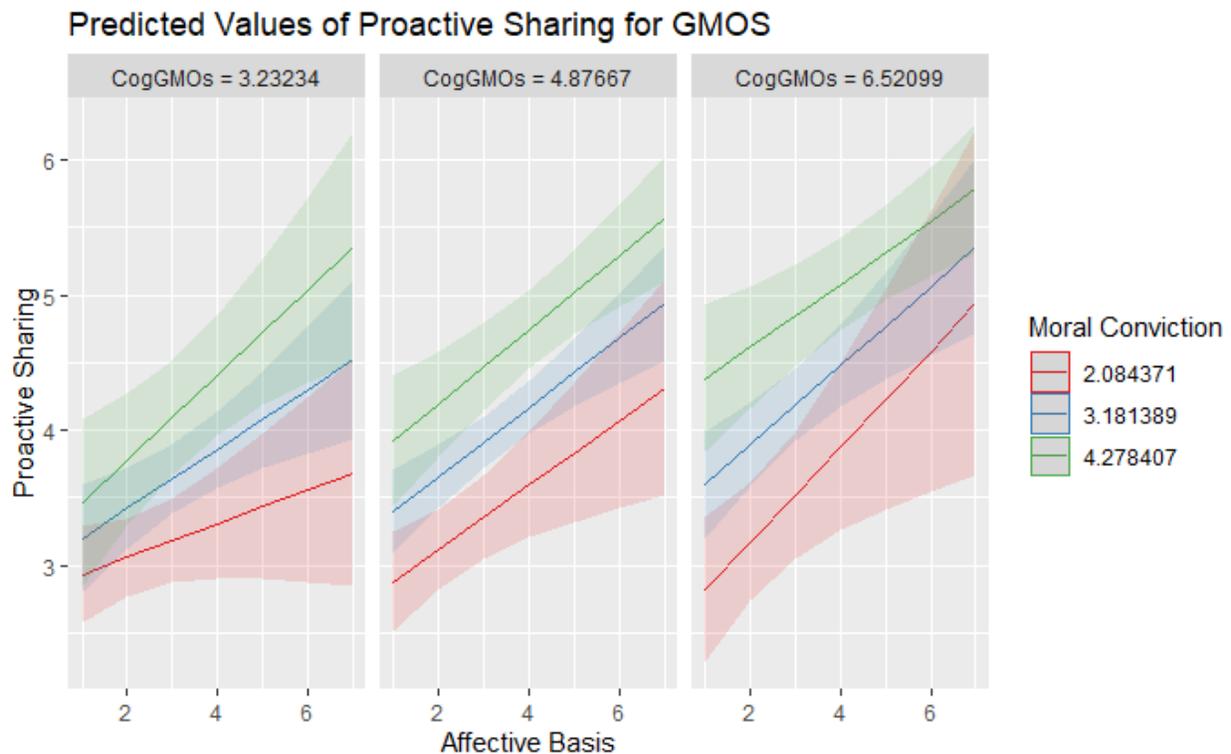


Figure 8.4. Proactive sharing by moral conviction for low cognitive basis responses at levels of affective basis for the topic of GMOS.

the same three-way interaction was observed in predicting proactive sharing for the issue of climate change ($t(299)=-2.49, p=0.01$), with no suggestive trend for proactive persuasion. The complete summary of results may be found in Appendix B.2.

When testing the nature of this three way interaction, I plotted the interaction of basis for those observations at one standard deviation below the mean (low), at the mean (average), and one standard deviation above the mean (high). As a baseline, the non-significant results on the subject of GMOs appear in figure 8.4.

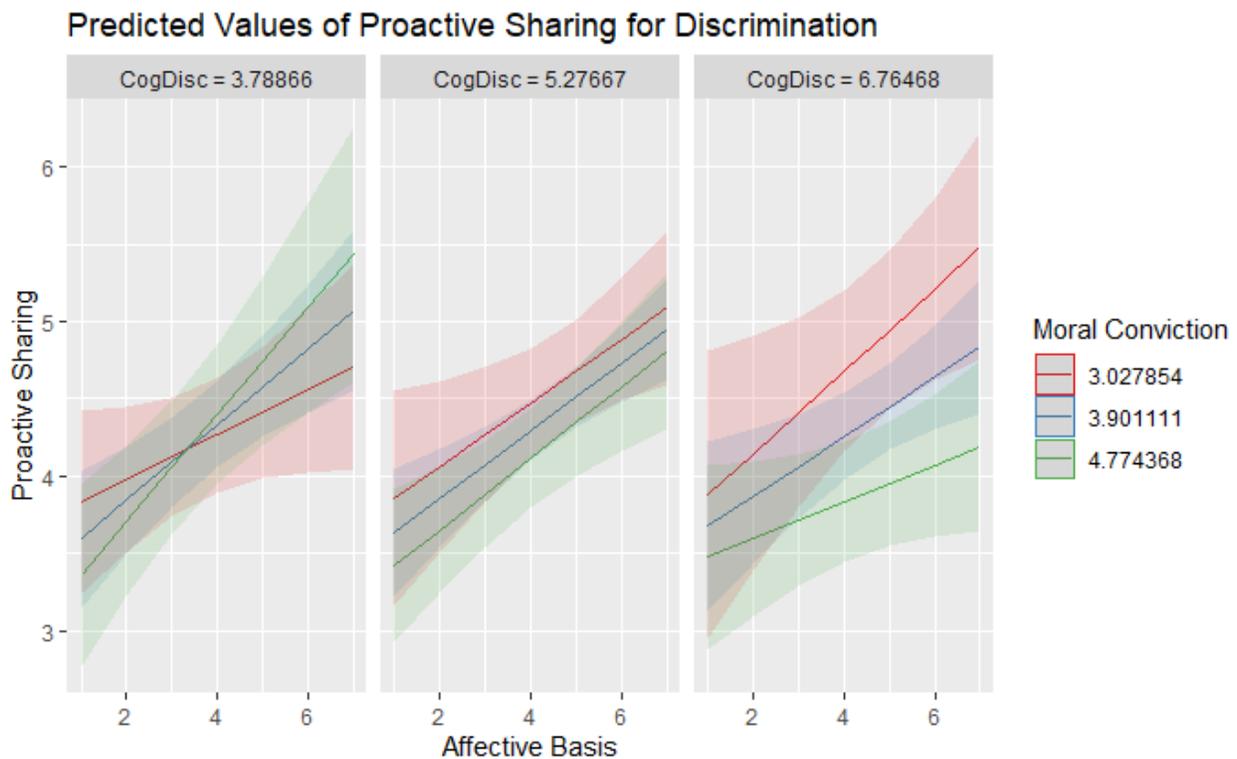


Figure 8.5. Proactive sharing by moral conviction for low cognitive basis responses at levels of affective basis for the topic of discrimination.

For the issue of discrimination, we can see that in general, higher affective basis and higher moral conviction may predict some increase in proactive sharing, with the effect of moral conviction appearing stronger at higher levels of affective basis (Figure 8.5). However,

this trend only appears when cognitive basis is low; when cognitive basis is high, lower levels of moral conviction show the highest amount of intended proactive sharing. This suggests that when cognitive basis is high, with high affective basis, individuals who see an issue as containing less moral conviction may be sharing their opinion as a method of exploring their numerous or highly salient thoughts on the subject, while high moral conviction suppresses sharing through decreased perceived utility.

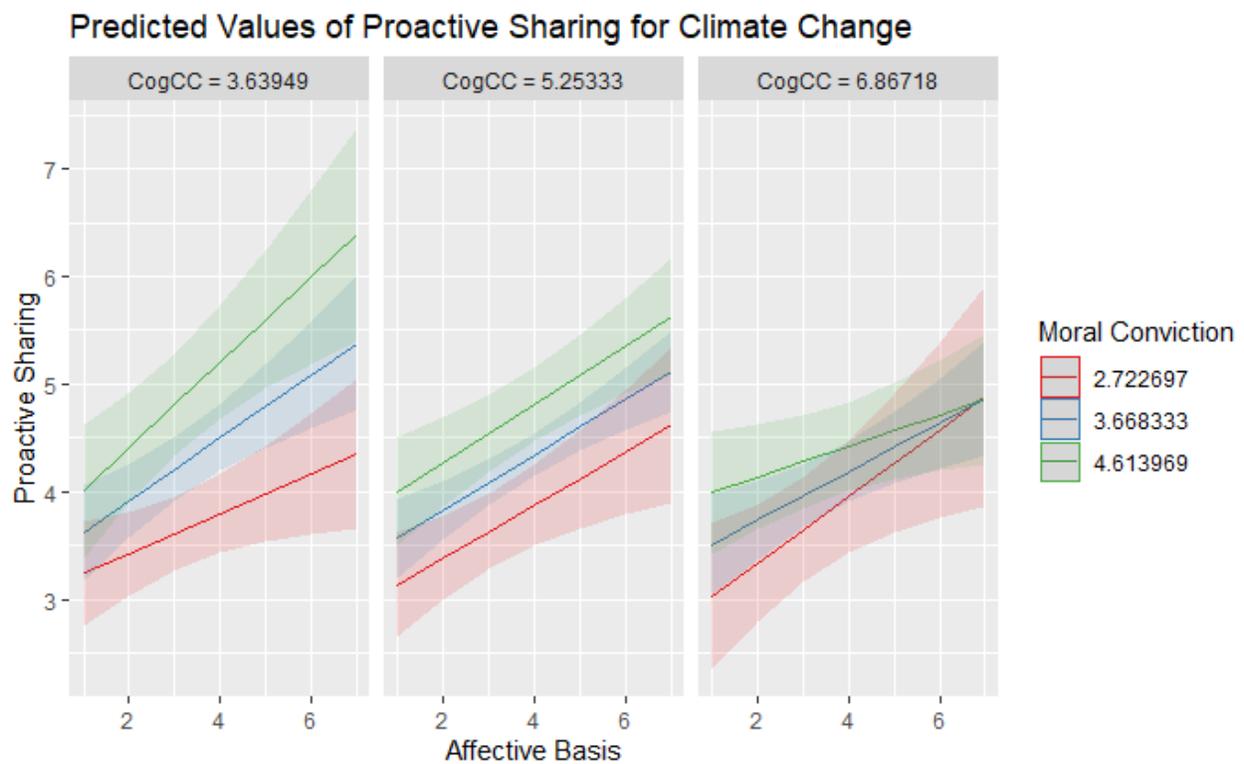


Figure 8.6. Proactive sharing by moral conviction for low cognitive basis responses at levels of affective basis for the topic of climate change.

The pattern of high cognitive basis, high affective basis, and low moral conviction resulting in higher levels of proactive sharing repeats for the issue of climate change (Figures 8.6). Given that for GMOs there were very few individuals with average affective basis at high levels of cognitive basis, this may explain the lack of significance found on that topic.

As there was also a trending three way interaction in proactive persuasion for the topic of discrimination, I performed the same basic breakdown. The patterns at high levels of cognitive basis are extremely similar. While the three way interaction did not reach the level of significance for proactive persuasion on any topic, and neared it in the case of discrimination ($t(299)=-1.91, p=0.06$), the overall trends are very like (Figures 8.7-8.9).

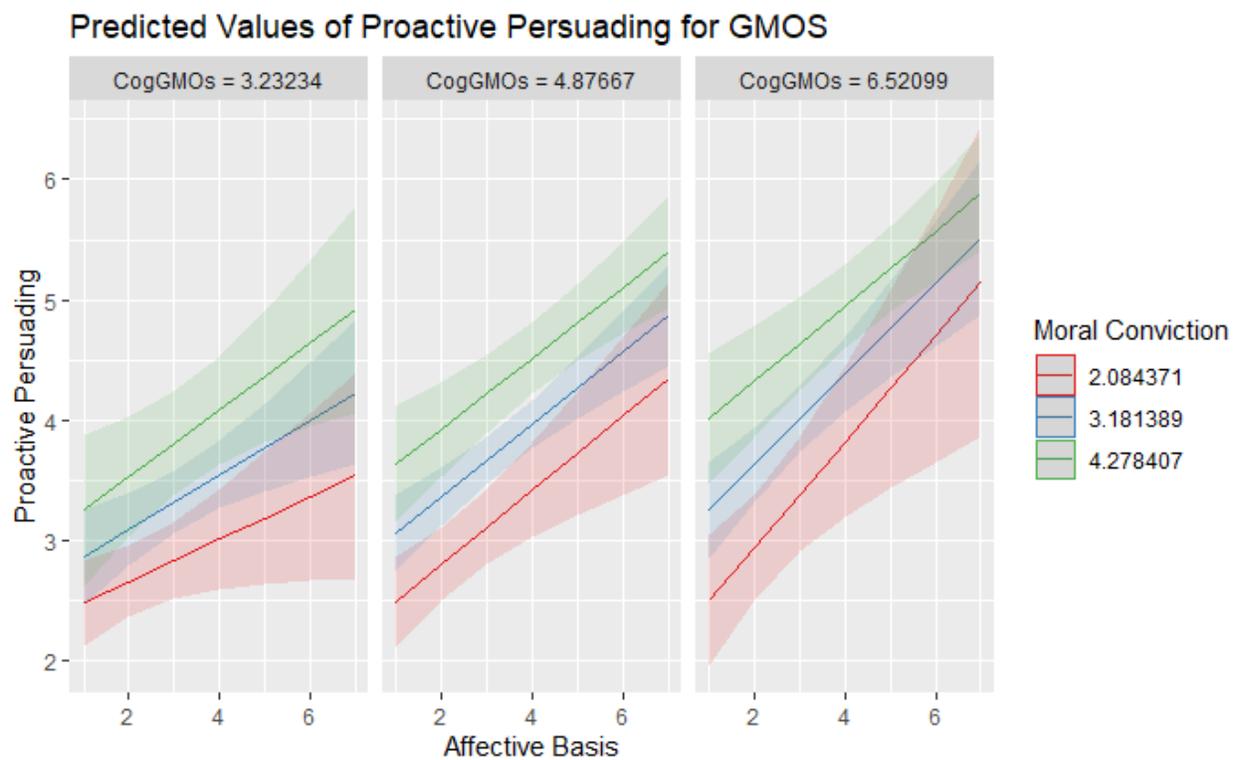


Figure 8.7. Proactive persuasion by moral conviction for responses at levels of cognitive and affective basis for the topic of GMOs.

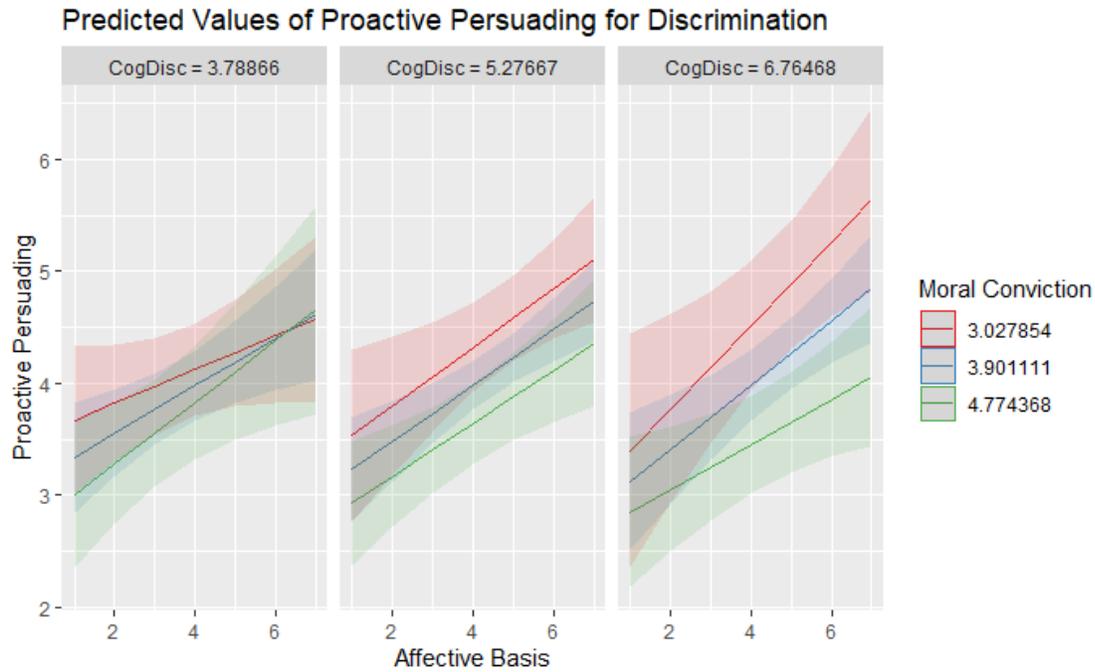


Figure 8.8. Proactive persuasion by moral conviction for responses at levels of cognitive and affective basis for the topic of discrimination.

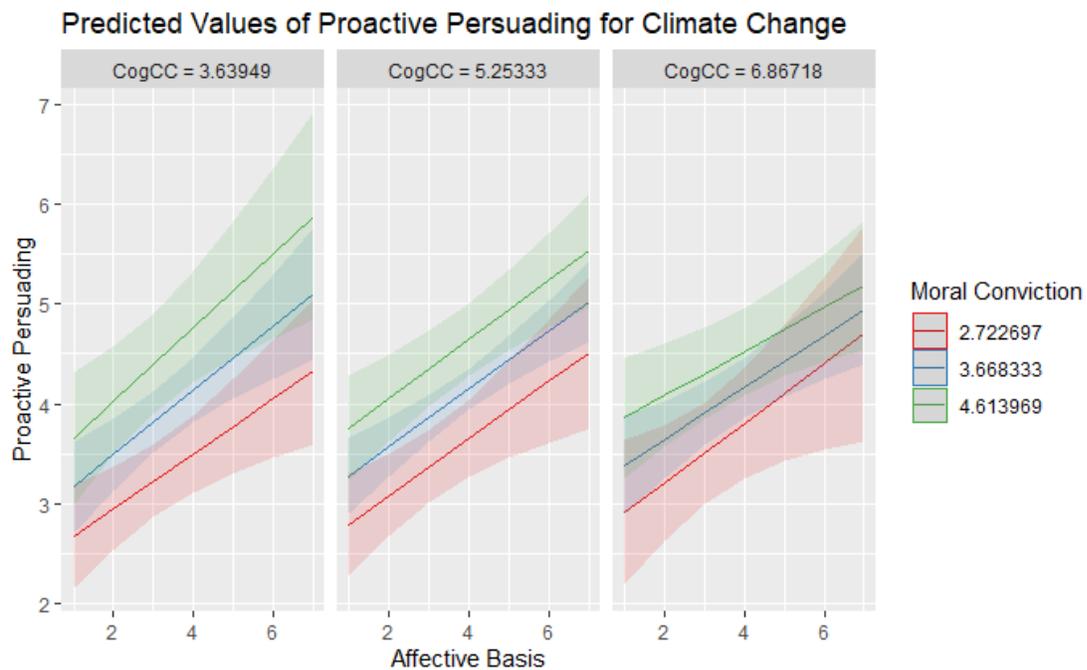


Figure 8.9. Proactive persuasion by moral conviction for responses at levels of cognitive and affective basis for the topic of climate change.

Regarding the measure of moral okayness, there was some possible trending in the case of proactive sharing, but, unlike moral conviction, only significant or near-significant interactions in the case of reactive behavior. On the topic of GMOs, every coefficient was significant, including the three-way interaction of okayness, cognitive basis, and affective basis ($t(299)=2.12$, $p=0.04$). Reactive behavior continued to show potential basis effects as reactive persuasion on the topic of GMOs demonstrated a main effect of cognitive basis ($t(299)=2.86$, $p<0.01$), affective basis ($t(299)=1.98$, $p=0.05$), and okayness ($t(299)=2.11$, $p=0.04$). While no interactions were significant, the three way interaction trend appears promising ($t(299)=1.82$, $p=0.07$). A potential trend was seen in reactive persuasion on the topic of discrimination, while a possible trend in proactive sharing might be seen on the topic of climate change. The inconsistency of these results raises questions, although the strength of the effect on reactive sharing for GMOs is interesting. Full regression results may be seen in Appendix B.2.

When plotting the three way interaction on reactive sharing on the topic of GMOs, linear direction appeared inconsistent with previous findings when graphed (Figures 8.10). However, density plots suggest that the meaningful interaction is likely the increasing consistency of behavior at greater levels of cognitive basis (Figures 8.11-8.13). On the topic of GMOs, for those with low affective basis, at increasing levels of cognitive basis and moral conviction, respondents much more consistently report willingness to share their attitude when asked. In general, while okayness and cognitive basis both appear to positively, if slightly, increase or increase consistency in willingness to share, affective basis may slightly suppress this effect.

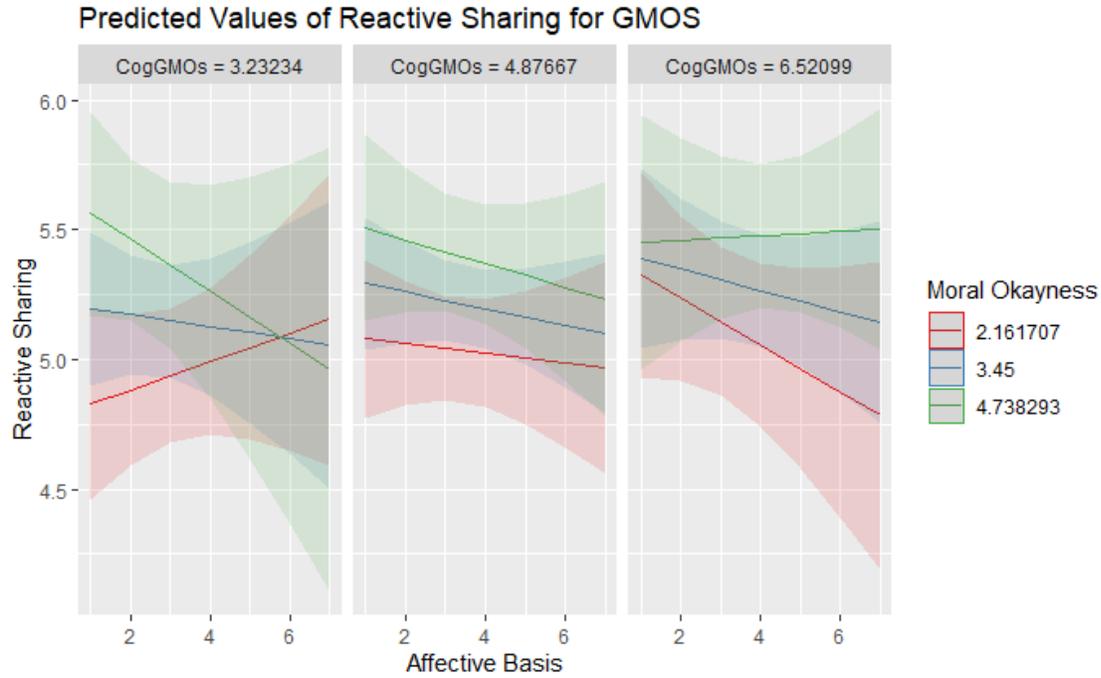


Figure 8.10. Reactive sharing by moral okayness for responses at levels of cognitive and affective basis for the topic of GMOs.

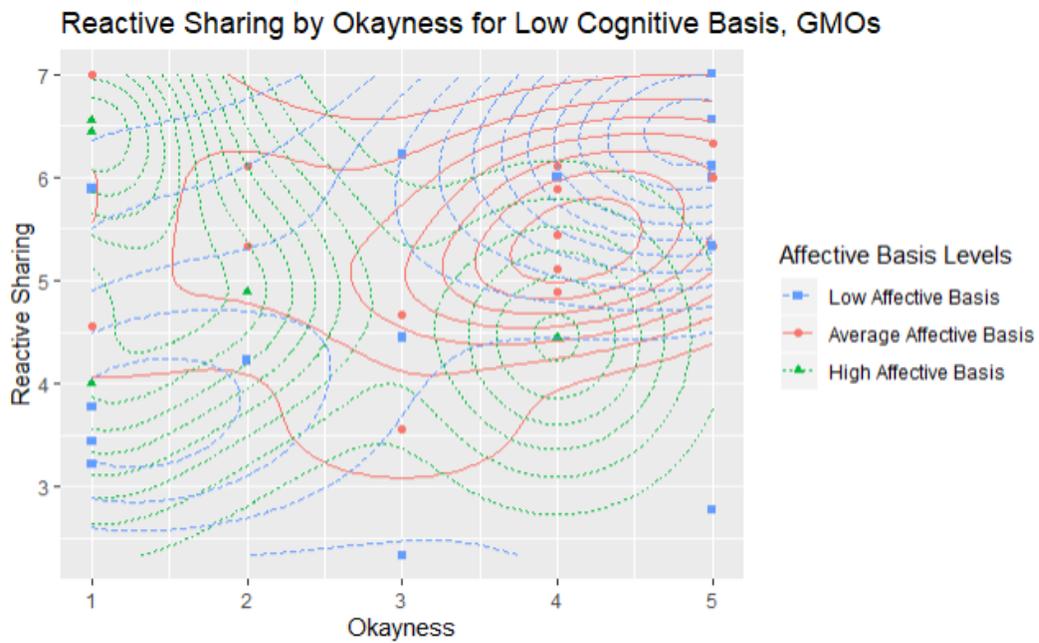


Figure 8.11. Scatterplot with 2D density projection of reactive sharing by moral okayness for low cognitive basis responses at low, avg., and high levels of affective basis for the topic of GMOs.

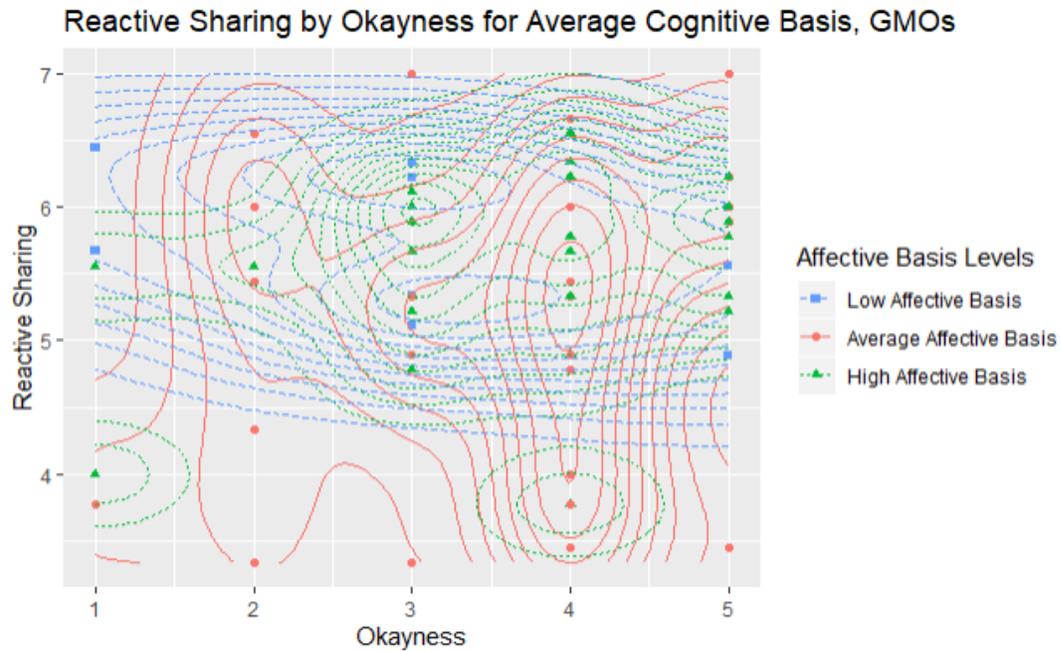


Figure 8.12. Scatterplot with 2D density projection of reactive sharing by moral okayness for average cognitive basis responses at low, avg., and high levels of affective basis for the topic of GMOs.

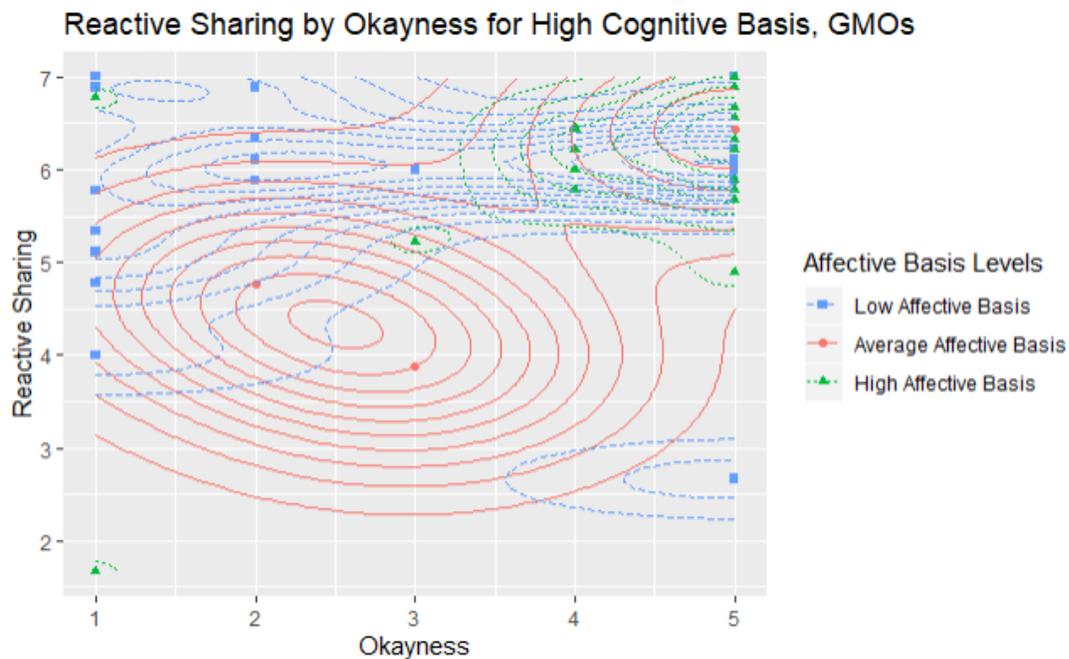


Figure 8.13. Scatterplot with 2D density projection of reactive sharing by moral okayness for high cognitive basis responses at low, avg., and high levels of affective basis for the topic of GMOs.

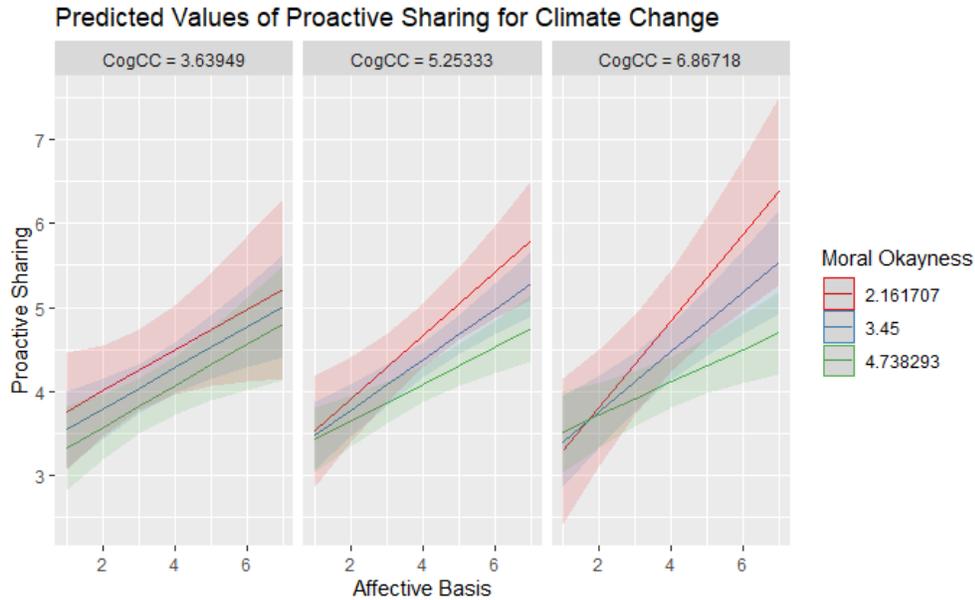


Figure 8.14. Proactive sharing by moral okayness for responses at levels of cognitive and affective basis for the topic of climate change.

I was unable to look at the comparable patterns of density in discrimination as the density estimate requires a greater degree of variance between quantiles -- for low cognitive basis, the only observations at a low affective basis were at maximum okayness. On the topic of climate change, a similar restriction is seen (e.g. all participants who reported both high cognitive basis and high affective basis reported maximum okayness). The distributions in this variable may have affected the model's ability to test the interaction.

Finally, the suggestive nature of the results in which the outcome was proactive sharing for the topic of climate change begs a similar examination. These results (see Figure 8.14) suggest a similar pattern in proactive sharing for okayness as was found in proactive sharing for moral conviction. The steep line in which lower okayness is associated with greater proactive sharing for those with high cognitive basis and moderate affective basis mirrors the previous results. However, the restriction here as well precludes examination via density, and likely diminishes power to find an effect if a true effect exists.

In sum, it appears that basis may be a factor in the relationship of morality and advocacy behavior, as suggested by the results of study 1. In particular, basis appears to influence the relationship in proactive behavior when studied in the context of moral conviction, and to sharing behavior in the context of moral okayness.

Advocacy as Predicted by Moral Conviction, Perceived Majority Status of the Respondent's Attitude, and Perceived Controversiality

To test the primary hypotheses of this study, the advocacy outcomes were each regressed on strength, moral conviction or okayness (one at a time), perception of one's attitude as being in the majority or not, perception of the topic's controversiality, and interactions of the lattermost three. When testing okayness, valence was included as a control due to the directionality of the statement. This analysis collapsed across all levels of social distance. As basis was not included in the hypotheses of this study, it was not accounted for in these models.

In analyses using the moral conviction measure, significant effects were observed in both reactive behaviors (a two-way interaction of majority and moral conviction on reactive sharing ($t(299)=-2.30$, $p=0.02$; figure 8.15), a two-way interaction of controversiality and moral conviction on the same ($t(299)=2.56$, $p=0.01$; figure 8.16), and a two way interaction of majority and moral conviction on reactive persuasion ($t(299)=2.31$, $p=0.02$; figure 8.17)) on the issue of GMOs. Although trends suggest continued potential for a three-way interaction (three-way interaction on reactive sharing ($t(299)=-1.57$, $p=.12$); on proactive sharing ($t(299)=-1.90$, $p=0.06$), this is not supported by this analysis, was not formally hypothesized, and if extant in fact may require more power to detect. In tests utilizing the discrimination topic measures, a

two way interaction was detected of majority and controversiality on proactive persuasion ($t(299)=-2.04$, $p=0.04$; figure 8.18), but there was no significant interactions on other outcomes. In tests utilizing the climate change topic measures, only a main effect of moral conviction was found on proactive sharing ($t(299)=3.86$, $p<0.01$), reactive persuasion ($t(299)=2.12$, $p=0.03$), and proactive persuasion ($t(299)=4.04$, $p<0.01$). Attitude strength was consistently predictive across almost all analyses, excepting proactive behavior on the climate change topic after accounting for moral conviction.

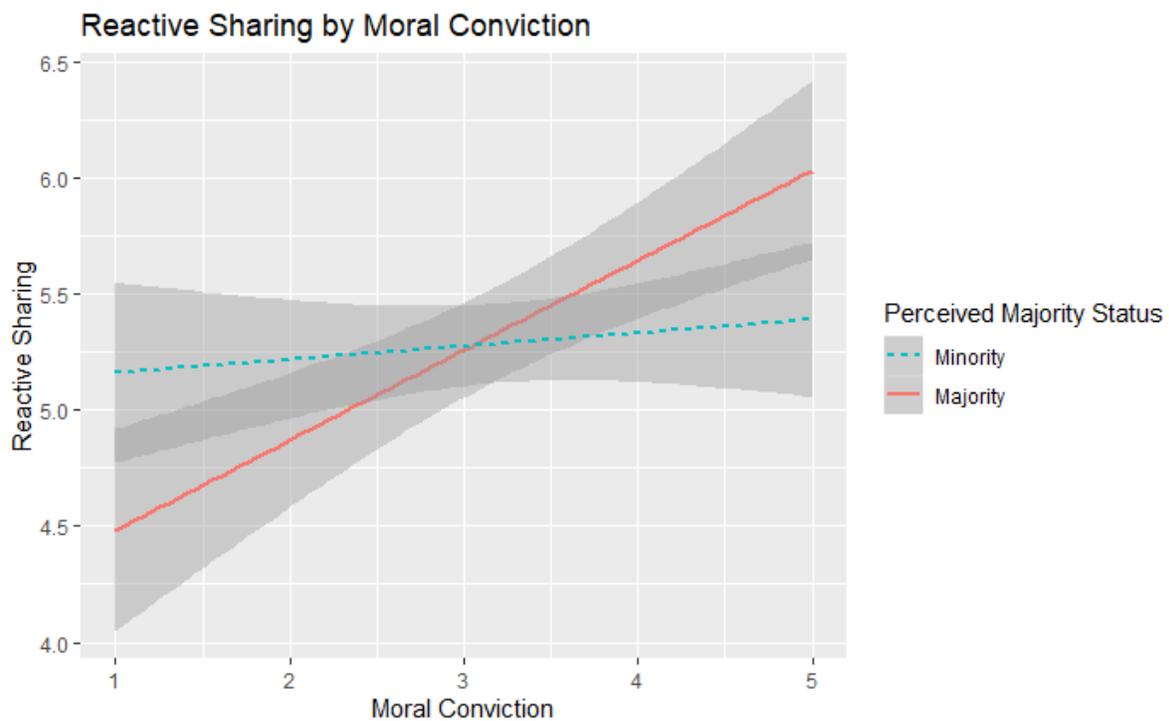


Figure 8.15. Reactive sharing by moral conviction for observers who see themselves as holding the minority or majority opinion for the topic of GMOs.

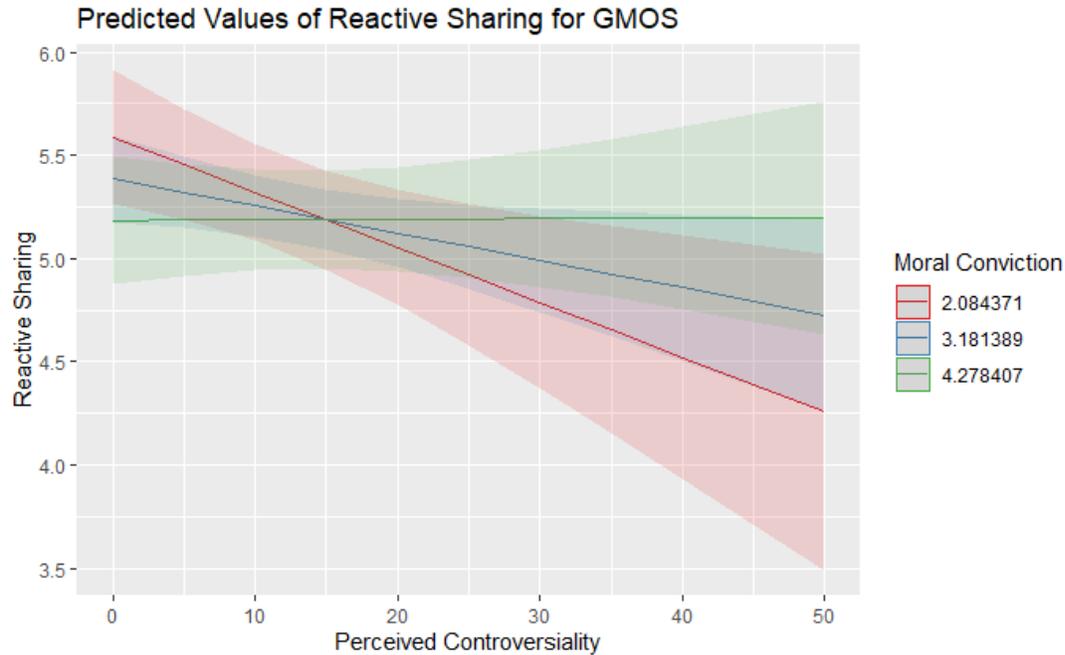


Figure 8.16. Reactive sharing by moral conviction by perceived controversiality for the topic of GMOS.

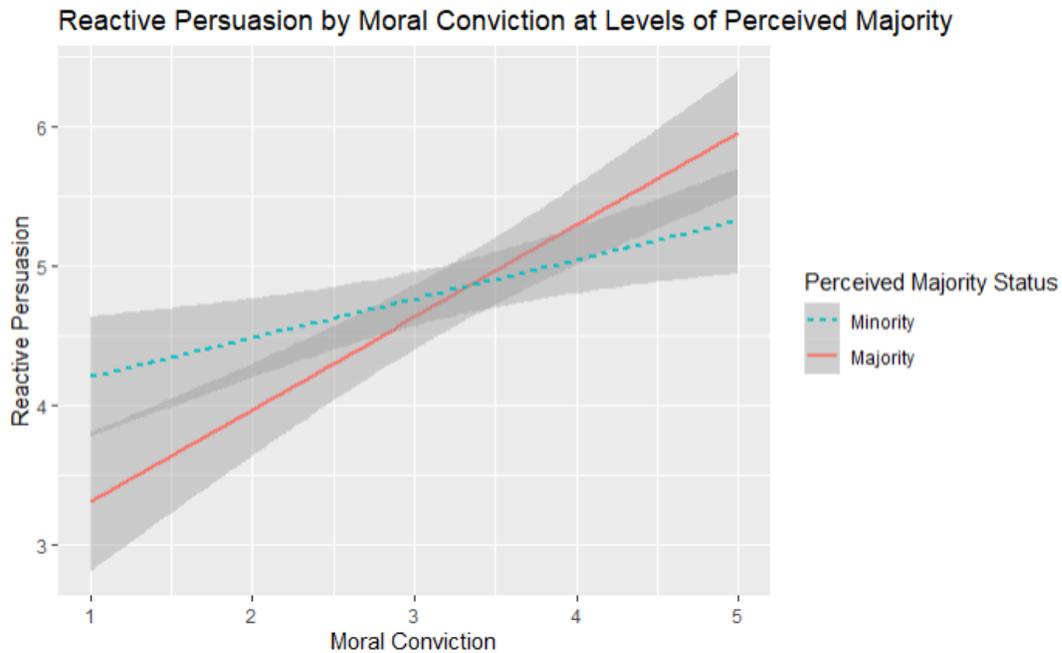


Figure 8.17. Reactive persuasion by moral conviction for observers who see themselves as holding the minority or majority opinion for the topic of GMOS.

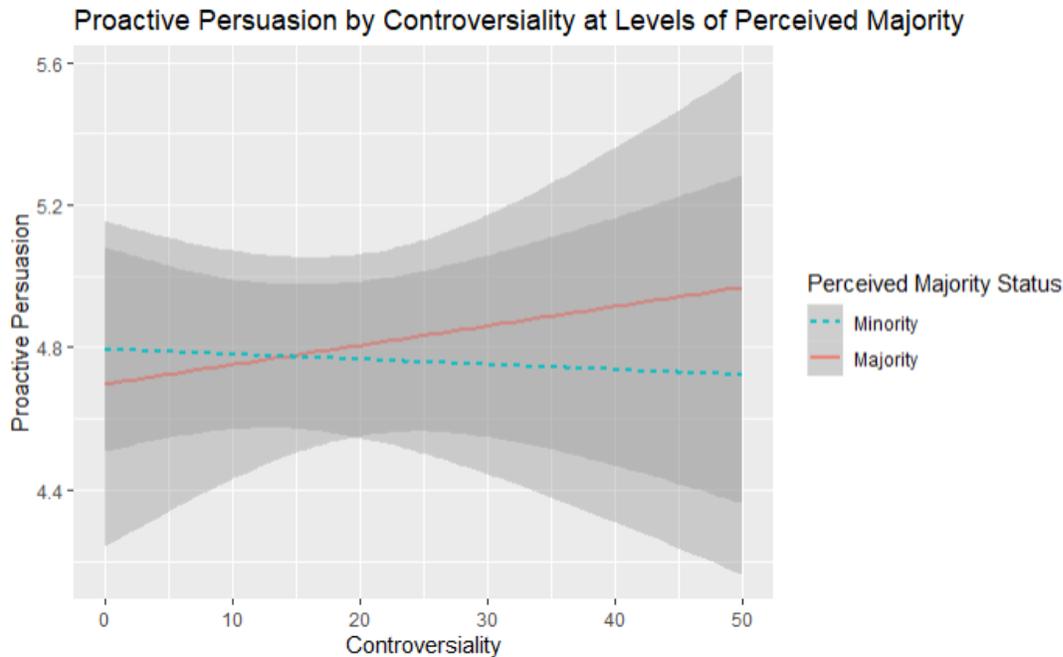


Figure 8.18. Proactive persuasion by controversiality for observers who see themselves as holding the minority or majority opinion for the topic of discrimination.

These results suggest that the positive relationship between advocacy and moral conviction is stronger when one sees oneself as holding the majority opinion, in line with my hypothesis. Majority also appears to be able to overcome the suppressive effect of controversiality in some cases. Also in line with what was hypothesized, the relationship of moral conviction to advocacy, when an effect is found, is strongest when controversiality is high. At low levels of perceived controversiality, individuals may express more sharing behavior at low levels of moral conviction, perhaps as a way of exploring the topic when there is sufficient indicators that others will have varying opinions to hear, while without the risk of broaching a highly controversial topic. However, when moral conviction is high, sharing behavior drops, unless there is sufficient moral conviction to overcome the suppression.

In analyses using the moral okayness measure, after accounting for valence, okayness showed a significant main effect on reactive sharing ($t(299)=3.50, p<0.01$), proactive sharing ($t(299)=2.52, p=0.01$), and proactive persuasion ($t(299)=2.61, p<0.01$) for the GMOs topic. The only interaction detected was majority and controversiality, as in the moral conviction analyses, interacting to predict proactive persuasion for the discrimination topic ($t(299)=-2.20, p=0.03$; Figure 8.25 represents this relationship in this circumstance as well, as the figure utilizes the raw relationships and is not adjusted based on residuals from the morality measure used in regression).

Behavioral Measure of Advocacy

As mentioned in the section *Attention Check*, many respondents to the open-ended questions had nonsensical fragment answers. As some participants may have become concerned, even when assured to the contrary, that a non-response will be counted against them, they may have submitted placeholder text with no bad faith intended. Thus, data from these participants was retained, although the non-answers were coded out.

I coded all open-ended responses as answers or non-answers. Responses that were nothing but declinations to answer, apparent summaries of web pages from search engine results on the topic, identifiable by the use of nothing but sentence fragments and ellipses (e.g. "When asked which of three positions best fits their viewpoints, about half of ... A majority of this group also believe GM foods are very likely to bring ... foods; 29% have heard "a lot," roughly half (52%) have heard "a little. ... About half of the public (48%) says they do not eat GM foods or do so not too much"), and answers that were not related to content nor rationale but appeared as patent copy-pastes of the top google definition of the topic (e.g. "Genetically

modified crops are publicly the most controversial GMOs. The majority [of GMOs] are engineered for herbicide tolerance or insect resistance.”) were coded as non-answers. In the case of these copy-paste answers, I believe they were not likely indirect summaries of the respondent’s own attitude either because they truly were definitions alone with no value judgments, utility beliefs, or any other attitude-related content, but the same summaries were given by many different respondents, reflecting their search engine priority.

Non-answers were then all given scores of zero as all answers were subjected to a count of characters. This is a rough measure of degree of advocacy, better than simple booleans but still not reflective necessarily of attitude depth, complexity, or intent to influence others.

In this measure, unlike the generic intent to advocate measures, responses were split by actual topic. Due to this, the topic-specific predictors were matched to an actual advocacy behavior specific to the topic by which those predictors were framed.

For all topics, moral conviction significantly predicted observable advocacy behavior in the length of open-ended responses (GMOs: $t(299)=-2.58$, $p=0.01$; discrimination: $t(299)=2.02$, $p=0.044$; climate change: $t(299)=-2.75$, $p<0.01$). Majority status, controversiality, and moral conviction demonstrated a significant three way interaction on the topic of climate change ($t(299)=-1.96$, $p=0.05$), a topic potentially more salient than the others as these data were collected in October 2019, one month following the climate activist Greta Thunberg’s speech on climate before the UN.

This pattern repeated for the measure of okayness (main effect of okayness on GMOs: $t(299)=-2.76$, $p<0.01$; discrimination: $t(299)=1.94$, $p=0.05$; climate change: $t(299)=-2.86$,

$p=0.01$), although the three way interaction fell short of the level of significance ($t(299)=-1.92$, $p=0.06$).

Although 113 respondents reported an attitude and a believed frequency of that attitude that would put them in the majority, and 187 would fall in the minority (all others would have reported indifferent or equally positive and negative aspects to their attitude, i.e. ambivalence), no one who felt they were in the majority saw the issue of climate change as of low controversiality. The point of possible interaction that stands out, and appears for both moral conviction and for the okayness measure, is a positive or significantly stronger positive relationship of moral conviction to length of open-ended response when controversiality is average and one is in the majority. The effect of moral conviction on length of open-ended responses is flat or close to flat when controversiality is high. It appears that situations of moderate risk or perceived extremity of opinion elicit the most advocacy, as the topic maintains sufficient interest without excessive suppression.

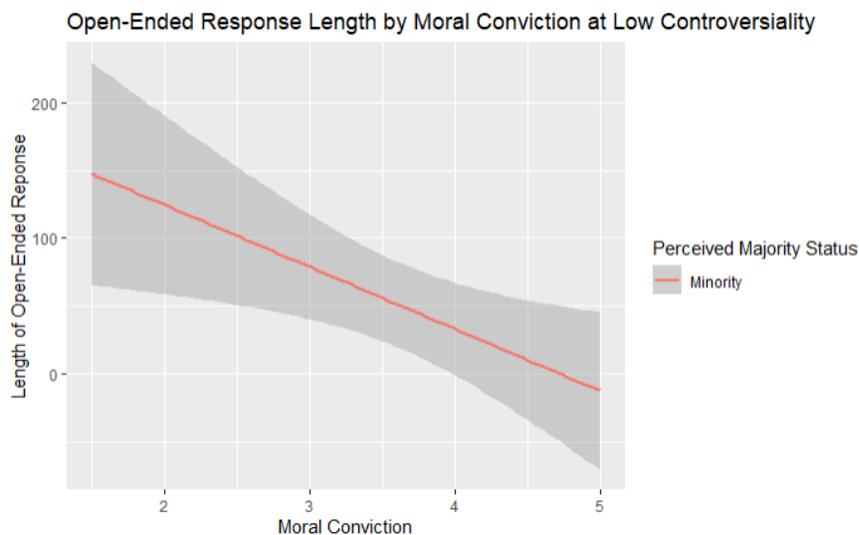


Figure 8.19. Length of open ended responses by moral conviction at low levels of controversiality for observers who see themselves as holding the minority or majority opinion for the topic of climate change.

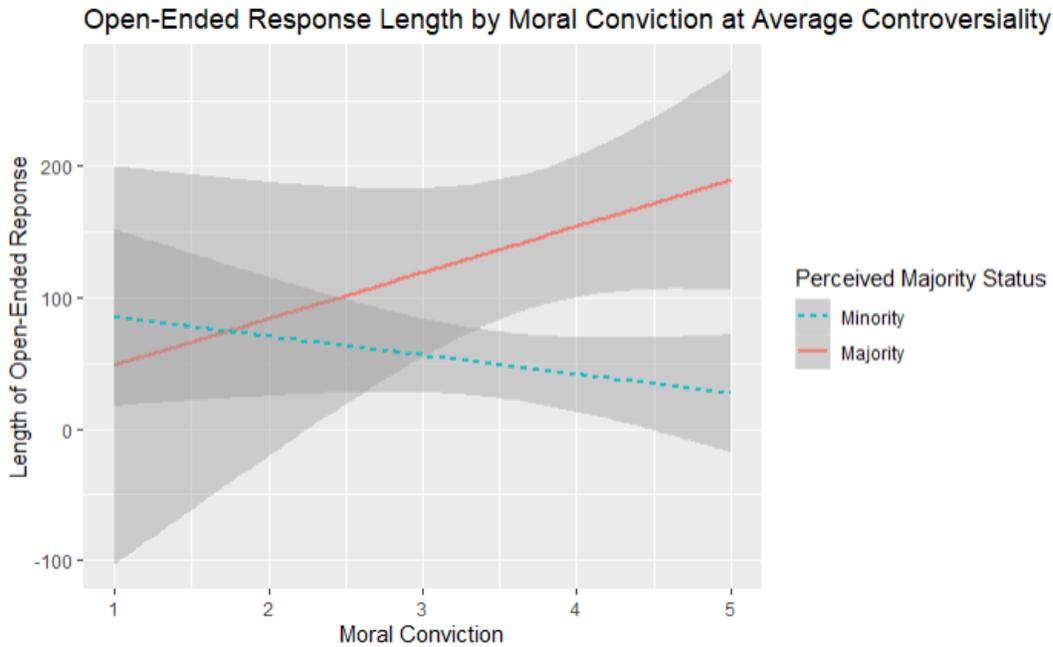


Figure 8.20. Length of open ended responses by moral conviction at average levels of controversiality for observers who see themselves as holding the minority or majority opinion for the topic of climate change.

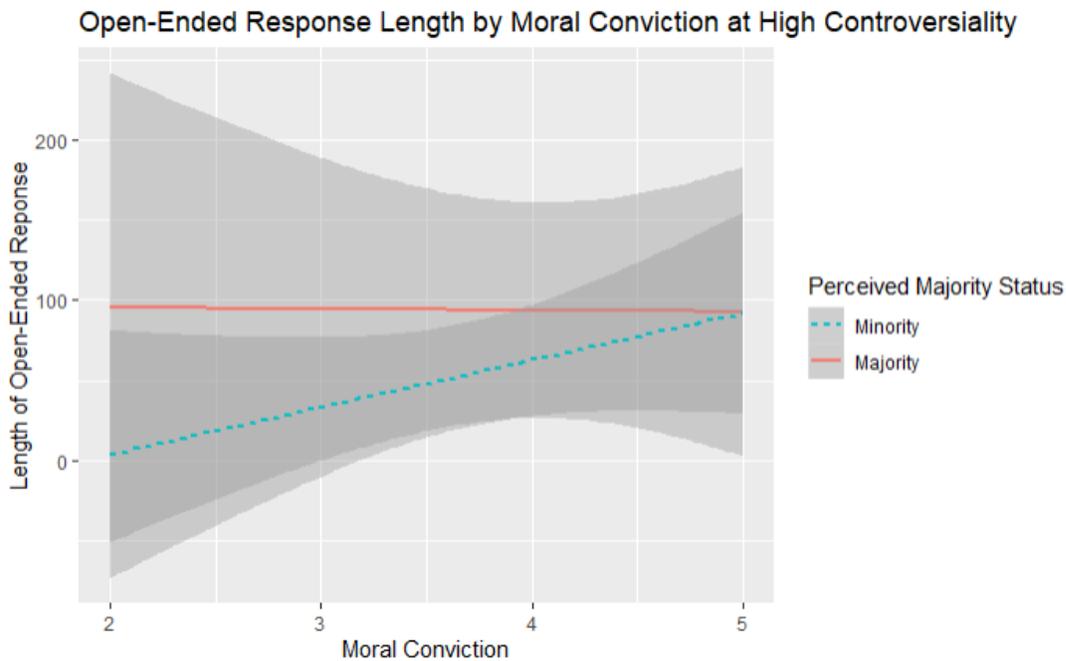


Figure 8.21. Length of open ended responses by moral conviction at high levels of controversiality for observers who see themselves as holding the minority or majority opinion for the topic of climate change.

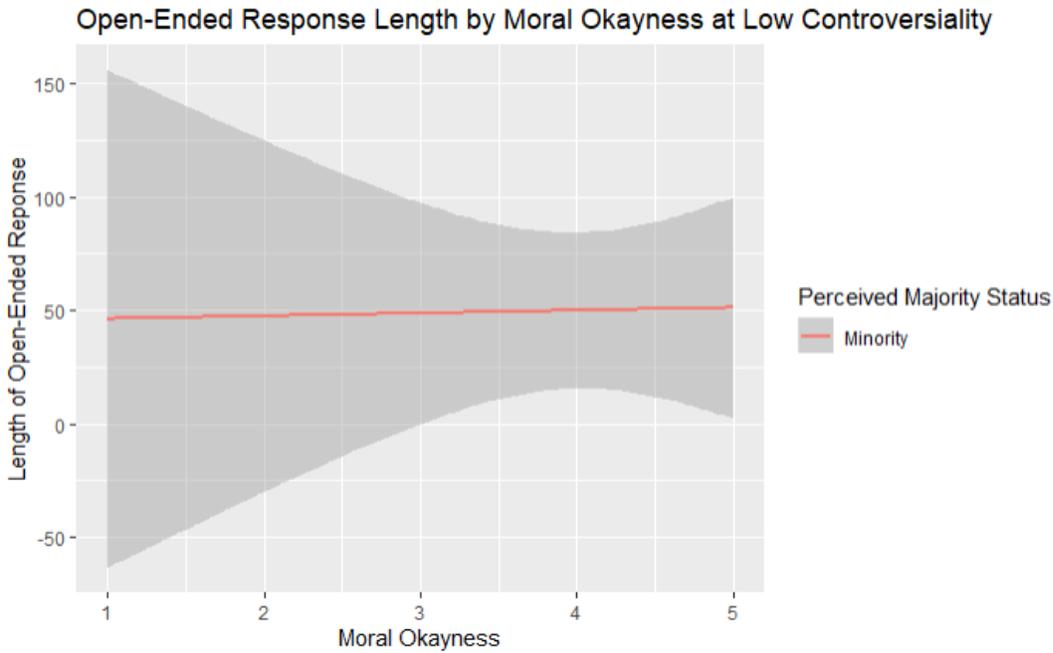


Figure 8.22. Length of open ended responses by moral okayness at low levels of controversiality for observers who see themselves as holding the minority or majority opinion for the topic of climate change.

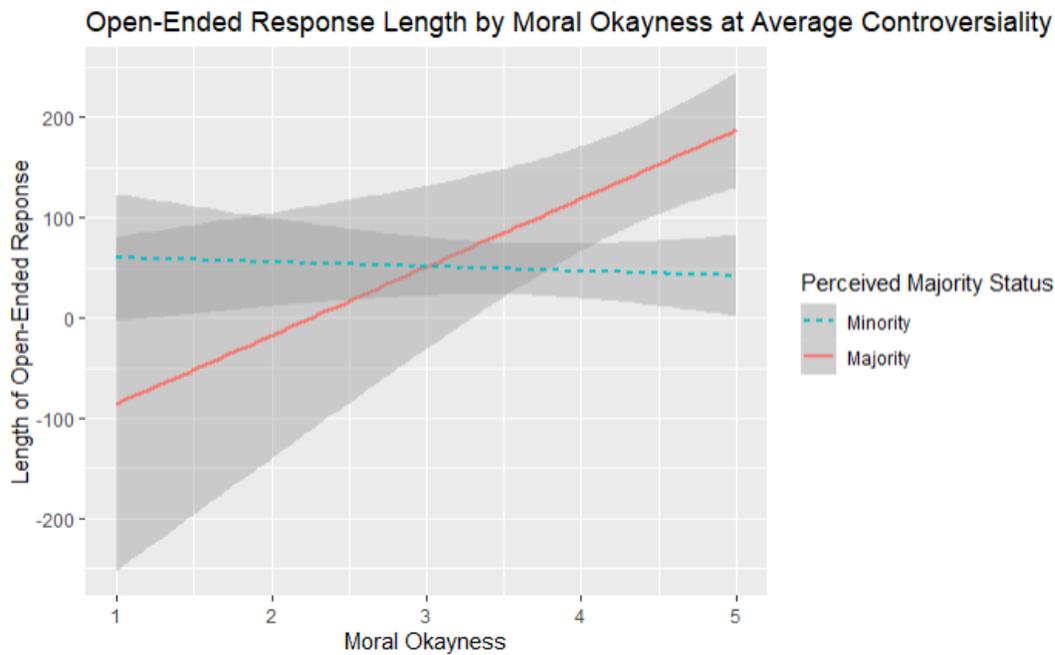


Figure 8.23. Length of open ended responses by moral okayness at average levels of controversiality for observers who see themselves as holding the minority or majority opinion for the topic of climate change.

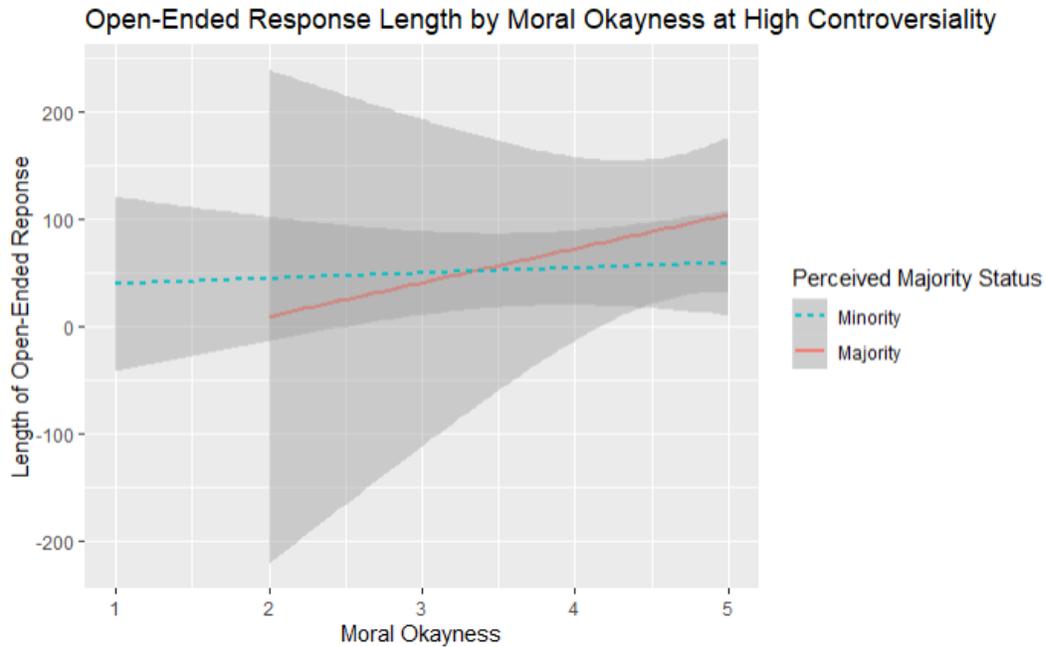


Figure 8.24. Length of open ended responses by moral okayness at high levels of controversiality for observers who see themselves as holding the minority or majority opinion for the topic of climate change.

Is it interesting to note that, unlike all previous analyses, for no topic did attitude strength significantly predict observed advocacy behavior.

Discussion

Results from the conceptual replication of study 1 continue to suggest that basis may interact in meaningful ways with the morality of a given attitude. In particular, it merits further investigation into whether moral conviction and affect combine to shut down proactive advocacy that would otherwise occur. If attitudes become seen as extremely moral with attendant strong affect, attitudes otherwise high in cognitive basis may go undiscussed and pre-existing beliefs may become more entrenched over time. Further, when the morality of a topic varies by the degree to which it is or isn't acceptable/okay rather than its abstract connection to values, the dip in advocacy at the highest levels of morality was not found on sharing

behavior (perhaps due to the positive frame eliminating the harshest of threat sensitivity from the question). In general, range restrictions (either an insufficient number of maximally morally convicted individuals, or an excess of them) may have undermined power in evaluating the effects of basis and morality in the desired variant combinations.

Regarding my initial hypotheses, both primary hypotheses were supported by some evidence. The positive relationship between morality and advocacy appeared stronger when one sees oneself as holding the majority opinion. The same effect was also strongest when controversiality is high -- that is, if moral conviction is low, controversiality appears to suppress sharing behavior, but when moral conviction is high, this suppressive effect disappears.

The behavioral measure of advocacy did not show as many suggestive indicators of interaction, other than between moderate levels of controversiality and the belief that one's attitude is in the majority. However, in this measure, morality had a much more robust main effect, which I believe is due to the topic-focused nature of this outcome. Studies that use the abstraction of general intent to advocate from intent rather advocate on behalf of a specific topic are likely undermining their ability to detect real effects.

This study on the whole gives clear evidence of several weaknesses in modern social psychology and specifically attitude research: 1) the choice of attitude is not neutral in its influence on the process, nor do typical controls sufficiently account for the affecting attitude-specific qualities; 2) the fragility of effects between topics, outcomes, frames, etc., by most researchers, would have led to file-drawering half or more of these results, leading to a general overestimation of effect and likely waste of valuable scientific time for future researchers who may experience type 2 error; and 3) the frequency at which evidence appears for interactions

between variables, and our inability to run studies of sufficient power to handle four, five, or six way interactions, is giving us a much shallower picture of the effects of attitude structure and content on behavior. While we may be able to isolate one specific effect of one measure on another, even better if we do so in the context of a third, extrapolating meaning from that, applicable to the real world, is unlikely. While it is the nature of science to test small effects in small pieces, the complexity of human subjects research continues to suggest that we should be moving away from singular tests with singular stimuli and simple interactions. As that form of research would not wed well with hypothesis testing at arbitrary levels of statistical significance, we continue to be ripe for a renaissance of other methods of determining scientific truth.

CHAPTER 9. STUDY 3

Study Goals

Following the cross-sectional examination of Study 2, in this study I intended to experimentally manipulate some of the apparent underlying processes, namely the perception that one's attitudes are strong expressions of one's true self, and the salience of promotion or prevention regulatory foci.

Design

This study used a 2x2 between-subjects design that experimentally manipulated attitude essentialism and regulatory focus. Participants responded as in Studies 1 and 2 to measures of attitude valence, bases, strength contributors, and morality, for the attitude object "additional gun control legislation". They then experienced counterbalanced manipulations of the experimental variables, responded to measures of self-reported advocacy intentions, and were given a behavioral measure of advocacy, as in Study 2.

As possible controls, I also measured attitude valence, attitude bases, attitude strength contributors, trait face concerns, right wing authoritarianism, social self-efficacy, and Big 5 personality dimensions.

Participants

As in Studies 1 and 2, participants were recruited online via Amazon's Mechanical Turk (MTurk) where they were given monetary compensation for participation. Participants were required to be age 18 or older and be current residents of the United States. Participants were

also barred from participation in this study if they had completed another study in this series (Study 1 and/or 2). See Section 2.1.4 for a discussion of the validity of an MTurk subject pool.

This study followed the same guidelines for maximizing data quality as those described in Study 1, namely, questions requiring subjectively truthful answer content, and a check of attention embedded in the measures.

In total I collected responses from 419 participants after exclusions (see *Attention Check*). 192 participants self-reported as female, 227 as male. Self-reported age ranged from 19-80, with a mean of 38.65. 321 self-reported their race as white, 50 as black, 28 as Asian, 6 Indian American or Alaskan Native, 7 as multiracial, and 7 as other. 54 participants described their ethnicity as latino/a. Regarding highest attained level of education, 153 participants had completed no more than high school, 182 had completed an Associate's or Bachelor's degree, and 82 reported post-baccalaureate academic or professional degrees. 59 participants said they were currently a student.

Procedures

Firstly, procedures regarding consent, attitude valence, bases, strength contributors, and morality were as in Study 2; however, the attitude topic in this experiment was only "additional gun control legislation", resulting in only a single block of attitude-related measures. Second, participants were exposed to one of four combinations of experimental manipulations, counterbalanced in order of manipulation presentation. Third, they answered questions about their intentions to advocate in various contexts, as well as given the opportunity to engage in

STUDY 3

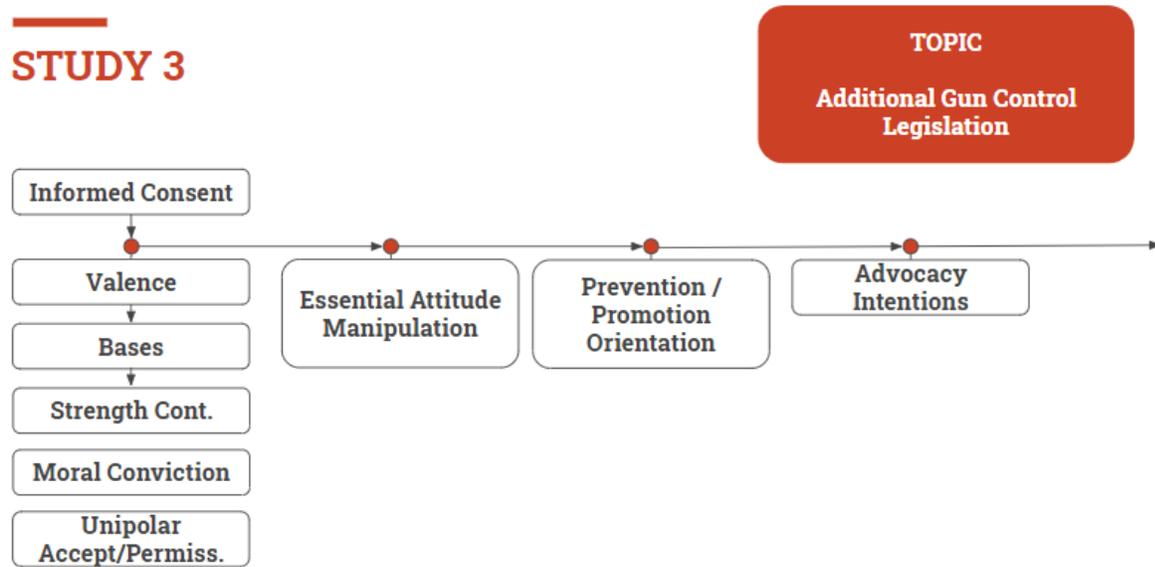


Figure 9.1. Order of measures within Study 3, moving down each column before proceeding to the next node.

STUDY 3



Figure 9.2. Order of measures within Study 3 continued, moving down each column before proceeding to the next node.

directly observable (behavioral) advocacy, as in Study 2. The rest of the study also proceeded as in Study 2, covering measures of attitude normativity, trait face concerns, social self-efficacy, right wing authoritarianism, and Big 5 personality dimensions, followed by a demographics

questionnaire and debrief. Participation was expected to take approximately 30 minutes. Participants were paid \$1.50 for the task. No participants requested partial compensation.

Materials

All measures are as in Study 2, with the exception of the experimental manipulation. Each participant received two manipulations, one of each variable, in random order.

Attitude Essentialism

Essential attitude manipulation

It is widely understood that attitudes are very reflective of who you are as a person. They communicate to others what you value, they affect your behavior, and they shape your future. Please take a moment to think about some of the attitudes you hold that are most closely related to who you are. Describe some of these attitudes in the box below.

We ask that you take at least two minutes to think about these attitudes. This page of the survey will allow you to continue when two minutes have passed.

Nonessential attitude manipulation

It is widely understood that the attitudes you hold today may not be reflective of who you are as a person. Attitudes change throughout the lifetime, and what you believe today may be very different from who you really are, or what you will believe in the future. Please take a moment to think about some of the attitudes you hold that were significantly different at one time. Describe some of these attitudes in the box below.

We ask that you take at least two minutes to think about these attitudes. This page of the survey will allow you to continue when two minutes have passed.

Regulatory Focus

The wording of ideal and ought selves in these prompts is derived from the regulatory focus manipulation method described by Higgins, Shah, and Friedman (1997).

Prevention orientation manipulation

In this study, we are interested in how you picture the person you believe you should be. What is the type of person you believe it is your duty, obligation, or responsibility to be? Please take a moment to think about this person. Describe them in the box below.

We ask that you take at least two minutes to think about this concept. This page of the survey will allow you to continue when two minutes have passed.

Promotion orientation manipulation

In this study, we are interested in how you picture the person you ideally would like to be. What is the type of person you hope, wish, or aspire to be? Please take a moment to think about this person. Describe them in the box below.

We ask that you take at least two minutes to think about this concept. This page of the survey will allow you to continue when two minutes have passed.

Analysis

I conducted all analysis using R 3.5.3 (R Core Team, 2019). Using a linear regression with dummy variables to represent condition, I regressed sharing intentions, persuasive intentions, and the behavioral measure of advocacy on regulatory focus and attitude essentialism (see Figure 9.3). I controlled for valence, strength contributors, and morality.

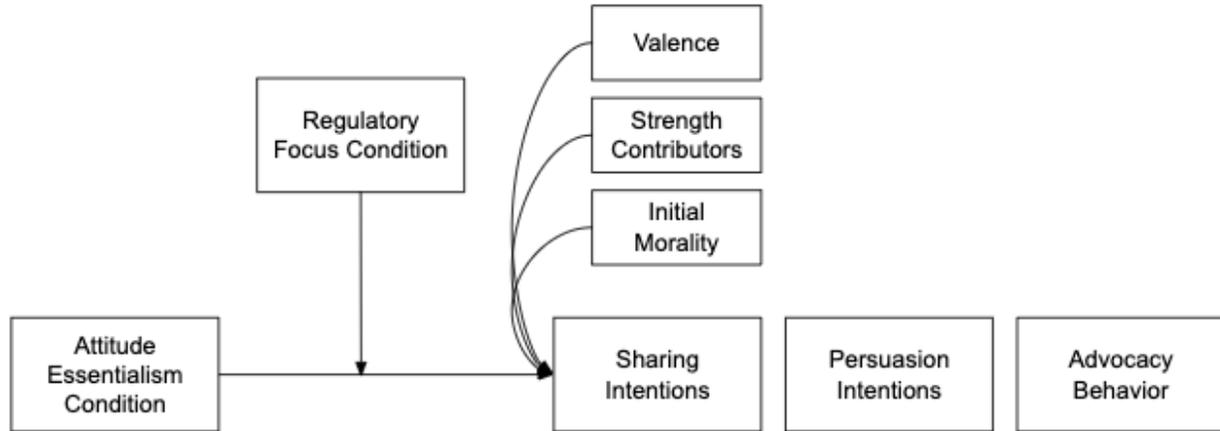


Figure 9.3. Study 3 test model, with multiple Y variable boxes representing separate analyses.

Power Analysis

In this study, I conducted fundamentally a 2x2 ANCOVA. Assuming a medium effect size ($f = .25$), to test main effects and interactions I would require a sample size of 128 participants. Assuming a small effect size ($f = .10$), I would require a sample size of 787 participants.

In an attempt to balance participant recruitment with the needs of the study, I planned to collect 400 responses. In order to detect every single main effect and interaction, this would provide me with an achieved power of .51, if all effect sizes are small. All analyses were conducted in G*Power 3.1.9.4 (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007) and assume two-tailed analysis.

Hypotheses

I predicted that moral conviction would significantly predict advocacy intentions and observed (behavioral) advocacy. I believed it is theoretically supported that attitude essentialism will also have this effect, as the belief that attitudes are mutable will make

advocacy seem to have greater likely utility (Akhtar & Wheeler, 2016; see Bandura, 1997 for the underlying processes of self-efficacy beliefs). Further, I believed that the effect of moral conviction on advocacy would be strongest in individuals who have undergone a prevention-orientation manipulation, and that this interaction would interact with essentialism to result in prevention-oriented individuals advocating more on behalf of more moral attitudes when that attitude is seen as most related to their self, wherein dissenting others from difficult-to-distance in-group (such as family) generate the most dissonance for one's group identity, a reversal of the general main effect potentially found in the essentialism-advocacy relation.

Results

Attention Check

As in Studies 1 and 2, prior to analysis, I removed all responses that did not give the correct response to the attention check. Out of 547 total completed entries, 128 failed this check (the survey was reissued for more participants to take until the requisite number of participants passed this check. Some extra was acquired as the cap was raised excessively due to time constraints). As in study 2, apparent inattentive or non-answers to the open-ended response were removed from analyses utilizing that outcome (see *Study 2, Behavioral Measure of Advocacy*).

Willingness to Share/Persuade

Moral conviction, when tested against both frame manipulations, resulted in no significant effect on any intent to reactively nor proactively share one's attitude with nor persuade others (see Appendix B, Table B.2.15.). Strength was the only significant predictor between strength, moral conviction, and frame, resulting in p values between 0.03 and <0.01.

Moral okayness required use of valence as a covariate, due to its inherent directionality, however, it also resulted in models with only significant effects from strength (Appendix B, Table B.3.2).

Given the results of earlier studies indicating that morality may interact with basis, I ran an additional model including that as a possible interactor. While I likely had insufficient power to reliably find real effects, it seemed useful for the sake of future research to explore. This model included strength, both types of basis, both frames, and interactions of the latter four. As the four-way interaction was insignificant, I excluded that interaction term; the model up to three-way interactions may be seen in Appendix B, Table B.3.3.

The most suggestive results include a significant two-way effect of essentialist/non-essentialist framing and cognitive basis on reactive persuading, proactive sharing, and proactive persuading. Further, a three-way interaction of the same including affective basis reached or neared significance on the same variables (reactive persuading: $t(416)=-1.88$, $p=0.06$; proactive sharing: $t(416)=-2.23$, $p=0.03$); proactive persuading: $t(416)=-1.62$, $p=0.106$). For individuals with low affective basis, while under a nonessentialist frame, cognitive basis positively predicts reactive and proactive advocacy, under an essentialist frame, the inverse occurs (see Figure 9.4 for a charting of this finding in proactive sharing). This would support the theory that an essentialist view may lead to decreased advocacy due to decreased perceived utility for individuals with high cognitive basis, when there is no high affective basis to compensate.

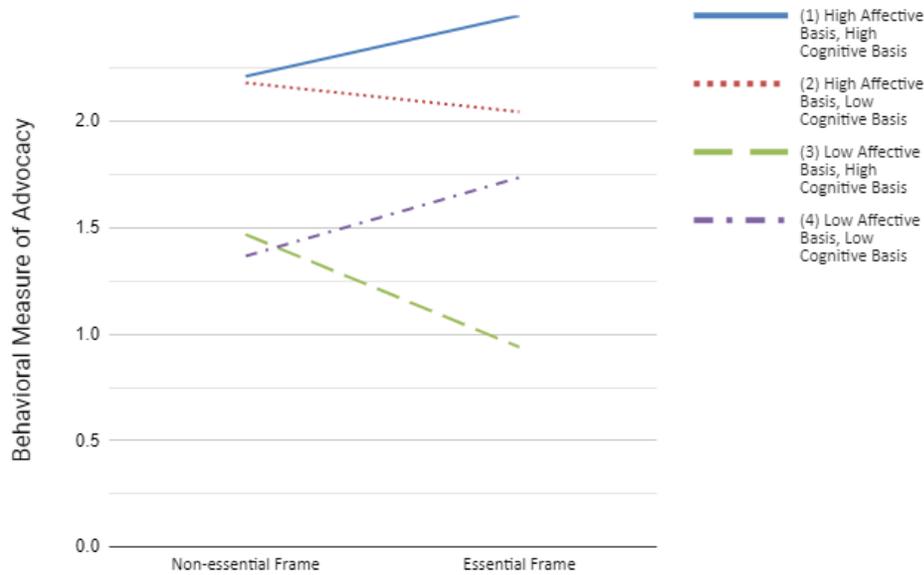


Figure 9.4. Proactive sharing by cognitive basis for individuals under an essentialist or nonessentialist frame at levels of affective basis.

Also in this model, there was a significant two-way interaction of frame on reactive behavior (Figures 9.5-9.6).

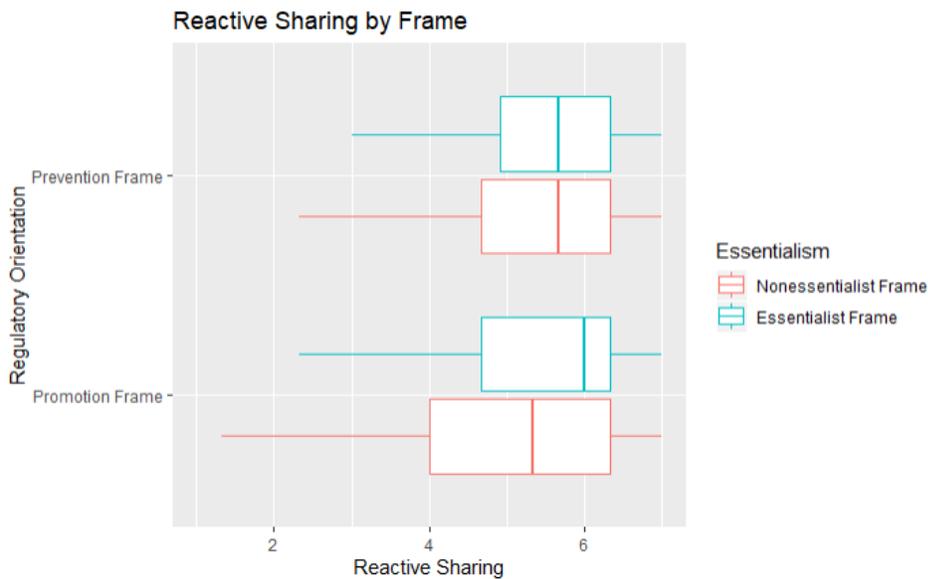


Figure 9.5. Reactive sharing by essentialist/nonessentialist and promotion/prevention frames.

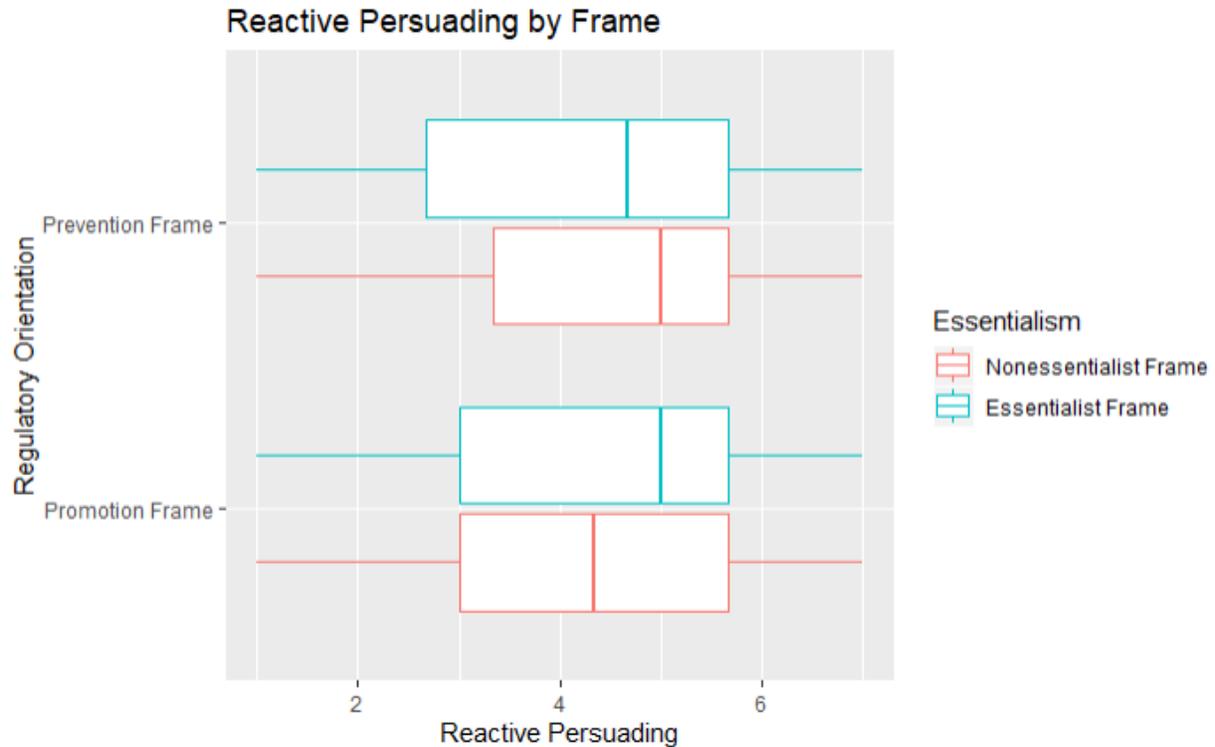


Figure 9.6. Reactive sharing by essentialist/nonessentialist and promotion/prevention frames.

There is some evidence of a possible three-way interaction between both frames and cognitive basis (reactive sharing: $t(416)=-4.20$, $p=0.02$, Figures 9.8-9.9; reactive persuading: $t(416)=-1.65$, $p=0.10$), although the issue of power heightens my concern of validity. Both the two- and three-way interaction suggest that advocacy may be greater on average for those under a prevention frame, but especially those also under an essentialist frame, although the three-way interaction additionally suggests the effect may be greater when cognitive basis is low. This would be consistent with previous findings that high cognitive basis results in greater advocacy regardless.

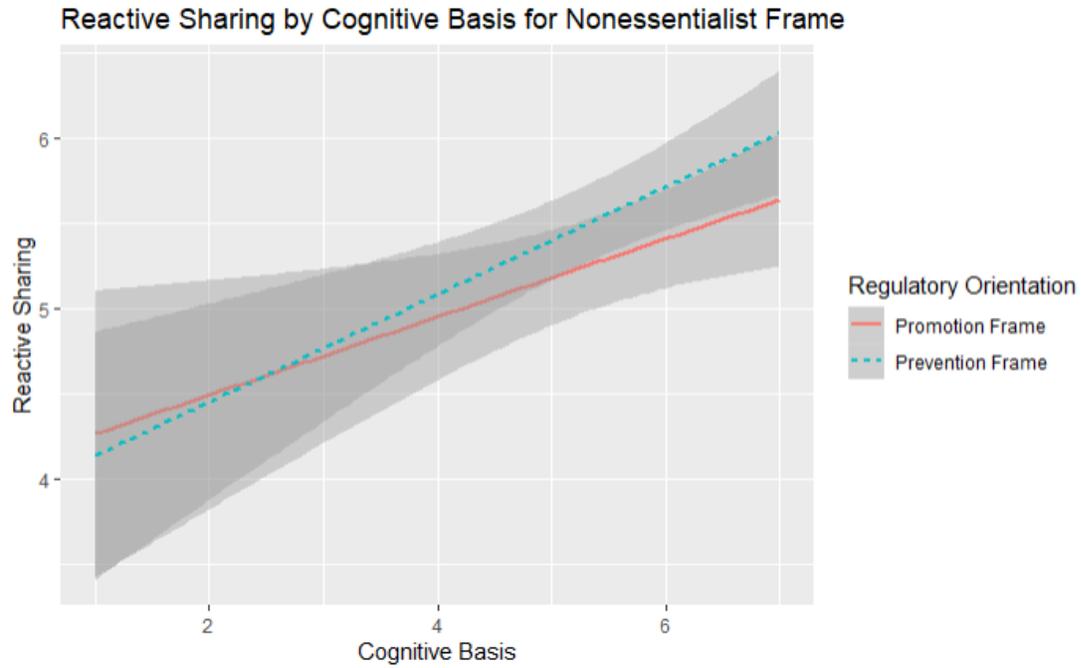


Figure 9.7. Reactive sharing by promotion/prevention frame For those under a nonessentialist frame.

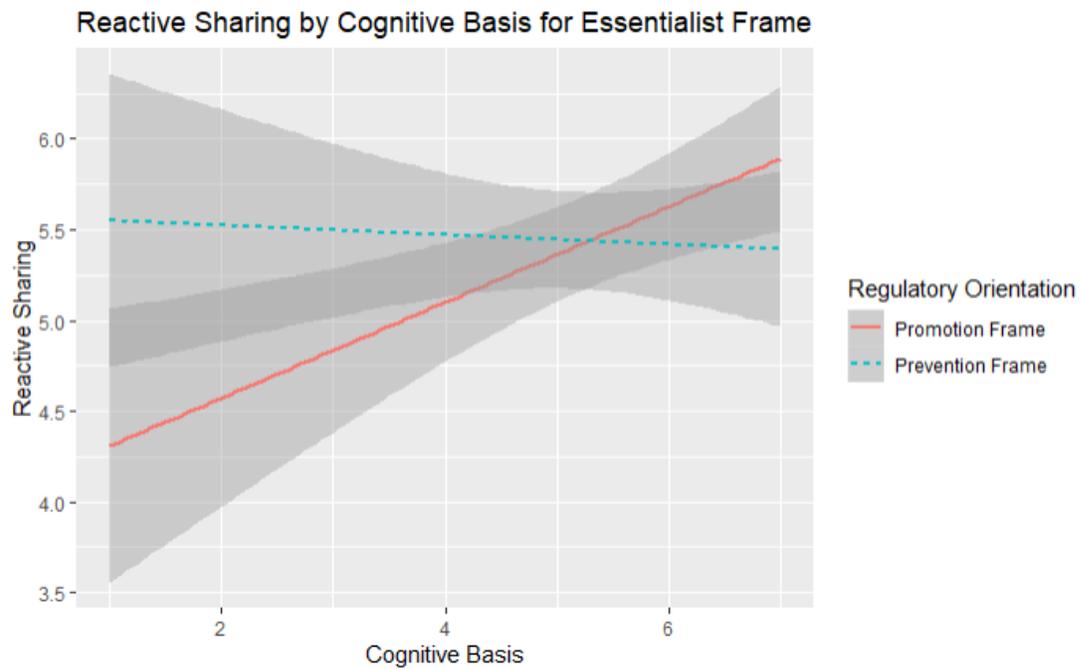


Figure 9.8. Reactive sharing by promotion/prevention frame For those under an essentialist frame.

Behavioral Measure of Advocacy

Manipulations of frame also did not have significant effects on the behavioral measure of advocacy (see Appendix B, Tables B.3.4-B.3.5).

As before, given the results of earlier studies indicating that morality may interact with basis, I ran an additional model including bases as possible interactors. When no 4-way effect was found, I reduced the model by one level of interaction until a significant effect arose, ending up separating each frame into its own model in interaction with basis. Both models reached a fully reduced state of only basis and frame, in which only the essentialist frame bore out a significant effect; a two-way interaction of essentialist frame and affective basis significantly predicted length of the open-ended response ($t(418)=2.52$, $p=0.01$; Table 9.1). This method of reduction increases the chance of type 1 error as it increases the chance of overfitting, however, it suggests that further investigation of the supported effect may be warranted.

Table 9.1. Effect of affective basis and an essentialist or non-essentialist frame on a behavioral measure of advocacy.

<i>Predictors</i>	Length of Open-Ended Response			
	<i>Estimate</i>	<i>95% CI</i>	<i>Statistic</i>	<i>p</i>
Intercept	372.60	(306.56 – 438.63)	11.09	<0.001
Affective Basis	-31.69	(-47.42 – -15.96)	-3.96	<0.001
Essentialist Frame	-86.04	(-152.08 – -20.00)	-2.56	0.011
Essentialist Frame x Affective Basis	20.16	(4.43 – 35.88)	2.52	0.012
Observations		419		
R ² / R ² adjusted		0.054 / 0.047		

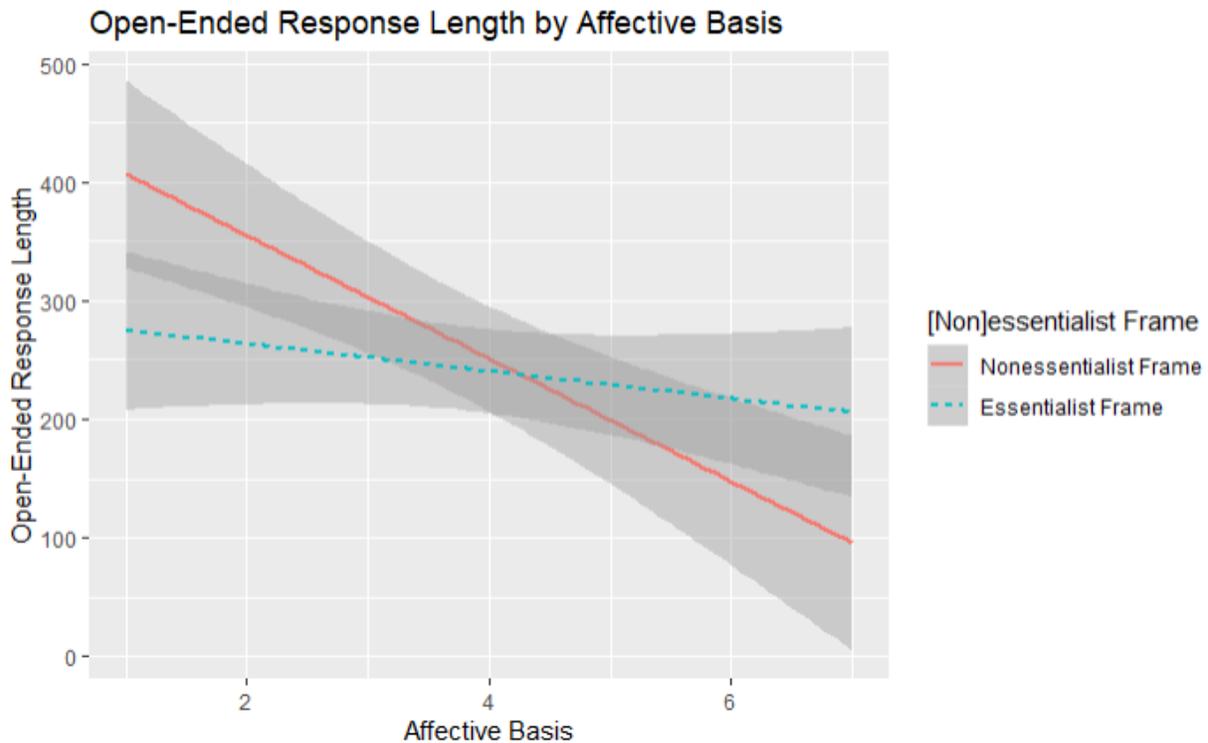


Figure 9.9. Effect of affective basis and an essentialist or non-essentialist frame on a behavioral measure of advocacy.

Discussion

When subjected only to the planned analysis, my hypotheses regarding frame were not supported. Morality, or at least morality alone with strength and valence, seems insufficient to explain enough variance in attitudes to make frame valuable.

However, the work of Studies 1 and 2 informed Study 3 to the point that basis were incorporated into the model. With basis included, the data suggest that frame may have a significant effect on advocacy. However, the results are inconsistent between outcomes, as essentialism appears to suppress proactive behavior unless cognitive and affective basis are high, consistent with theories of decreased utility. Yet essentialism and prevention orientation

may together increase the likelihood to advocate reactively, especially in those with low cognitive basis who otherwise would not.

CHAPTER 10. SIGNIFICANCE

On Stimulus Sampling in Attitude Research

As scientists study attitudes, particularly in an environment that rewards low risk-taking through rigid hypothesis testing largely on homogenous groups of university students, it has become common to study attitudinal processes through topics of only moderate extremity. The goal has been to have a reasonable distribution of scores without (or perhaps excluding) many outliers. However, this method of selecting moderate stimuli limits our understanding to only moderate attitudes. Further, as human idiosyncrasy, history effects, etc. interfere with our desired normal curve, the weakening influence of range restriction on our ability to detect potential real effects wastes valuable scientific effort.

I believe it would be for the betterment of attitude science to encourage stimulus sampling, and to tolerate variation in significance, with a respectful skepticism until we have sufficient samples to determine robustness.

On Morality as a Predictor of Advocacy

I found evidence that moral conviction and affect may combine to shut down proactive advocacy that would otherwise occur if affective basis were more moderate or moral conviction were less extreme. This is a risk to knowledge sharing and idea growth in society, as unwillingness to discuss highly impactful topics in psychologically unsafe spaces may heighten 'echo chamber' effects or increase attitude-driven identities through suppressing all sources of dissonance or alternatives. In a note of optimism, I found that when the morality of a topic

varies by the degree to which is is or isn't acceptable/okay rather than its abstract connection to values did **not** result in this suppression. If these are not simply separate constructs, but may be instead reframings of each other, optimistically we may be able to manipulate the perceived nature of morality and ease tensions.

Morality has a place in increasing discussion, as high morality, as long as it is not coupled with maximum affect, does increase advocacy, including overcoming the suppressive social risk of a controversial topic.

On Essentialism and Regulatory Orientation as Influences on Advocacy

Through the course of these studies it has become clear that attitude basis is a key factor in advocacy, not replaceable by generalized morality. I found some evidence, but only in *a posteriori* analysis, that basis, essentialist views of attitudes, and prevention orientation may work together to influence rates of both reported willingness and actual observed advocacy.

However, it is worth noting that morality did not play significantly into any model containing frame manipulations. As the manipulations were intended to grasp some of the underlying processes that may influence an issue being perceived as moral, this may have been expected. However, without directly manipulation these aspects in the context of a specific topic and measuring any change in reported morality, it is unclear whether these frames negate effects of morality or actually drive them, which should be pursued in future work.

Contributions to Theory

Dwyer (2009) argued that research on moral dumbfounding was limited by the conflation of acceptability and permissibility in research. While others have used measures that

either include both or draw a clearer distinction, the predictive value of these (questionably separate) concepts had not been established. I believe, in this work, that I have clarified that permissibility and acceptability do in fact have different value in predicting the established outcomes of moral conviction.

Skitka noted that individuals often select one or a few topics on which to have passionate moral stances, but do not extend that stance to every related issue. She argued that people use these stances as a form of self-presentation or identity construction (2002). The self-related nature of moral attitudes is supported by this work, in that a manipulation of attitudinal relevancy of the self-concept resulted in increased advocacy as moral conviction did. More suggestively, high beliefs in essentialism in some circumstances had the same suppressive impact as maximal moral conviction.

Further, although research thus far has often focused on individual behavior (e.g. Skitka, 2010; Skitka & Bauman, 2008), social withdrawal (e.g. intolerance: Cole Wright et al., 2008), and/or collective action measures that may imply action not only for the group but as a group (e.g. Zaal, Va Laar, Ståhl, & Ellemers, 2011), there had been very little to establish how well these attitudes and attitude factors affect explicitly 1-on-1 approach behaviors (direct person-to-person advocacy). As this type of behavior has the highest social risk, it holds the highest theoretical value in finding what elements of an attitude, when strong enough, overcome that risk. In this work, I have demonstrated that direct person-to-person advocacy is subject the same positive relationship with morality. However, it may be suppressed by high controversiality or enhanced by majority status, especially at closer levels of social distance;

social context becomes more relevant to the study of moral attitudes as the degree of social risk increases.

Finally, by manipulating the perceived essentialism and immutability of attitudes, I am contributing to a body of studies of incremental and entity views of self, or in Dweck's terminology, growth vs. fixed mindsets (Dweck, 2015; Dweck, 2012; Dweck, 2008). These views of mindsets have already been shown to be manipulable (e.g. Yeager, et al., 2016; Dweck, 2014) however, in this study we saw the effects of that manipulation not on the self or future behavior, but the intervening attitudes that guide that behavior (a la The Theory of Planned Behavior; Ajzen, 1991; Ajzen, 1985).

This set of studies not only contributes to psychological theory on multiple levels, but also is directly related to social issues of the day. As our societies wrestle with questions of violence, vaccination, punishment for lawbreaking, etc., the effects of moral judgment are highly relevant to not only our understanding of why people answer these questions the way that they do, but also what makes them spread their opinion to others, and what may shut down the discussion entirely.

CHAPTER 11. FUTURE WORK

I believe there are several avenues of work stemming from this research that should be continued.

First, the thread of basis interacting with other factors was not originally an intended focus of this work. The nature of the relationship between affective and cognitive basis should be studied via explicit manipulations of these bases regarding a specific attitude.

If possible, it would be ideal to manipulate basis vs. morality. However, as the cause of morality remains unclear, another line of research lies in the relationship between the theoretically possible underpinnings of morality, such as threat (and/or regulatory orientation) or the self (that is, mutability of, or efficacy beliefs). It should be determined whether manipulating these constructs in the context of a specific attitude may actually change the perceived morality of that attitude. Following that and other investigations into possible sources of morality, morality may be manipulated in time with basis in order to test for true causal interactions.

Finally, although in this work I have ventured into the world of secondary, rather than primary, persuasion effects (the viral effect), the identity of the secondary target (he who one is advocating to) remains undefined. As an intelligent advocate with a theory of mind, I must have some pre-existing beliefs about the nature of my target. Group relations and attribution theories would suggest that some of those beliefs about those who disagree with me, outgroup members, involve judgements of their own basis for attitudes, and likelihood of changing. I believe there is almost certainly striking interactions between a source of advocacy and their target that has yet to be explored.

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APPENDIX A. INSTITUTIONAL REVIEW BOARD LETTERS

Study 1

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 08/08/2019

To: Ann Lewis Kevin Blankenship, PhD

From: Office for Responsible Research

Title: Moral Judgments of Health and Public Policy Attitudes

IRB ID: 19-382

Submission Type: Initial Submission **Exemption Date:** 08/08/2019

The project referenced above has been declared exempt from most requirements of the human subject protections regulations as described in 45 CFR 46.104 or 21 CFR 56.104 because it meets the following federal requirements for exemption:

2018 - 2 (i): Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) when the information obtained is recorded by the investigator in such a manner that the identity of the human subjects cannot readily be ascertained, directly or through identifiers linked to the subjects.

The determination of exemption means that:

- 12. You do not need to submit an application for continuing review. Instead, you will receive a request for a brief status update every three years. The status update is intended to verify that the study is still ongoing.**
- 13. You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any *modifications to the research procedures* (e.g., method of data collection, nature or scope of information to be collected, nature or duration of

behavioral interventions, use of deception, etc.), any change in *privacy or confidentiality protections*, modifications that result in the *inclusion of participants from vulnerable populations*, removing plans for informing participants about the study, any *change that may increase the risk or discomfort to participants*, and/or any change such that the revised procedures do not fall into one or more of the regulatory exemption categories. The purpose of review is to determine if the project still meets the federal criteria for exemption.

3. All **changes to key personnel** must receive prior approval.

- **Promptly inform the IRB of any addition of or change in federal funding for this study.** Approval of the protocol referenced above applies only to funding sources that are specifically identified in the corresponding IRB application.

Detailed information about requirements for submitting modifications for exempt research can be found on our website. For modifications that require prior approval, an amendment to the most recent IRB application must be submitted in IRBManager. A determination of exemption or approval from the IRB must be granted before implementing the proposed changes.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Additionally:

8. All research involving human participants must be submitted for IRB review. **Only the IRB or its designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.
- **Please inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an eligible PI to remain open.
 - **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.
9. **Approval from other entities may also be needed.** For example, access to data from private records (e.g., student, medical, or employment records, etc.) that are protected by FERPA, HIPAA or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**
10. Your research study may be subject to **post-approval monitoring by Iowa State University's**

Office for Responsible Research. In some cases, it may also be subject to formal audit or inspection by federal agencies and study sponsors.

- Upon completion of the project, transfer of IRB oversight to another IRB, or departure of the PI and/or Supervising Investigator, please initiate a Project Closure in IRBManager to officially close the project. For information on instances when a study may be closed, please refer to the IRB Study Closure Policy.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

Study 2

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 10/14/2019

To: Ann Lewis Kevin Blankenship, PhD

From: Office for Responsible Research

Title: **Social Sharing of Health and Public Policy Attitudes**

IRB ID: 19-515

Submission Type: Initial Submission **Exemption Date:** 10/14/2019

The project referenced above has been declared exempt from most requirements of the human subject protections regulations as described in 45 CFR 46.104 or 21 CFR 56.104 because it meets the following federal requirements for exemption:

2018 - 2 (ii): Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) when any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

The determination of exemption means that:

14. You do not need to submit an application for continuing review. Instead, you will receive a request for a brief status update every three years. The status update is intended to verify that the study is still ongoing.

15. You must carry out the research as described in the IRB application. Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any *modifications to the research procedures* (e.g., method of data collection, nature or scope of information to be collected, nature or duration of behavioral interventions, use of deception, etc.), any change in *privacy or confidentiality protections*, modifications that result in the *inclusion of participants from vulnerable populations*, removing plans for informing participants about the study, any *change that may increase the risk or discomfort to participants*, and/or any change such that the revised procedures do not fall into one or more of the regulatory exemption categories. The purpose of review is to determine if the project still meets the federal criteria for exemption.

4. All **changes to key personnel** must receive prior approval.

- **Promptly inform the IRB of any addition of or change in federal funding for this study.** Approval of the protocol referenced above applies only to funding sources that are specifically identified in the corresponding IRB application.

Detailed information about requirements for submitting modifications for exempt research can be found on our website. For modifications that require prior approval, an amendment to the most recent IRB application must be submitted in IRBManager. A determination of exemption or approval from the IRB must be granted before implementing the proposed changes.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Additionally:

- **All research involving human participants must be submitted for IRB review. Only the IRB or its designees may make the determination of exemption, even if you conduct a study in the future that is exactly like this study.**
- **Please inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an eligible PI to remain open.
- **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.

- **Approval from other entities may also be needed.** For example, access to data from private records (e.g., student, medical, or employment records, etc.) that are protected by FERPA, HIPAA or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**
- Your research study may be subject to **post-approval monitoring by Iowa State University's Office for Responsible Research.** In some cases, it may also be subject to formal audit or inspection by federal agencies and study sponsors.
- Upon completion of the project, transfer of IRB oversight to another IRB, or departure of the PI and/or Supervising Investigator, please initiate a Project Closure in IRBManager to officially close the project. For information on instances when a study may be closed, please refer to the IRB Study Closure Policy.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

Study 3

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office for Responsible Research
Vice President for Research
2420 Lincoln Way, Suite 202
Ames, Iowa 50014
515 294-4566

Date: 10/29/2019

To: Ann Lewis

Kevin Blankenship, PhD

From: Office for Responsible Research

Title: **Gun Control Attitudes in the United States**

IRB ID: 19-467

Submission Type: Initial Submission

Exemption Date: 10/29/2019

The project referenced above has been declared exempt from most requirements of the human subject protections regulations as described in 45 CFR 46.104 or 21 CFR 56.104 because it meets the following federal requirements for exemption:

2018 - 2 (ii): Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording) when any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

2018 - 3 (i.B): Research involving benign behavioral interventions in conjunction with the collection of information from an adult subject through verbal or written responses or audiovisual recording when the subject prospectively agrees to the intervention and information collection and any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, education advancement, or reputation. - 3 (ii) If research involves deception, it is prospectively authorized by the subject.

The determination of exemption means that:

- **You do not need to submit an application for continuing review. Instead, you will receive a request for a brief status update every three years. The status update is intended to verify that the study is still ongoing.**
- **You must carry out the research as described in the IRB application.** Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any *modifications to the research procedures* (e.g., method of data collection, nature or scope of information to be collected, nature or duration of behavioral interventions, use of deception, etc.), any change in *privacy or confidentiality protections*, modifications that result in the *inclusion of participants from vulnerable populations*, removing plans for informing participants about the study, any *change that may increase the risk or discomfort to participants*, and/or any change such that the revised procedures do not fall into one or more of the regulatory exemption categories. The purpose of review is to determine if the project still meets the federal criteria for exemption.
- All **changes to key personnel** must receive prior approval.
- **Promptly inform the IRB of any addition of or change in federal funding for this study.** Approval of the protocol referenced above applies only to funding sources that are specifically identified in the corresponding IRB application.

Detailed information about requirements for submitting modifications for exempt research can be found on our website. For modifications that require prior approval, an amendment to the most recent IRB application must be submitted in IRBManager. A determination of exemption or approval from the IRB must be granted before implementing the proposed changes.

Non-exempt research is subject to many regulatory requirements that must be addressed prior to

implementation of the study. Conducting non-exempt research without IRB review and approval may constitute non-compliance with federal regulations and/or academic misconduct according to ISU policy.

Additionally:

- All research involving human participants must be submitted for IRB review. **Only the IRB or its designees may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.
- **Please inform the IRB if the Principal Investigator and/or Supervising Investigator end their role or involvement with the project** with sufficient time to allow an alternate PI/Supervising Investigator to assume oversight responsibility. Projects must have an eligible PI to remain open.
- **Immediately inform the IRB of (1) all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.
- **Approval from other entities may also be needed.** For example, access to data from private records (e.g., student, medical, or employment records, etc.) that are protected by FERPA, HIPAA or other confidentiality policies requires permission from the holders of those records. Similarly, for research conducted in institutions other than ISU (e.g., schools, other colleges or universities, medical facilities, companies, etc.), investigators must obtain permission from the institution(s) as required by their policies. **An IRB determination of exemption in no way implies or guarantees that permission from these other entities will be granted.**
- Your research study may be subject to **post-approval monitoring by Iowa State University's Office for Responsible Research.** In some cases, it may also be subject to formal audit or inspection by federal agencies and study sponsors.
- Upon completion of the project, transfer of IRB oversight to another IRB, or departure of the PI and/or Supervising Investigator, please initiate a Project Closure in IRBManager to officially close the project. For information on instances when a study may be closed, please refer to the IRB Study Closure Policy.

Please don't hesitate to contact us if you have questions or concerns at 515-294-4566 or IRB@iastate.edu.

APPENDIX B. ADDITIONAL TABLES

Study 1

Regressions Using Each Morality Measure

Table B.1.1. Effect of cognitive basis, affective basis, and moral conviction on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	-0.00	1.17	0.756	0.00	0.45	<0.001	0.00	0.47	<0.001	0.00	0.50	<0.001
Moral Conviction	0.19	0.35	0.162	-0.40	0.13	0.010	-0.49	0.14	0.002	-0.33	0.15	0.036
Affective Basis	1.36	0.53	0.001	-0.65	0.20	0.154	-0.74	0.21	0.104	-0.20	0.23	0.667
Cognitive Basis	0.14	0.24	0.392	-0.01	0.09	0.969	-0.17	0.10	0.358	-0.18	0.10	0.322
Moral Conviction x Affective Basis	-1.26	0.14	0.006	0.91	0.05	0.079	1.07	0.06	0.040	0.52	0.06	0.321
Moral Conviction x Cognitive Basis	-0.24	0.07	0.299	0.27	0.03	0.304	0.46	0.03	0.076	0.41	0.03	0.114
Affective Basis x Cognitive Basis	-1.01	0.10	0.036	0.35	0.04	0.524	0.71	0.04	0.193	0.41	0.04	0.459
Moral Conviction x Aff. Basis x Cog. Basis	1.41	0.03	0.008	-0.49	0.01	0.415	-0.92	0.01	0.125	-0.58	0.01	0.334
Observations	600			600			600			593		
R ² / R ² adjusted	0.246 / 0.237			0.038 / 0.027			0.036 / 0.025			0.034 / 0.023		

Table B.1.2. Effect of cognitive basis, affective basis, and acceptability/permissibility on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	-0.00	1.29	0.397	0.00	0.51	<0.001	0.00	0.53	<0.001	0.00	0.56	0.003
Acceptability / Permissibility	0.32	0.23	0.050	0.40	0.09	0.038	0.33	0.09	0.088	0.44	0.10	0.021
Affective Basis	1.21	0.47	0.001	0.06	0.19	0.883	0.25	0.19	0.550	0.70	0.21	0.088
Cognitive Basis	0.29	0.23	0.055	0.26	0.09	0.139	0.26	0.09	0.135	0.34	0.10	0.045
Valence	-0.04	0.04	0.453	-0.16	0.01	0.004	-0.15	0.02	0.009	-0.18	0.02	0.002
A/P x Affective Basis	-1.07	0.08	0.006	-0.11	0.03	0.807	-0.27	0.03	0.547	-0.66	0.04	0.144
A/P x Cognitive Basis	-0.44	0.04	0.031	-0.26	0.02	0.263	-0.31	0.02	0.189	-0.44	0.02	0.059
Affective Basis x Cognitive Basis	-1.11	0.08	0.005	0.02	0.03	0.961	-0.35	0.03	0.433	-0.87	0.03	0.051
A/P x Aff. Basis x Cog. Basis	1.49	0.01	<0.001	0.06	0.01	0.892	0.45	0.01	0.331	0.96	0.01	0.039
Observations	599			599			599			592		
R ² / R ² adjusted	0.276 / 0.266			0.039 / 0.026			0.032 / 0.019			0.062 / 0.049		

Table B.1.3. Effect of cognitive basis, affective basis, and promotion-oriented morality on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	-0.00	1.32	0.633	0.00	0.51	<0.001	0.00	0.54	<0.001	0.00	0.57	<0.001
Promotion - Oriented Statements	0.23	0.27	0.119	0.13	0.11	0.447	0.11	0.11	0.537	0.19	0.12	0.265
Affective Basis	1.10	0.44	0.001	0.31	0.17	0.413	0.36	0.18	0.346	0.52	0.19	0.171
Cognitive Basis	0.18	0.23	0.238	0.32	0.09	0.073	0.27	0.10	0.125	0.25	0.10	0.152
Valence	0.02	0.04	0.688	0.06	0.02	0.326	0.03	0.02	0.655	-0.04	0.02	0.559
Promotion - Oriented State. x Affective Basis	-0.88	0.09	0.008	-0.30	0.03	0.424	-0.32	0.04	0.404	-0.38	0.04	0.313
Promotion - Oriented State. x Cognitive Basis	-0.27	0.05	0.159	-0.31	0.02	0.155	-0.29	0.02	0.184	-0.28	0.02	0.198
Affective Basis x Cognitive Basis	-0.71	0.07	0.055	-0.20	0.03	0.636	-0.35	0.03	0.401	-0.46	0.03	0.275
Promotion - Oriented State. x Aff. Basis x Cog. Basis	0.95	0.01	0.006	0.22	0.01	0.566	0.37	0.01	0.345	0.43	0.01	0.273
Observations	600			600			600			593		
R ² / R ² adjusted	0.247 / 0.237			0.033 / 0.020			0.021 / 0.008			0.029 / 0.015		

Table B.1.4. Effect of cognitive basis, affective basis, and prevention-oriented morality on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	0.00	1.27	0.056	0.00	0.49	<0.001	0.00	0.51	<0.001	0.00	0.55	<0.001
Prevention - Oriented Statements	-0.14	0.33	0.405	-0.08	0.13	0.665	-0.02	0.13	0.903	-0.14	0.14	0.464
Affective Basis	0.13	0.50	0.723	-0.40	0.19	0.347	-0.36	0.20	0.402	-0.35	0.21	0.421
Cognitive Basis	-0.14	0.22	0.347	-0.00	0.08	0.997	-0.02	0.09	0.902	-0.06	0.09	0.726
Valence	0.02	0.04	0.711	0.02	0.01	0.764	0.03	0.01	0.640	-0.04	0.02	0.495
Prevention - Oriented State. x Affective Basis	0.17	0.13	0.712	0.52	0.05	0.315	0.51	0.05	0.320	0.64	0.06	0.220
Prevention - Oriented State. x Cognitive Basis	0.16	0.06	0.453	0.14	0.02	0.557	0.13	0.02	0.607	0.16	0.02	0.509
Affective Basis x Cognitive Basis	0.42	0.08	0.302	0.35	0.03	0.436	0.38	0.03	0.406	0.48	0.04	0.301
Prevention - Oriented State. x Aff. Basis x Cog. Basis	-0.21	0.02	0.665	-0.40	0.01	0.466	-0.46	0.01	0.402	-0.63	0.01	0.249
Observations	600			600			600			593		
R ² / R ² adjusted	0.237 / 0.227			0.027 / 0.014			0.024 / 0.011			0.028 / 0.015		

Table B.1.5. Effect of cognitive basis, affective basis, and nonessentialist morality on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	-0.00	1.30	0.479	0.00	0.50	<0.001	0.00	0.52	<0.001	0.00	0.56	<0.001
Nonessential - Framed Statements	0.32	0.26	0.055	0.18	0.10	0.326	0.15	0.11	0.407	0.24	0.11	0.191
Affective Basis	1.06	0.50	0.006	0.47	0.19	0.272	0.63	0.20	0.141	0.74	0.22	0.089
Cognitive Basis	0.20	0.22	0.186	0.30	0.09	0.076	0.30	0.09	0.077	0.28	0.10	0.096
Valence	0.00	0.04	0.973	0.05	0.02	0.418	0.06	0.02	0.358	-0.02	0.02	0.742
Nonessential - Framed State. x Affective Basis	-0.85	0.10	0.029	-0.48	0.04	0.278	-0.61	0.04	0.167	-0.61	0.04	0.170
Nonessential - Framed State. x Cognitive Basis	-0.33	0.04	0.095	-0.30	0.02	0.178	-0.34	0.02	0.123	-0.34	0.02	0.126
Affective Basis x Cognitive Basis	-0.62	0.08	0.125	-0.32	0.03	0.488	-0.58	0.03	0.202	-0.65	0.04	0.157
Nonessential - Framed State. x Aff. Basis x Cog. Basis	0.90	0.02	0.023	0.34	0.01	0.446	0.60	0.01	0.180	0.63	0.01	0.162
Observations	600			600			600			593		
R ² / R ² adjusted	0.244 / 0.234			0.033 / 0.019			0.027 / 0.013			0.030 / 0.017		

Table B.1.6. Effect of cognitive basis, affective basis, and essentialist morality on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	-0.00	1.59	0.845	0.00	0.61	<0.001	0.00	0.64	<0.001	0.00	0.68	<0.001
Essential - Framed Statements	0.17	0.35	0.276	0.03	0.13	0.874	-0.02	0.14	0.897	0.07	0.15	0.688
Affective Basis	1.04	0.62	0.028	0.40	0.24	0.453	0.30	0.25	0.582	0.58	0.27	0.280
Cognitive Basis	0.16	0.28	0.389	0.19	0.11	0.381	0.08	0.11	0.714	0.09	0.12	0.662
Valence	0.04	0.03	0.359	0.01	0.01	0.772	-0.01	0.01	0.847	-0.05	0.01	0.337
Essential - Framed State. x Affective Basis	-0.80	0.13	0.093	-0.39	0.05	0.462	-0.25	0.05	0.648	-0.43	0.06	0.426
Essential - Framed State. x Cognitive Basis	-0.23	0.06	0.290	-0.12	0.02	0.631	-0.02	0.03	0.924	-0.06	0.03	0.825
Affective Basis x Cognitive Basis	-0.61	0.10	0.225	-0.27	0.04	0.637	-0.18	0.04	0.747	-0.44	0.04	0.440
Essential - Framed State. x Aff. Basis x Cog. Basis	0.86	0.02	0.078	0.30	0.01	0.583	0.20	0.01	0.723	0.41	0.01	0.463
Observations	600			600			600			593		
R ² / R ² adjusted	0.240 / 0.230			0.027 / 0.013			0.017 / 0.004			0.027 / 0.014		

Table B.1.7. Effect of cognitive basis, affective basis, and a unipolar morality/permissibility measure on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	0.00	1.18	0.186	0.00	0.46	<0.001	0.00	0.48	<0.001	0.00	0.51	<0.001
Unipolar Moral	-0.03	0.40	0.828	-0.05	0.15	0.785	0.01	0.16	0.955	-0.12	0.17	0.520
Affective Basis	-0.08	0.36	0.775	-0.03	0.14	0.933	-0.08	0.14	0.796	-0.07	0.15	0.830
Cognitive Basis	0.03	0.21	0.829	0.00	0.08	0.984	-0.01	0.08	0.927	-0.05	0.09	0.775
Valence	0.01	0.04	0.809	0.01	0.01	0.873	0.01	0.01	0.783	-0.04	0.02	0.500
Unipolar Moral x Affective Basis	0.50	0.13	0.159	0.04	0.05	0.929	0.19	0.05	0.642	0.32	0.06	0.427
Unipolar Moral x Cognitive Basis	-0.08	0.07	0.684	0.13	0.03	0.579	0.12	0.03	0.610	0.15	0.03	0.530
Affective Basis x Cognitive Basis	0.53	0.06	0.077	0.02	0.02	0.942	0.19	0.02	0.587	0.19	0.03	0.584
Unipolar Moral x Aff. Basis x Cog. Basis	-0.42	0.02	0.269	0.04	0.01	0.928	-0.22	0.01	0.601	-0.30	0.01	0.484
Observations	600			600			600			593		
R ² / R ² adjusted	0.243 / 0.233			0.025 / 0.011			0.019 / 0.006			0.027 / 0.014		

Table B.1.8. Effect of cognitive basis, affective basis, and a unipolar okayness/acceptability measure on hostile collective action and intolerance at various levels of social distance.

Predictors	Hostile Collective Action			Intolerance - Friend			Intolerance - Acquaintance			Intolerance - Stranger		
	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p	Estimate	Stat.	p
Intercept	-0.00	1.41	0.552	0.00	0.54	<0.001	0.00	0.57	<0.001	0.00	0.60	<0.001
Unipolar OK	0.26	0.38	0.110	0.14	0.15	0.457	0.11	0.15	0.559	0.16	0.16	0.381
Affective Basis	1.07	0.50	0.005	0.24	0.19	0.575	0.23	0.20	0.586	0.63	0.21	0.137
Cognitive Basis	0.18	0.25	0.287	0.30	0.10	0.113	0.27	0.10	0.158	0.25	0.11	0.189
Valence	0.06	0.04	0.236	0.05	0.01	0.340	0.06	0.01	0.266	0.03	0.02	0.531
Unipolar OK x Affective Basis	-0.82	0.13	0.026	-0.24	0.05	0.555	-0.19	0.05	0.640	-0.48	0.05	0.245
Unipolar OK x Cognitive Basis	-0.27	0.07	0.200	-0.30	0.03	0.208	-0.30	0.03	0.207	-0.28	0.03	0.240
Affective Basis x Cognitive Basis	-0.46	0.09	0.274	-0.06	0.03	0.894	-0.05	0.03	0.919	-0.38	0.04	0.425
Unipolar OK x Aff. Basis x Cog. Basis	0.66	0.02	0.091	0.10	0.01	0.814	0.06	0.01	0.887	0.32	0.01	0.468
Observations	600			600			600			593		
R ² / R ² adjusted	0.245 / 0.235			0.038 / 0.025			0.038 / 0.025			0.041 / 0.028		

Zero-Order Correlations

Table B.1.9. Zero-order correlations of variables in Study 1.

	Valence	Extremity	Affective Basis	Cognitive Basis	Moral Conviction	Acceptability / Permissibility	Promotion Oriented	Prevention Oriented
Valence								
Extremity	0.13**							
Affective Basis	-0.09*	-0.38*****						
Cognitive Basis	-0.05	0.01	0.20*****					
Moral Conviction	0.07	0.15****	0.21*****	0.31*****				
Accept. / Permiss.	0.68*****	-0.02	0.01	-0.04	-0.01			
Promotion Oriented	0.27*****	0.01	-0.02	-0.11**	0.00	0.72*****		
Prevention Oriented	-0.64*****	-0.05	0.10*	0.07	0.01	-0.67*****	-0.81*****	
Nonessen. Framing	0.75*****	0.04	-0.08	-0.08*	0.02	0.75*****	0.92*****	-0.89*****
Essential Framing	0.55*****	0.02	-0.03	-0.09*	-0.04	0.58*****	0.85*****	-0.86*****

Table B.1.9. Continued

	Valence	Extremity	Affective Basis	Cognitive Basis	Moral Conviction	Acceptability / Permissibility	Promotion Oriented	Prevention Oriented
Unipolar Moral	-0.64****	-0.03	0.05	0.05	0.01	-0.66****	-0.73****	0.70****
Unipolar Okayness	0.67****	0.06	-0.05	-0.09*	0.00	0.66****	0.77****	-0.71****
Hostile CA	-0.01	-0.35****	-0.48****	0.15****	0.13**	0.10*	0.02	0.01
Friend Intolerance	-0.05	-0.11**	0.07	0.12**	-0.02	0.06	-0.11**	0.09*
Acquaint. Intolerance	-0.06	-0.18****	0.09*	0.08*	0.08*	0.06	-0.08*	0.11**
Stranger Intolerance	-0.06	-0.21****	0.15****	0.06	0.06	0.09*	-0.04	0.05
	Nonessential Framing	Essential Framing	Unipolar Moral	Unipolar Okayness	Hostile CA	Friend Intolerance	Acquaint. Intolerance	Stranger Intolerance
Essential Framing	0.72****							
Unipolar Moral	-0.74****	-0.65****						
Unipolar Okayness	0.78****	0.64****	-0.74****					

Table B.1.9. Continued

	Nonessential Framing	Essential Framing	Unipolar Moral	Unipolar Okayness	Hostile CA	Friend Intolerance	Acquaint. Intolerance	Stranger Intolerance
Hostile CA	0.01	0.00	-0.01	-0.03				
Friend Intolerance	-0.10*	-0.10*	0.08	-0.12**	-0.04			
Acquaint. Intolerance	-0.11**	-0.08	0.09*	-0.13**	0.10*	0.84****		
Stranger Intolerance	-0.06	-0.03	0.05	-0.11**	0.24****	0.72****	0.85****	

Study 2

Conceptual Replication of Study 1

Moral conviction

Table B.2.1. Effect of cognitive basis, affective basis, and moral conviction on advocacy behaviors for the topic of GMOs.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	3.30 (1.49–5.11)	3.59	<0.001	2.86 (0.84–4.87)	2.79	0.006	2.12 (0.20–4.05)	2.17	0.031	1.62 (-0.42–3.66)	1.56	0.120
Cognitive Basis	-0.03 (-0.41–0.35)	-0.16	0.875	-0.49 (-0.92–0.06)	-2.27	0.024	-0.09 (-0.50–0.32)	-0.45	0.654	-0.36 (-0.79–0.07)	-	0.104
Affective Basis	-0.14 (-0.85–0.58)	-0.38	0.707	-0.57 (-1.36–0.23)	-1.40	0.162	-0.27 (-1.03–0.49)	-0.70	0.483	-0.40 (-1.20–0.41)	-	0.335
Strength	0.76 (0.53–0.99)	6.46	<0.001	0.34 (0.08–0.60)	2.61	0.009	0.74 (0.49–0.99)	5.91	<0.001	0.34 (0.08–0.60)	2.55	0.011
Moral Conviction	-0.47 (-1.08–0.13)	-1.54	0.124	-0.45 (-1.12–0.22)	-1.31	0.191	-0.58 (-1.22–0.06)	-1.77	0.077	-0.13 (-0.81–0.55)	-	0.698
Cog. Basis x Moral Conviction	0.06 (-0.06–0.17)	0.93	0.351	0.19 (0.06–0.32)	2.82	0.005	0.12 (-0.00–0.25)	1.96	0.051	0.14 (0.00–0.27)	2.03	0.043
Aff. Basis x Moral Conviction	0.08 (-0.14–0.29)	0.71	0.479	0.22 (-0.01–0.46)	1.86	0.063	0.13 (-0.10–0.36)	1.13	0.259	0.15 (-0.09–0.39)	1.23	0.221
Cog. Basis x Aff. Basis	-0.02 (-0.17–0.14)	-0.20	0.838	0.16 (-0.01–0.33)	1.81	0.072	0.05 (-0.12–0.21)	0.56	0.577	0.15 (-0.03–0.32)	1.66	0.098
Cog. Basis x Aff. Basis x Moral Conviction	-0.00 (-0.05–0.04)	-0.14	0.886	-0.04 (-0.09–0.00)	-1.78	0.076	-0.02 (-0.07–0.02)	-0.88	0.378	-0.03 (-0.08–0.02)	-	0.190
Observations	300	300	300	300	300	300	300	300	300	300	300	300
R ² / R ² adjusted	0.229 / 0.207	0.417 / 0.401	0.338 / 0.320	0.461 / 0.446								

Table B.2.2. Effect of cognitive basis, affective basis, and moral conviction on advocacy behaviors for the topic of discrimination.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	-0.65 (-3.48 - 2.19)	-0.45	0.655	1.89 (-1.75 - 5.53)	1.02	0.307	-0.37 (-3.62 - 2.88)	-0.22	0.822	2.02 (-2.03 - 6.08)	0.98	0.327
Cognitive Basis	0.26 (-0.36 - 0.89)	0.83	0.407	-0.27 (-1.07 - 0.53)	-0.66	0.509	0.06 (-0.65 - 0.77)	0.17	0.864	-0.41 (-1.30 - 0.49)	-0.90	0.371
Affective Basis	0.74 (-0.15 - 1.64)	1.63	0.104	-1.13 (-2.28 - 0.02)	-1.93	0.055	0.55 (-0.48 - 1.58)	1.05	0.295	-1.00 (-2.28 - 0.28)	-1.53	0.127
Strength	0.35 (0.06 - 0.64)	2.37	0.019	1.05 (0.68 - 1.42)	5.55	<0.001	0.72 (0.39 - 1.06)	4.30	<0.001	1.16 (0.74 - 1.57)	5.49	<0.001
Moral Conviction	0.88 (0.15 - 1.61)	2.37	0.018	-0.69 (-1.63 - 0.25)	-1.45	0.148	0.31 (-0.53 - 1.15)	0.73	0.468	-0.75 (-1.79 - 0.30)	-1.41	0.160
Cog. Basis x Moral Conviction	-0.03 (-0.18 - 0.12)	-0.36	0.719	0.08 (-0.11 - 0.27)	0.83	0.406	0.02 (-0.15 - 0.19)	0.18	0.854	0.08 (-0.13 - 0.29)	0.73	0.465
Aff. Basis x Moral Conviction	-0.14 (-0.37 - 0.09)	-1.16	0.248	0.37 (0.07 - 0.66)	2.46	0.014	-0.07 (-0.34 - 0.19)	-0.56	0.579	0.29 (-0.04 - 0.62)	1.71	0.088
Cog. Basis x Aff. Basis	-0.08 (-0.24 - 0.09)	-0.89	0.372	0.24 (0.03 - 0.46)	2.24	0.026	-0.05 (-0.24 - 0.15)	-0.47	0.641	0.25 (0.01 - 0.49)	2.03	0.043
Cog. Basis x Moral Conviction	0.01 (-0.03 - 0.05)	0.62	0.534	-0.07 (-0.12 - 0.01)	-2.51	0.013	0.01 (-0.04 - 0.05)	0.23	0.819	-0.06 (-0.12 - 0.00)	-1.91	0.057
Observations	300	300	300	300	300	300	300	300	300	300	300	300
R ² / R ² adjusted	0.279 / 0.260			0.227 / 0.206			0.253 / 0.233			0.205 / 0.183		

Table B.2.3. Effect of cognitive basis, affective basis, and moral conviction on advocacy behaviors for the topic of climate change.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	0.93 (-1.58 - 3.43)	0.73	0.467	2.36 (-0.98 - 5.70)	1.39	0.165	-0.20 (-3.19 - 2.78)	-0.13	0.893	0.45 (-3.09 - 3.99)	0.25	0.803
Cognitive Basis	0.28 (-0.22 - 0.77)	1.11	0.269	-0.36 (-1.02 - 0.30)	-1.07	0.285	0.31 (-0.28 - 0.90)	1.03	0.304	-0.00 (-0.70 - 0.70)	-0.00	0.997
Affective Basis	-0.08 (-0.77 - 0.61)	-0.22	0.825	-0.87 (-1.79 - 0.05)	-1.86	0.064	-0.11 (-0.93 - 0.72)	-0.25	0.800	-0.18 (-1.15 - 0.80)	-0.35	0.724
Strength	0.71 (0.43 - 0.99)	5.05	<0.001	0.31 (-0.06 - 0.68)	1.66	0.097	0.68 (0.36 - 1.01)	4.09	<0.001	0.18 (-0.21 - 0.57)	0.89	0.375
Moral Conviction	0.41 (-0.27 - 1.08)	1.19	0.235	-0.05 (-0.94 - 0.85)	-0.10	0.917	0.48 (-0.32 - 1.28)	1.18	0.238	0.38 (-0.57 - 1.33)	0.79	0.430
Cog. Basis x Moral Conviction	0.02 (-0.12 - 0.15)	0.24	0.809	0.21 (0.02 - 0.39)	2.22	0.027	0.05 (-0.11 - 0.21)	0.62	0.536	0.09 (-0.11 - 0.28)	0.87	0.384
Aff. Basis x Moral Conviction	-0.06 (-0.19 - 0.06)	-0.97	0.332	0.09 (-0.07 - 0.26)	1.10	0.272	-0.06 (-0.21 - 0.09)	-0.83	0.406	0.02 (-0.15 - 0.20)	0.27	0.788
Cog. Basis x Aff. Basis	0.00 (-0.19 - 0.20)	0.05	0.964	0.34 (0.07 - 0.60)	2.50	0.013	0.01 (-0.23 - 0.25)	0.09	0.931	0.16 (-0.13 - 0.44)	1.09	0.278
Cog. Basis x Aff. Basis x Moral Conviction	-0.00 (-0.04 - 0.04)	-0.08	0.940	-0.06 (-0.11 - 0.01)	-2.49	0.013	-0.01 (-0.05 - 0.04)	-0.28	0.781	-0.03 (-0.08 - 0.02)	-1.09	0.277
Observations	300	300	300	300	300	300	300	300	300	300	300	300
R ² / R ² adjusted	0.265 / 0.245			0.222 / 0.200			0.254 / 0.234			0.225 / 0.204		

Moral okayness

Table B.2.4. Effect of cognitive basis, affective basis, and moral okayness on advocacy behaviors for the topic of GMOs.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p									
Intercept	-0.01 (-1.84 - 1.81)	-0.01	0.990	-0.27 (-2.41 - 1.86)	-0.25	0.801	-1.50 (-3.46 - 0.46)	-1.51	0.133	-1.07 (-3.21 - 1.07)	-0.99	0.325
Cognitive Basis	0.42 (0.09 - 0.74)	2.49	0.013	0.29 (-0.10 - 0.67)	1.46	0.144	0.51 (0.16 - 0.87)	2.86	0.004	0.40 (0.02 - 0.79)	2.07	0.039
Affective Basis	0.53 (0.02 - 1.05)	2.06	0.041	0.54 (-0.06 - 1.13)	1.76	0.080	0.55 (0.00 - 1.10)	1.98	0.048	0.23 (-0.37 - 0.82)	0.74	0.458
Strength	0.76 (0.57 - 0.94)	8.11	<0.001	0.63 (0.42 - 0.85)	5.81	<0.001	0.82 (0.62 - 1.01)	8.16	<0.001	0.66 (0.45 - 0.88)	6.09	<0.001
Okayness	0.67 (0.20 - 1.14)	2.81	0.005	0.18 (-0.37 - 0.73)	0.64	0.522	0.54 (0.04 - 1.05)	2.11	0.035	0.21 (-0.35 - 0.76)	0.74	0.461
Cog. Basis x Okayness	-0.10 (-0.19 - 0.01)	-2.19	0.029	-0.06 (-0.17 - 0.05)	-1.12	0.265	-0.08 (-0.18 - 0.02)	-1.59	0.114	-0.09 (-0.20 - 0.02)	-1.65	0.100
Aff. Basis x Okayness	-0.16 (-0.31 - 0.00)	-2.03	0.044	-0.12 (-0.30 - 0.06)	-1.36	0.176	-0.14 (-0.31 - 0.02)	-1.71	0.088	-0.01 (-0.19 - 0.17)	-0.08	0.933
Cog. Basis x Aff. Basis	-0.11 (-0.21 - 0.01)	-2.20	0.029	-0.07 (-0.18 - 0.04)	-1.21	0.228	-0.10 (-0.20 - 0.01)	-1.87	0.063	-0.03 (-0.14 - 0.09)	-0.45	0.653
Cog. Basis x Aff. Basis x Okayness	0.03 (0.00 - 0.06)	2.12	0.035	0.03 (-0.00 - 0.06)	1.88	0.061	0.03 (-0.00 - 0.06)	1.82	0.070	0.02 (-0.01 - 0.05)	1.08	0.282
Observations	300			300			300			300		
R ² / R ² adjusted	0.252 / 0.231			0.376 / 0.359			0.346 / 0.328			0.437 / 0.421		

Table B.2.5. Effect of cognitive basis, affective basis, and moral okayness on advocacy behaviors for the topic of discrimination.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p									
Intercept	-0.76 (-3.63 - 2.10)	-0.52	0.601	-0.15 (-3.81 - 3.51)	-0.08	0.937	-2.67 (-5.90 - 0.56)	-1.63	0.105	1.03 (-3.09 - 5.15)	0.49	0.623
Cognitive Basis	0.48 (-0.08 - 1.05)	1.68	0.094	0.04 (-0.69 - 0.76)	0.10	0.917	0.56 (-0.08 - 1.20)	1.72	0.086	-0.28 (-1.10 - 0.53)	-0.68	0.495
Affective Basis	0.30 (-0.43 - 1.04)	0.81	0.417	-0.08 (-1.02 - 0.87)	-0.16	0.876	0.81 (-0.03 - 1.64)	1.91	0.058	-0.09 (-1.15 - 0.97)	-0.16	0.871
Strength	0.67 (0.45 - 0.88)	6.08	<0.001	0.84 (0.56 - 1.11)	6.00	<0.001	0.86 (0.61 - 1.10)	6.94	<0.001	0.80 (0.49 - 1.11)	5.09	<0.001
Okayness	0.56 (-0.11 - 1.23)	1.63	0.103	0.04 (-0.82 - 0.90)	0.09	0.925	0.75 (-0.01 - 1.51)	1.95	0.053	-0.15 (-1.11 - 0.82)	-0.30	0.762
Cog. Basis x Okayness	-0.07 (-0.20 - 0.06)	-1.03	0.306	-0.00 (-0.17 - 0.17)	-0.01	0.993	-0.10 (-0.25 - 0.04)	-1.37	0.171	0.04 (-0.15 - 0.23)	0.45	0.651
Aff. Basis x Okayness	-0.02 (-0.20 - 0.16)	-0.20	0.845	0.10 (-0.13 - 0.33)	0.86	0.392	-0.14 (-0.34 - 0.06)	-1.34	0.181	0.06 (-0.20 - 0.32)	0.46	0.649
Cog. Basis x Aff. Basis	-0.05 (-0.18 - 0.09)	-0.66	0.507	0.07 (-0.10 - 0.24)	0.81	0.416	-0.11 (-0.26 - 0.04)	-1.41	0.160	0.09 (-0.11 - 0.28)	0.89	0.372
Cog. Basis x Aff. Basis x Okayness	0.00 (-0.03 - 0.03)	0.17	0.864	-0.02 (-0.06 - 0.02)	-1.11	0.269	0.02 (-0.02 - 0.06)	1.11	0.268	-0.02 (-0.06 - 0.03)	-0.73	0.467
Observations	300			300			300			300		
R ² / R ² adjusted	0.264 / 0.244			0.215 / 0.193			0.260 / 0.239			0.182 / 0.159		

Table B.2.6. Effect of cognitive basis, affective basis, and moral okayness on advocacy behaviors for the topic of climate change.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat	p									
Intercept	2.66 (-0.00 - 5.32)	1.97	0.050	2.61 (-0.98 - 6.20)	1.43	0.154	-0.24 (-3.40 - 2.92)	-0.15	0.881	0.23 (-3.51 - 3.96)	0.12	0.905
Cognitive Basis	0.07 (-0.41 - 0.54)	0.27	0.785	-0.49 (-1.13 - 0.15)	-1.51	0.132	0.36 (-0.20 - 0.92)	1.25	0.212	-0.06 (-0.73 - 0.60)	-0.19	0.849
Affective Basis	-0.38 (-1.20 - 0.44)	-0.92	0.361	-0.37 (-1.48 - 0.73)	-0.66	0.507	0.35 (-0.63 - 1.32)	0.70	0.484	0.50 (-0.65 - 1.65)	0.86	0.390
Strength	0.79 (0.59 - 1.00)	7.62	<0.001	0.80 (0.52 - 1.07)	5.69	<0.001	0.83 (0.58 - 1.07)	6.69	<0.001	0.77 (0.48 - 1.05)	5.26	<0.001
Okayness	-0.17 (-0.77 - 0.43)	-0.55	0.580	-0.61 (-1.41 - 0.20)	-1.47	0.142	0.28 (-0.43 - 0.99)	0.78	0.438	-0.23 (-1.08 - 0.61)	-0.55	0.583
Cog. Basis x Okayness	0.04 (-0.11 - 0.19)	0.57	0.569	0.17 (-0.03 - 0.37)	1.63	0.104	-0.04 (-0.22 - 0.14)	-0.41	0.683	0.03 (-0.18 - 0.24)	0.27	0.788
Aff. Basis x Okayness	0.00 (-0.11 - 0.11)	0.01	0.990	0.12 (-0.03 - 0.27)	1.59	0.112	-0.07 (-0.20 - 0.06)	-0.99	0.325	0.04 (-0.11 - 0.20)	0.56	0.576
Cog. Basis x Aff. Basis	0.08 (-0.12 - 0.27)	0.80	0.427	0.14 (-0.12 - 0.40)	1.08	0.282	-0.11 (-0.34 - 0.12)	-0.92	0.358	-0.05 (-0.32 - 0.22)	-0.35	0.725
Cog. Basis x Aff. Basis x Okayness	-0.01 (-0.04 - 0.03)	-0.44	0.662	-0.04 (-0.09 - 0.01)	-1.63	0.104	0.02 (-0.02 - 0.06)	0.80	0.424	-0.01 (-0.06 - 0.04)	-0.28	0.783
Observations	300	300	300	300	300	300	300	300	300	300	300	300
R ² / R ² adjusted	0.260 / 0.240			0.195 / 0.173			0.253 / 0.232			0.228 / 0.207		

Advocacy as Predicted by Moral Conviction, Perceived Majority Status of the Respondent's Attitude, and Perceived Controversiality

Moral conviction

Table B.2.7. Effect of majority, controversiality, and moral conviction on advocacy behaviors for the topic of GMOs.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	3.70 (2.80 - 4.60)	8.07	<0.001	0.12 (-0.97 - 1.20)	0.22	0.830	1.82 (0.82 - 2.82)	3.57	<0.001	-0.60 (-1.71 - 0.52)	-1.05	0.295
Strength	0.80 (0.57 - 1.03)	6.87	<0.001	0.30 (0.02 - 0.57)	2.13	0.034	0.81 (0.55 - 1.06)	6.24	<0.001	0.31 (0.02 - 0.59)	2.13	0.034
Moral Conviction	-0.35 (-0.62 - -0.09)	-2.63	0.009	0.93 (0.61 - 1.25)	5.76	<0.001	0.03 (-0.26 - 0.33)	0.21	0.831	1.03 (0.70 - 1.36)	6.21	<0.001
Majority	-1.64 (-3.04 - -0.25)	-2.32	0.021	-0.07 (-1.75 - 1.60)	-0.09	0.930	-2.12 (-3.67 - -0.57)	-2.69	0.007	-0.14 (-1.87 - 1.59)	-0.16	0.874
Controversiality	-0.08 (-0.13 - -0.03)	-3.04	0.003	0.04 (-0.02 - 0.11)	1.44	0.152	-0.04 (-0.10 - 0.02)	-1.42	0.157	0.05 (-0.01 - 0.11)	1.57	0.117
Majority x Moral Conviction	0.47 (0.07 - 0.87)	2.30	0.022	-0.02 (-0.50 - 0.47)	-0.07	0.947	0.52 (0.08 - 0.97)	2.31	0.022	0.07 (-0.43 - 0.57)	0.29	0.774
Controversiality x Moral Conviction	0.02 (0.00 - 0.03)	2.56	0.011	-0.01 (-0.03 - 0.00)	-1.62	0.107	0.01 (-0.01 - 0.03)	1.13	0.258	-0.01 (-0.03 - 0.01)	-1.30	0.195
Majority x Controversiality	0.07 (-0.01 - 0.16)	1.74	0.083	0.00 (-0.10 - 0.10)	0.06	0.955	0.11 (0.02 - 0.20)	2.31	0.022	0.02 (-0.08 - 0.13)	0.44	0.658
Majority x Controversiality x Moral Conviction	-0.02 (-0.04 - 0.00)	-1.57	0.118	0.00 (-0.02 - 0.03)	0.30	0.768	-0.02 (-0.05 - 0.00)	-1.90	0.059	-0.01 (-0.04 - 0.02)	-0.60	0.546
Observations	300			300			300			300		
R ² / R ² adjusted	0.250 / 0.230			0.341 / 0.323			0.298 / 0.279			0.369 / 0.351		

Table B.2.8. Effect of majority, controversy, and moral conviction on advocacy behaviors for the topic of discrimination.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	1.39 (0.25 - 2.53)	2.41	0.017	0.27 (-1.22 - 1.77)	0.36	0.718	0.29 (-1.03 - 1.61)	0.43	0.666	-0.40 (-2.03 - 1.24)	-0.48	0.632
Strength	0.48 (0.20 - 0.77)	3.36	0.001	1.15 (0.78 - 1.52)	6.09	<0.001	0.89 (0.56 - 1.22)	5.33	<0.001	1.28 (0.88 - 1.69)	6.20	<0.001
Moral Conviction	0.52 (0.20 - 0.84)	3.20	0.002	-0.07 (-0.49 - 0.36)	-0.30	0.761	0.30 (-0.08 - 0.67)	1.56	0.120	-0.05 (-0.51 - 0.41)	-0.22	0.826
Majority	1.47 (-1.01 - 3.95)	1.17	0.244	1.95 (-1.31 - 5.21)	1.18	0.240	0.02 (-2.86 - 2.89)	0.01	0.991	3.17 (-0.39 - 6.73)	1.75	0.081
Controversy	0.02 (-0.03 - 0.08)	0.78	0.435	0.02 (-0.05 - 0.10)	0.68	0.497	0.05 (-0.01 - 0.12)	1.61	0.109	0.07 (-0.01 - 0.15)	1.67	0.097
Majority x Moral Conviction	-0.28 (-0.88 - 0.33)	-0.91	0.365	-0.49 (-1.29 - 0.30)	-1.22	0.223	0.02 (-0.68 - 0.73)	0.06	0.950	-0.86 (-1.73 - 0.01)	-1.95	0.053
Controversy x Moral Conviction	-0.01 (-0.02 - 0.01)	-1.09	0.276	-0.01 (-0.02 - 0.01)	-0.52	0.607	-0.01 (-0.03 - 0.00)	-1.60	0.111	-0.02 (-0.04 - 0.00)	-1.53	0.128
Majority x Controversy	-0.04 (-0.14 - 0.06)	-0.81	0.421	-0.07 (-0.20 - 0.06)	-1.08	0.279	-0.04 (-0.15 - 0.08)	-0.64	0.526	-0.15 (-0.29 - 0.01)	-2.04	0.042
Majority x Moral Conviction	0.01 (-0.01 - 0.04)	0.98	0.326	0.01 (-0.02 - 0.05)	0.76	0.450	0.01 (-0.02 - 0.04)	0.59	0.554	0.03 (-0.00 - 0.07)	1.73	0.085
Observations	300	300	300	300	300	300	300	300	300	300	300	300
R ² / R ² adjusted	0.278 / 0.259	0.187 / 0.165	0.232 / 0.211	0.199 / 0.177								

Table B.2.9. Effect of majority, controversy, and moral conviction on advocacy behaviors for the topic of climate change.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p									
Intercept	2.11 (0.96–3.25)	3.62	<0.001	0.88 (-0.65–2.42)	1.13	0.259	0.76 (-0.62–2.14)	1.09	0.278	0.97 (-0.61–2.56)	1.21	0.229
Strength	0.72 (0.45–0.99)	5.33	<0.001	0.19 (-0.17–0.55)	1.05	0.296	0.71 (0.39–1.04)	4.37	<0.001	0.10 (-0.27–0.47)	0.55	0.582
Moral Conviction	0.15 (-0.16–0.46)	0.94	0.348	0.82 (0.40–1.24)	3.86	<0.001	0.41 (0.03–0.78)	2.12	0.034	0.89 (0.45–1.32)	4.04	<0.001
Majority	-0.51 (-2.41–1.39)	-0.53	0.597	0.17 (-2.37–2.71)	0.13	0.895	0.82 (-1.46–3.11)	0.71	0.479	0.46 (-2.16–3.09)	0.35	0.728
Controversiality	-0.00 (-0.06–0.06)	-0.08	0.938	0.00 (-0.08–0.08)	0.01	0.988	0.02 (-0.05–0.10)	0.69	0.492	-0.03 (-0.11–0.05)	-0.65	0.514
Majority x Moral Conviction	0.16 (-0.32–0.65)	0.67	0.506	-0.25 (-0.90–0.40)	-0.77	0.444	-0.34 (-0.93–0.24)	-1.16	0.248	-0.37 (-1.04–0.31)	-1.07	0.286
Controversiality x Moral Conviction	-0.00 (-0.02–0.01)	-0.12	0.903	-0.00 (-0.02–0.02)	-0.16	0.876	-0.01 (-0.03–0.01)	-0.66	0.513	0.01 (-0.02–0.03)	0.53	0.596
Majority x Controversiality	0.02 (-0.08–0.11)	0.34	0.737	0.03 (-0.10–0.15)	0.46	0.645	-0.05 (-0.16–0.06)	-0.84	0.403	0.03 (-0.10–0.16)	0.43	0.667
Majority x Controversiality x Moral Conviction	-0.00 (-0.03–0.02)	-0.38	0.707	-0.01 (-0.04–0.03)	-0.38	0.708	0.01 (-0.01–0.04)	0.98	0.330	-0.01 (-0.04–0.02)	-0.57	0.568
Observations	300			300			300			300		
R ² / R ² adjusted	0.252 / 0.231			0.197 / 0.175			0.222 / 0.201			0.240 / 0.219		

Moral okayness

Table B.2.10. Effect of majority, controversy, and moral okayness on advocacy behaviors for the topic of GMOs.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	1.40 (0.45 - 2.34)	2.91	0.004	0.20 (-1.03 - 1.42)	0.31	0.754	0.22 (-0.84 - 1.28)	0.40	0.687	-1.11 (-2.39 - 0.17)	-1.71	0.089
Valence	-0.03 (-0.08 - 0.03)	-0.88	0.381	-0.10 (-0.17 - -0.02)	-2.58	0.010	-0.01 (-0.07 - 0.06)	-0.19	0.853	-0.11 (-0.19 - -0.03)	-2.74	0.007
Strength	0.74 (0.57 - 0.92)	8.60	<0.001	0.95 (0.73 - 1.17)	8.48	<0.001	0.98 (0.79 - 1.17)	10.10	<0.001	1.02 (0.79 - 1.25)	8.72	<0.001
Okayness	0.36 (0.16 - 0.56)	3.50	0.001	0.17 (-0.09 - 0.43)	1.27	0.203	0.29 (0.06 - 0.52)	2.52	0.012	0.36 (0.09 - 0.64)	2.61	0.009
Majority	0.85 (-0.40 - 2.10)	1.34	0.182	-1.92 (-3.54 - -0.30)	-2.33	0.020	-0.36 (-1.76 - 1.03)	-0.51	0.608	-1.13 (-2.82 - 0.56)	-1.32	0.188
Controv.	-0.00 (-0.05 - 0.04)	-0.11	0.912	0.01 (-0.05 - 0.07)	0.38	0.704	-0.00 (-0.05 - 0.05)	-0.09	0.932	0.05 (-0.01 - 0.11)	1.64	0.102
Majority x Okayness	-0.27 (-0.61 - 0.08)	-1.52	0.129	0.43 (-0.01 - 0.88)	1.92	0.056	-0.01 (-0.39 - 0.38)	-0.05	0.959	0.28 (-0.18 - 0.75)	1.20	0.229
Controv. x Okayness	-0.00 (-0.02 - 0.01)	-0.55	0.581	-0.00 (-0.02 - 0.01)	-0.54	0.589	-0.00 (-0.02 - 0.01)	-0.26	0.793	-0.01 (-0.03 - 0.01)	-1.37	0.172
Majority x Controv.	0.02 (-0.05 - 0.08)	0.55	0.582	0.07 (-0.01 - 0.15)	1.75	0.081	0.06 (-0.01 - 0.13)	1.55	0.123	0.03 (-0.06 - 0.11)	0.65	0.514
Majority x Controv. x Okayness	-0.00 (-0.02 - 0.02)	-0.07	0.941	-0.01 (-0.04 - 0.01)	-1.17	0.245	-0.01 (-0.03 - 0.01)	-0.80	0.422	-0.01 (-0.03 - 0.02)	-0.64	0.522
Observations	300			300			300			300		
R ² / R ²	0.269 / 0.247			0.252 / 0.228			0.303 / 0.282			0.265 / 0.242		

Table B.2.1.1. Effect of majority, controversy, and moral okayness on advocacy behaviors for the topic of discrimination.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	1.81 (0.68 - 2.94)	3.15	0.002	-0.05 (-1.52 - 1.42)	-0.07	0.945	0.35 (-0.95 - 1.65)	0.53	0.59	-0.78 (-2.38 - 0.83)	-0.95	0.341
Valence	-0.02 (-0.08 - 0.03)	-0.75	0.455	-0.13 (-0.20 - -0.06)	-3.70	<0.001	-0.08 (-0.14 - -0.01)	-2.37	0.01	-0.16 (-0.24 - -0.09)	-4.15	<0.001
Strength	0.73 (0.52 - 0.93)	7.08	<0.001	1.00 (0.74 - 1.26)	7.53	<0.001	0.97 (0.73 - 1.20)	8.19	<0.0	1.00 (0.71 - 1.28)	6.84	<0.001
Okayness	0.16 (-0.06 - 0.39)	1.43	0.153	0.16 (-0.13 - 0.45)	1.08	0.282	0.19 (-0.07 - 0.45)	1.45	0.15	0.31 (-0.01 - 0.63)	1.91	0.057
Majority	-0.43 (-2.07 - 1.21)	-0.51	0.608	0.86 (-1.27 - 2.99)	0.79	0.429	-0.56 (-2.44 - 1.33)	-0.58	0.56	1.88 (-0.45 - 4.21)	1.59	0.114
Controvers.	0.01 (-0.04 - 0.06)	0.51	0.613	0.04 (-0.03 - 0.10)	1.12	0.265	0.04 (-0.02 - 0.09)	1.20	0.23	0.07 (-0.01 - 0.14)	1.78	0.077
Majority x Okayness	0.24 (-0.15 - 0.63)	1.23	0.220	-0.12 (-0.62 - 0.38)	-0.47	0.640	0.26 (-0.19 - 0.71)	1.14	0.25	-0.41 (-0.96 - 0.14)	-1.48	0.140
Controvers. x Okayness	-0.01 (-0.02 - 0.01)	-0.91	0.364	-0.01 (-0.02 - 0.01)	-1.05	0.297	-0.01 (-0.02 - 0.01)	-1.26	0.21	-0.02 (-0.03 - 0.00)	-1.72	0.087
Majority x Controvers.	-0.01 (-0.09 - 0.06)	-0.37	0.710	-0.06 (-0.15 - 0.04)	-1.16	0.249	-0.02 (-0.10 - 0.07)	-0.45	0.65	-0.12 (-0.22 - -0.01)	-2.20	0.029

Table B.2.11. Continued

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Majority x Controvers. x Okayness	0.00 (-0.01 - 0.02)	0.51	0.611	0.01 (-0.01 - 0.03)	0.80	0.423	0.00 (-0.02 - 0.02)	0.26	0.79	0.02 (-0.00 - 0.05)	1.85	0.065
Observations	300			300			300			300		
R ² / R ² adjusted	0.287 / 0.264			0.217 / 0.192			0.255 / 0.231			0.227 / 0.203		

Table B.2.12. Effect of majority, controversy, and moral okayness on advocacy behaviors for the topic of climate change.

Predictors	Reactive Sharing			Proactive Sharing			Reactive Persuasion			Proactive Persuasion		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	2.43 (1.32–3.55)	4.29	<0.001	0.83 (-0.69–2.34)	1.07	0.284	0.83 (-0.52–2.18)	1.21	0.226	0.45 (-1.11–2.01)	0.57	0.570
Valence	-0.00 (-0.06–0.05)	-0.15	0.877	-0.13 (-0.21–-0.06)	-3.56	<0.001	-0.06 (-0.12–0.01)	-1.71	0.088	-0.14 (-0.22–-0.06)	-3.64	<0.001
Strength	0.88 (0.69–1.08)	8.90	<0.001	0.91 (0.65–1.18)	6.76	<0.001	1.01 (0.77–1.25)	8.41	<0.001	0.97 (0.69–1.24)	6.97	<0.001
Okayness	-0.10 (-0.34–0.13)	-0.85	0.397	0.08 (-0.24–0.40)	0.49	0.625	0.07 (-0.21–0.36)	0.52	0.606	0.12 (-0.21–0.45)	0.71	0.481
Majority	-1.28 (-3.23–0.66)	-1.30	0.195	0.02 (-2.62–2.67)	0.02	0.985	0.80 (-1.56–3.15)	0.67	0.506	1.10 (-1.62–3.83)	0.80	0.426
Controvers.	-0.01 (-0.05–0.03)	-0.33	0.738	-0.00 (-0.06–0.05)	-0.14	0.892	0.01 (-0.04–0.06)	0.32	0.753	-0.01 (-0.07–0.05)	-0.26	0.793
Majority x Okayness	0.33 (-0.11–0.78)	1.47	0.143	-0.12 (-0.72–0.49)	-0.38	0.707	-0.27 (-0.81–0.27)	-0.99	0.321	-0.40 (-1.02–0.23)	-1.26	0.209
Controvers. x Okayness	0.00 (-0.01–0.01)	0.02	0.985	-0.00 (-0.02–0.01)	-0.18	0.854	-0.00 (-0.02–0.01)	-0.32	0.752	-0.00 (-0.02–0.02)	-0.02	0.981
Majority x Controvers.	0.02 (-0.07–0.11)	0.41	0.685	0.05 (-0.08–0.17)	0.76	0.445	-0.02 (-0.14–0.09)	-0.43	0.667	0.05 (-0.08–0.18)	0.70	0.485
Majority x Controvers. x Okayness	-0.00 (-0.03–0.02)	-0.44	0.663	-0.01 (-0.04–0.02)	-0.49	0.622	0.01 (-0.02–0.03)	0.65	0.518	-0.01 (-0.04–0.02)	-0.62	0.538
Observations	300			300			300			300		
R ² / R ² adj.	0.253 / 0.230			0.178 / 0.153			0.218 / 0.194			0.227 / 0.203		

Behavioral Measure of Advocacy

Moral conviction

Table B.2.13. Effect of majority, controversiality, and moral conviction on the behavioral measure of advocacy.

Predictors	Open-Ended, GMOs			Open-Ended, Discrimination			Open-Ended, Climate Change		
	Estimate*	Statistic	p	Estimate*	Statistic	p	Estimate*	Statistic	p
Intercept	153.74 (32.13 – 275.36)	2.49	0.013	-34.79 (-200.99 – 131.40)	-0.41	0.681	135.27 (7.27 – 263.27)	2.08	0.038
Strength	26.50 (-4.39 – 57.39)	1.69	0.092	-19.68 (-61.10 – 21.75)	-0.93	0.351	23.09 (-6.70 – 52.88)	1.53	0.128
Moral Conviction	-46.59 (-82.12 – -11.05)	-2.58	0.010	48.22 (1.25 – 95.19)	2.02	0.044	-48.78 (-83.66 – -13.91)	-2.75	0.006
Majority	-165.23 (-353.22 – 22.76)	-1.73	0.085	42.28 (-320.19 – 404.76)	0.23	0.819	-176.91 (-388.76 – 34.93)	-1.64	0.101
Controversiality	-0.78 (-7.61 – 6.06)	-0.22	0.823	2.60 (-5.39 – 10.59)	0.64	0.523	-4.65 (-11.24 – 1.95)	-1.39	0.166
Majority x Moral Conviction	43.11 (-11.09 – 97.31)	1.57	0.119	6.45 (-82.02 – 94.91)	0.14	0.886	82.84 (28.66 – 137.01)	3.01	0.003
Controversiality x Moral Conviction	-0.07 (-2.00 – 1.86)	-0.07	0.944	-0.80 (-2.98 – 1.39)	-0.72	0.474	1.36 (-0.40 – 3.12)	1.52	0.130
Majority x Controversiality	-1.40 (-12.60 – 9.80)	-0.25	0.806	1.21 (-13.27 – 15.70)	0.16	0.869	6.96 (-3.39 – 17.31)	1.32	0.187
Majority x Controversiality x Moral Conviction	0.74 (-2.26 – 3.73)	0.48	0.629	-0.57 (-4.23 – 3.09)	-0.31	0.758	-2.60 (-5.22 – 0.02)	-1.96	0.052
Observations	300			300			300		
R ² / R ² adjusted	0.054 / 0.028			0.047 / 0.021			0.144 / 0.121		

Moral okayness

Table B.2.14. Effect of majority, controversiality, and moral okayness on the behavioral measure of advocacy.

Predictors	Open-Ended, GMOs			Open-Ended, Discrimination			Open-Ended, Climate Change		
	Estimate*	Statistic	p	Estimate*	Statistic	p	Estimate*	Statistic	p
Intercept	164.21 (42.45 – 285.97)	2.65	0.008	-33.55 (-198.33 – 131.23)	-0.40	0.689	144.99 (17.84 – 272.15)	2.24	0.026
Valence	-6.41 (-13.65 – 0.82)	-1.74	0.082	9.89 (1.96 – 17.81)	2.46	0.015	7.00 (1.37 – 12.62)	2.45	0.015
Strength	26.31 (-4.47 – 57.10)	1.68	0.094	-18.14 (-59.24 – 22.95)	-0.87	0.386	21.50 (-8.07 – 51.06)	1.43	0.153
Okayness	-49.98 (-85.60 – -14.37)	-2.76	0.006	45.97 (-0.64 – 92.57)	1.94	0.053	-50.31 (-84.91 – -15.71)	-2.86	0.005
Majority	-168.78 (-356.16 – -18.60)	-1.77	0.077	85.60 (-275.46 – 446.66)	0.47	0.641	-190.59 (-400.92 – 19.75)	-1.78	0.076
Controversiality	-0.65 (-7.46 – 6.16)	-0.19	0.851	2.41 (-5.51 – 10.34)	0.60	0.550	-3.78 (-10.36 – 2.79)	-1.13	0.258
Majority x Okayness	42.48 (-11.54 – 96.49)	1.55	0.123	-12.25 (-101.23 – 76.73)	-0.27	0.787	81.93 (28.21 – 135.66)	3.00	0.003
Controversiality x Okayness	-0.13 (-2.05 – 1.79)	-0.13	0.897	-0.67 (-2.83 – 1.50)	-0.61	0.545	1.20 (-0.55 – 2.95)	1.35	0.178
Majority x Controversiality	-1.79 (-12.96 – 9.38)	-0.32	0.752	0.90 (-13.46 – 15.27)	0.12	0.902	6.16 (-4.13 – 16.44)	1.18	0.240
Majority x Controversiality x Okayness	0.87 (-2.11 – 3.86)	0.58	0.566	-0.59 (-4.22 – 3.04)	-0.32	0.749	-2.54 (-5.14 – 0.06)	-1.92	0.055
Observations	300			300			300		
R ² / R ² adjusted	0.064 / 0.035			0.067 / 0.038			0.162 / 0.136		

Zero-Order Correlations

Table B.2.15. Zero-order correlations of variables in Study 1.

	GMOs Majority	Discrim. Majority	Cl. Change Majority	GMOs Beh. Advocacy	Disc. Beh. Advocacy	Cl. Change Beh. Adv.	GMOs Controvers.	Disc. Controvers.
GMOs Majority								
Discrim. Majority	0.10							
Cl. Change Majority	0.08	0.43****						
GMOs Beh. Advocacy	-0.03	0.16**	0.22****					
Disc. Beh. Advocacy	0.03	0.14*	0.21****	0.82****				
Cl. Change Beh. Adv.	0.02	0.16**	0.30****	0.83****	0.81****			
GMOs Controvers.	0.17**	0.00	0.03	-0.03	-0.01	-0.06		
Disc. Controvers.	0.02	0.21****	0.13*	-0.05	-0.04	-0.04	0.60****	
Cl. Change Controvers.	0.04	0.16**	0.19****	-0.02	-0.02	0.00	0.58****	0.63****
GMOs Strength	0.11	-0.11	-0.02	0.02	-0.05	-0.07	0.02	-0.11

Table B.2.15. Continued

	GMOs Majority	Discrim. Majority	Cl. Change Majority	GMOs Beh. Advocacy	Disc. Beh. Advocacy	Cl. Change Beh. Adv.	GMOs Controvers.	Disc. Controvers.
Discrim. Strength	-0.04	0.09	0.06	0.05	0.04	0.06	-0.01	-0.01
Cl. Change Strength	0.02	0.15*	0.18**	0.10	0.01	0.10	0.02	0.02
GMOs Moral Conv.	-0.01	-0.21***	-0.16**	-0.08	-0.10	-0.16**	0.08	-0.07
Disc. Moral Conviction	-0.04	0.19***	0.14*	0.14*	0.13*	0.19**	-0.06	-0.05
Cl. Change Moral Conv.	-0.04	0.06	0.11	0.03	-0.02	0.03	0.02	0.02
GMOs Moral OK	-0.20***	0.02	-0.03	-0.09	-0.07	-0.05	-0.08	-0.05
Disc. Moral OK	-0.07	0.12*	0.17**	0.14*	0.09	0.15*	-0.09	-0.01
Cl. Change Moral OK	-0.08	0.18***	0.26***	0.10	0.09	0.13*	-0.08	0.03
GMOs Aff. Basis	-0.10	-0.18**	-0.25***	-0.31***	-0.28***	0.33***	-0.02	-0.13*

Table B.2.15. Continued

	GMOs Majority	Discrim. Majority	Cl. Change Majority	GMOs Beh. Advocacy	Disc. Beh. Advocacy	Cl. Change Beh. Adv.	GMOs Controvers.	Disc. Controvers.
GMOs Cog. Basis	0.06	-0.10	-0.09	-0.08	-0.03	-0.09	-0.02	-0.10
Disc. Aff. Basis	-0.07	-0.11	-0.12*	-0.16*	-0.12*	-0.15*	-0.05	-0.07
Disc. Cog. Basis	0.02	0.05	0.05	0.01	0.05	0.08	-0.05	-0.08
Cl. Change Aff. Basis	-0.14*	0.12*	-0.15**	-0.17**	-0.20***	-0.21***	0.00	-0.03
Cl. Change Cog. Basis	0.02	0.06	0.06	0.02	-0.01	0.03	-0.10	-0.08
GMOs React. Sharing	0.07	0.05	0.02	0.08	0.06	0.06	-0.06	-0.05
Disc. React. Sharing	-0.01	0.23***	0.09	0.11	0.13*	0.17**	-0.10	-0.04
Cl. Change React. Sharing	-0.02	0.12*	0.10	0.09	0.07	0.12*	-0.10	-0.04
GMOs Proact. Sharing	0.03	-0.21***	-0.19***	-0.11	-0.17**	-0.20***	0.05	-0.09

Table B.2.15. Continued

	GMOs Majority	Discrim. Majority	Cl. Change Majority	GMOs Beh. Advocacy	Disc. Beh. Advocacy	Cl. Change Beh. Adv.	GMOs Controvers.	Disc. Controvers.
Disc. Proact. Sharing	-0.07	-0.10	-0.21***	-0.09	-0.15*	-0.16**	0.03	-0.04
Cl. Change Proact. Sharing	0.00	-0.13*	-0.14*	-0.11	-0.16**	-0.18**	0.01	-0.09
GMOs React. Pers.	0.03	-0.05	-0.12*	-0.04	-0.08	-0.14*	0.02	0.01
Disc. React. Pers.	-0.07	0.06	-0.02	0.02	0.02	0.02	-0.04	-0.02
Cl. Change React. Pers.	-0.04	0.03	-0.03	0.01	-0.03	-0.02	-0.02	0.04
GMOs Proact. Pers.	0.01	-0.23****	-0.25****	-0.18**	-0.22****	-0.28****	0.08	-0.07
Disc. Proact Pers.	-0.13*	-0.18**	-0.21***	-0.15*	-0.19**	-0.21***	0.04	-0.06
Cl. Change Proact. Pers.	-0.06	-0.15*	-0.23****	-0.12*	-0.20****	-0.22****	0.00	-0.08

Table B.2.15. Continued

	Cl. Change Controv.	GMOs Strength	Disc. Strength	Cl. Change Strength	GMOs Moral Conv.	Disc. Moral Conv.	Cl. Change Moral Conv.	GMOs Moral OK
GMOs Strength	-0.06							
Discrim. Strength	0.03	0.37****						
Cl. Change Strength	0.03	0.41****	0.56****					
GMOs Moral Conv.	-0.09	0.66****	0.27****	0.20****				
Disc. Moral Conviction	-0.04	0.23****	0.74****	0.51****	0.15**			
Cl. Change Moral Conv.	0.04	0.34****	0.54****	0.73****	0.36****	0.57****		
GMOs Moral OK	-0.08	-0.04	0.10	0.08	-0.04	0.12*	0.07	
Disc. Moral OK	0.01	0.22***	0.35****	0.34****	0.11	0.34****	0.34****	0.18**
Cl. Change Moral OK	-0.01	0.04	0.31****	0.32****	0.01	0.36****	0.34****	0.26****
GMOs Aff. Basis	-0.11	0.22***	0.05	-0.05	0.47****	-0.05	0.11	0.11

Table B.2.15. Continued

	Cl. Change Controv.	GMOs Strength	Disc. Strength	Cl. Change Strength	GMOs Moral Conv.	Disc. Moral Conv.	Cl. Change Moral Conv.	GMOs Moral OK
GMOs Cog. Basis	-0.11	0.28****	0.13*	0.05	0.42****	0.07	0.17**	0.09
Disc. Aff. Basis	-0.08	0.15**	0.22***	0.02	0.29****	0.08	0.11	0.11
Disc. Cog. Basis	-0.05	0.17**	0.34****	0.23****	0.24****	0.36****	0.31****	0.22****
Cl. Change Aff. Basis	-0.02	0.15**	0.11	-0.03	0.37****	0.00	0.14*	0.09
Cl. Change Cog. Basis	-0.04	0.14**	0.28****	0.35****	0.15*	0.30****	0.40****	0.07
GMOs React. Sharing	-0.07	0.46****	0.29****	0.30****	0.29****	0.24****	0.18**	0.13*
Disc. React. Sharing	-0.06	0.16**	0.45****	0.33****	0.06	0.47****	0.34****	0.15**
Cl. Change React. Sharing	-0.04	0.23****	0.34****	0.49****	0.08	0.37****	0.41****	0.08
GMOs Proact. Sharing	-0.07	0.45****	0.21***	0.15**	0.57****	-0.01	0.21***	0.05

Table B.2.15. Continued

	Cl. Change Controv.	GMOs Strength	Disc. Strength	Cl. Change Strength	GMOs Moral Conv.	Disc. Moral Conv.	Cl. Change Moral Conv.	GMOs Moral OK
Disc. Proact. Sharing	-0.07	0.30****	0.39****	0.25****	0.44****	0.22****	0.35****	0.11*
Cl. Change Proact. Sharing	-0.05	0.33****	0.30****	0.30****	0.43****	0.17**	0.39****	0.08
GMOs React. Pers.	-0.05	0.51****	0.25****	0.25****	0.43****	0.09	0.20****	0.13*
Disc. React. Pers.	-0.06	0.25****	0.47****	0.38****	0.24****	0.39****	0.39****	0.23****
Cl. Change React. Pers.	0.03	0.21***	0.36****	0.44****	0.20****	0.28****	0.40****	0.12*
GMOs Proact. Pers.	-0.09	0.45****	0.18**	0.13*	0.59****	-0.04	0.21***	0.09
Disc. Proact Pers.	-0.08	0.32****	0.35****	0.24****	0.49****	0.16**	0.34****	0.18**
Cl. Change Proact. Pers.	-0.10	0.30****	0.28****	0.27****	0.45****	0.11	0.38****	0.13*

Table B.2.15. Continued

	Disc. Moral OK	Cl. Change Moral OK	GMOs Aff. Basis	GMOs Cog. Basis	Disc. Aff. Basis	Disc. Cog. Basis	Cl. Change Aff. Basis	Cl. Change Cog. Basis
Cl. Change Moral OK	0.46****							
GMOs Aff. Basis	0.05	-0.09						
GMOs Cog. Basis	0.14*	0.02	0.27****					
Disc. Aff. Basis	0.06	-0.03	0.59****	0.13*				
Disc. Cog. Basis	0.22***	0.22***	0.19***	0.33****	0.26****			
Cl. Change Aff. Basis	0.04	0.00	0.17****	0.25****	0.56****	0.20***		
Cl. Change Cog. Basis	0.30****	0.19****	0.23*	0.47****	0.19***	0.47****	0.12*	
GMOs React. Sharing	0.19**	0.10	0.09	0.19**	0.11	0.07	0.01	0.06
Disc. React. Sharing	0.32****	0.22****	0.10	0.13*	0.19**	0.28****	0.08	0.21***
Cl. Change React. Sharing	0.33****	0.14*	0.04	0.15**	0.04	0.19**	0.01	0.28****

Table B.2.15. Continued

	Disc. Moral OK	Cl. Change Moral OK	GMOs Aff. Basis	GMOs Cog. Basis	Disc. Aff. Basis	Disc. Cog. Basis	Cl. Change Aff. Basis	Cl. Change Cog. Basis
GMOs Proact. Sharing	0.02	-0.06	0.46****	0.35****	0.27****	0.06	0.31****	0.05
Disc. Proact. Sharing	0.09	0.02	0.44****	0.22****	0.30****	0.15**	0.28****	0.10
Cl. Change Proact. Sharing	0.10	-0.03	0.40****	0.28****	0.25****	0.11	0.26****	0.15*
GMOs React. Pers.	0.09	-0.01	0.23****	0.38****	0.15*	0.13*	0.16**	0.19**
Disc. React. Pers.	0.24****	0.11*	0.21***	0.28****	0.24****	0.24****	0.18**	0.27****
Cl. Change React. Pers.	0.19**	0.08	0.14*	0.31****	0.08	0.19****	0.11**	0.33****
GMOs Proact. Pers.	0.00	-0.15*	0.50****	0.39****	0.29****	0.06	0.35****	0.07
Disc. Proact. Pers.	0.08	-0.01	0.45****	0.31****	0.31****	0.14*	0.34****	0.16**
Cl. Change Proact. Pers.	0.07	-0.08	0.45****	0.35****	0.28****	0.10	0.32****	0.21***

Table B.2.15. Continued

	GMOs React. Sharing	Disc. React. Sharing	Cl. React. Sharing	GMOs Proact. Sharing	Disc. Proact. Sharing	Cl. Change Proact. Sharing	GMOs React. Pers.	Disc. React. Pers.
Disc. React. Sharing	0.62****							
Cl. Change React. Sharing	0.55****	0.62****						
GMOs Proact. Sharing	0.44****	0.25****	0.23****					
Disc. Proact. Sharing	0.35****	0.44****	0.34****	0.77****				
Cl. Change Proact. Sharing	0.37****	0.38****	0.46****	0.76****	0.83****			
GMOs React. Pers.	0.63****	0.37****	0.41****	0.60****	0.45****	0.46****		
Disc. React. Pers.	0.51****	0.67****	0.57****	0.46****	0.59****	0.59****	0.59****	
Cl. Change React. Pers.	0.43****	0.48****	0.64****	0.39****	0.45****	0.56****	0.62****	0.72****
GMOs Proact. Pers.	0.39****	0.21***	0.17**	0.87****	0.71****	0.73****	0.65****	0.48****

Table B.2.15. Continued

	GMOs React. Sharing	Disc. React. Sharing	Cl. React. Sharing	GMOs Proact. Sharing	Disc. Proact. Sharing	Cl. Change Proact. Sharing	GMOs React. Pers.	Disc. React. Pers.
Disc. Proact Pers.	0.32****	0.32****	0.29****	0.77****	0.86****	0.80****	0.51****	0.62****
Cl. Change Proact. Pers.	0.29****	0.31****	0.35****	0.71****	0.77****	0.85****	0.51****	0.62****
<hr/>								
	GMOs Proact Pers.	Disc. Proact Pers.	Cl. Proact Pers.					
Disc. Proact Pers.	0.78****							
Cl. Change Proact. Pers.	0.79****	0.84****						

Study 3

Likelihood to Proactively or Reactively Share One's Attitude with or Persuade Others

Table B.3.1. Effect of an essentialist or non-essentialist and prevention or promotion frame on intent to share/persuade.

Predictors	Reactive Sharing			Proactive Persuading			Proactive Sharing			Proactive Persuading		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	2.98 (2.32 – 3.65)	8.80	<0.001	1.88 (0.99 – 2.77)	4.16	<0.001	1.65 (0.75 – 2.56)	3.59	<0.001	1.57 (0.63 – 2.52)	3.27	0.001
Strength	0.48 (0.27 – 0.68)	4.53	<0.001	0.49 (0.21 – 0.76)	3.49	0.001	0.43 (0.15 – 0.71)	2.99	0.003	0.33 (0.03 – 0.62)	2.19	0.029
Moral Conviction	0.15 (-0.01 – 0.31)	1.90	0.059	0.14 (-0.07 – 0.35)	1.30	0.194	0.07 (-0.15 – 0.28)	0.62	0.533	0.06 (-0.16 – 0.29)	0.56	0.579
Essentialist Frame	0.02 (-0.10 – 0.14)	0.33	0.739	-0.02 (-0.18 – 0.15)	-0.20	0.840	0.04 (-0.13 – 0.21)	0.46	0.649	-0.01 (-0.19 – 0.16)	-0.16	0.873
Prevention Frame	0.05 (-0.07 – 0.18)	0.85	0.396	-0.01 (-0.17 – 0.16)	-0.09	0.926	0.06 (-0.10 – 0.23)	0.76	0.449	-0.05 (-0.23 – 0.12)	-0.58	0.563
Ess. Frame x Prev. Frame	-0.01 (-0.13 – 0.12)	-0.13	0.899	-0.07 (-0.23 – 0.09)	-0.84	0.400	0.01 (-0.15 – 0.18)	0.17	0.868	0.02 (-0.15 – 0.20)	0.26	0.797
Observations	417			417			417			417		
R ² / R ² adjusted	0.117 / 0.107			0.071 / 0.060			0.043 / 0.032			0.025 / 0.013		

Table B.3.2. Effect of an essentialist or non-essentialist and prevention or promotion frame on intent to share/persuade.

Predictors	Reactive Sharing			Reactive Persuading			Proactive Sharing			Proactive Persuading		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	3.18 (2.39 – 3.97)	7.91	<0.001	2.49 (1.45 – 3.54)	4.69	<0.001	1.46 (0.39 – 2.52)	2.69	0.007	1.20 (0.10 – 2.30)	2.14	0.033
Valence	0.01 (-0.04 – 0.06)	0.42	0.675	-0.00 (-0.07 – 0.06)	-0.06	0.954	-0.06 (-0.13 – 0.00)	-1.93	0.054	-0.10 (-0.17 – -0.04)	-2.99	0.003
Strength	0.59 (0.43 – 0.76)	6.97	<0.001	0.61 (0.39 – 0.84)	5.45	<0.001	0.49 (0.26 – 0.71)	4.26	<0.001	0.39 (0.16 – 0.62)	3.29	0.001
Moral Okayness	-0.02 (-0.15 – 0.11)	-0.34	0.738	-0.14 (-0.31 – 0.03)	-1.66	0.097	0.08 (-0.10 – 0.25)	0.87	0.382	0.13 (-0.05 – 0.31)	1.41	0.158
Essentialist Frame	0.02 (-0.10 – 0.15)	0.38	0.702	-0.01 (-0.17 – 0.15)	-0.13	0.899	0.05 (-0.11 – 0.22)	0.63	0.526	0.01 (-0.16 – 0.18)	0.10	0.923
Prevention Frame	0.06 (-0.07 – 0.18)	0.87	0.383	0.01 (-0.16 – 0.17)	0.07	0.948	0.06 (-0.11 – 0.23)	0.71	0.480	-0.06 (-0.23 – 0.11)	-0.67	0.506
Ess. Frame x Prev. Frame	-0.01 (-0.13 – 0.12)	-0.14	0.891	-0.08 (-0.24 – 0.08)	-0.97	0.333	0.01 (-0.16 – 0.18)	0.14	0.890	0.02 (-0.15 – 0.19)	0.22	0.824
Observations	417			417			417			417		
R ² / R ² adjusted	0.110 / 0.097			0.080 / 0.067			0.052 / 0.038			0.047 / 0.033		

Table B.3.3. Effect of affective basis and cognitive basis under an essentialist/non-essentialist and prevention/promotion frame on a behavioral measure of advocacy.

Predictors	Reactive Sharing			Reactive Persuading			Proactive Sharing			Proactive Persuading		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	2.89 (1.73 - 4.05)	4.91	<0.001	1.83 (0.28 - 3.38)	2.32	0.021	2.11 (0.58 - 3.64)	2.70	0.007	1.24 (-0.35 - 2.84)	1.53	0.126
Strength	0.54 (0.36 - 0.71)	5.98	<0.001	0.61 (0.37 - 0.84)	5.03	<0.001	0.45 (0.22 - 0.68)	3.78	<0.001	0.34 (0.10 - 0.58)	2.76	0.006
Affective Basis	-0.05 (-0.28 - 0.19)	-0.39	0.700	0.00 (-0.31 - 0.32)	0.02	0.982	-0.06 (-0.37 - 0.26)	-0.35	0.730	0.12 (-0.21 - 0.44)	0.72	0.471
Cognitive Basis	0.11 (-0.07 - 0.29)	1.21	0.228	0.00 (-0.24 - 0.24)	0.03	0.978	-0.23 (-0.47 - 0.01)	-1.89	0.059	-0.10 (-0.35 - 0.14)	-0.82	0.413
Essentialist Frame	-0.14 (-1.17 - 0.88)	-0.27	0.784	-1.40 (-2.77 - -0.02)	-1.99	0.047	1.37 (0.01 - 2.74)	1.98	0.048	1.18 (-0.23 - 2.60)	1.64	0.101
Prevention Frame	0.05 (-0.98 - 1.08)	0.10	0.923	0.25 (-1.13 - 1.64)	0.36	0.722	-0.43 (-1.80 - 0.94)	-0.62	0.537	0.50 (-0.92 - 1.93)	0.70	0.486
Aff. Basis x Cog. Basis	0.00 (-0.04 - 0.04)	0.10	0.920	0.01 (-0.05 - 0.06)	0.24	0.809	0.06 (0.00 - 0.11)	2.00	0.046	0.03 (-0.03 - 0.09)	1.02	0.309
Aff. Basis x Ess. Frame	0.11 (-0.13 - 0.34)	0.88	0.380	0.31 (-0.01 - 0.63)	1.90	0.059	-0.31 (-0.62 - 0.01)	-1.92	0.056	-0.29 (-0.62 - 0.04)	-1.74	0.083
Aff. Basis x Prev. Frame	0.02 (-0.22 - 0.26)	0.14	0.886	0.02 (-0.30 - 0.34)	0.10	0.921	0.14 (-0.18 - 0.46)	0.87	0.385	0.02 (-0.31 - 0.35)	0.11	0.912
Cog. Basis x Ess. Frame	0.03 (-0.15 - 0.21)	0.38	0.708	0.24 (-0.00 - 0.48)	1.96	0.050	-0.28 (-0.52 - -0.04)	-2.28	0.023	-0.20 (-0.45 - 0.04)	-1.62	0.106
Cognitive Basis x Prev. Frame	0.01 (-0.18 - 0.19)	0.07	0.947	-0.02 (-0.26 - 0.22)	-0.15	0.881	0.07 (-0.17 - 0.31)	0.59	0.553	-0.08 (-0.33 - 0.17)	-0.61	0.539

Table B.3.3. Continued

Predictors	Reactive Sharing			Reactive Persuading			Proactive Sharing			Proactive Persuading		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Ess. Frame x Prev. Frame	0.66 (0.09 – 1.23)	2.29	0.022	0.79 (0.03 – 1.55)	2.04	0.042	0.35 (-0.41 – 1.10)	0.91	0.365	0.56 (-0.22 – 1.35)	1.41	0.159
Aff. Basis x Cog. Basis x Ess. Frame	-0.02 (-0.06 – 0.02)	-0.97	0.331	-0.05 (-0.11 – 0.00)	-1.88	0.061	0.06 (0.01 – 0.12)	2.23	0.026	0.05 (-0.01 – 0.10)	1.63	0.104
Aff. Basis x Cog. Basis x Prev. Frame	-0.00 (-0.05 – 0.04)	-0.22	0.824	-0.01 (-0.07 – 0.04)	-0.40	0.691	-0.02 (-0.08 – 0.03)	-0.80	0.422	-0.01 (-0.07 – 0.05)	-0.40	0.687
Aff. Basis x Ess. Frame x Prev. Frame	-0.03 (-0.10 – 0.05)	-0.72	0.471	-0.08 (-0.18 – 0.01)	-1.66	0.098	-0.03 (-0.13 – 0.06)	-0.68	0.499	-0.03 (-0.13 – 0.07)	-0.57	0.571
Cog. Basis x Ess. Frame x Prev. Frame	-0.11 (-0.20 – -0.02)	-2.40	0.017	-0.10 (-0.22 – 0.02)	-1.65	0.099	-0.05 (-0.16 – 0.07)	-0.80	0.422	-0.09 (-0.21 – 0.03)	-1.46	0.145
Observations	417			417			417			417		
R ² / R ² adjusted	0.148 / 0.116			0.096 / 0.062			0.122 / 0.090			0.113 / 0.080		

Behavioral Measure of Advocacy

Table B.3.4. Effect of an essentialist or non-essentialist and prevention or promotion frame on a behavioral measure of advocacy.

Predictors	Reactive Sharing			Proactive Persuading			Proactive Sharing			Proactive Persuading		
	Estimate*	Statistic	p	Estimate*	Statistic	p	Estimate*	Statistic	p	Estimate*	Statistic	p
Intercept	2.98 (2.32 – 3.65)	8.80	<0.001	1.88 (0.99 – 2.77)	4.16	<0.001	1.65 (0.75 – 2.56)	3.59	<0.001	1.57 (0.63 – 2.52)	3.27	0.001
Strength	0.48 (0.27 – 0.68)	4.53	<0.001	0.49 (0.21 – 0.76)	3.49	0.001	0.43 (0.15 – 0.71)	2.99	0.003	0.33 (0.03 – 0.62)	2.19	0.029
Moral Conviction	0.15 (-0.01 – 0.31)	1.90	0.059	0.14 (-0.07 – 0.35)	1.30	0.194	0.07 (-0.15 – 0.28)	0.62	0.533	0.06 (-0.16 – 0.29)	0.56	0.579
Essentialist Frame	0.02 (-0.10 – 0.14)	0.33	0.739	-0.02 (-0.18 – 0.15)	-0.20	0.840	0.04 (-0.13 – 0.21)	0.46	0.649	-0.01 (-0.19 – 0.16)	-0.16	0.873
Prevention Frame	0.05 (-0.07 – 0.18)	0.85	0.396	-0.01 (-0.17 – 0.16)	-0.09	0.926	0.06 (-0.10 – 0.23)	0.76	0.449	-0.05 (-0.23 – 0.12)	-0.58	0.563
Ess. Frame x Prev. Frame	-0.01 (-0.13 – 0.12)	-0.13	0.899	-0.07 (-0.23 – 0.09)	-0.84	0.400	0.01 (-0.15 – 0.18)	0.17	0.868	0.02 (-0.15 – 0.20)	0.26	0.797
Observations	417			417			417			417		
R ² / R ² adjusted	0.117 / 0.107			0.071 / 0.060			0.043 / 0.032			0.025 / 0.013		

Table B.3.5. Effect of an essentialist or non-essentialist and prevention or promotion frame on a behavioral measure of advocacy.

Predictors	Reactive Sharing			Reactive Persuading			Proactive Sharing			Proactive Persuading		
	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p	Estimate*	Stat.	p
Intercept	3.18 (2.39 – 3.97)	7.91	<0.001	2.49 (1.45 – 3.54)	4.69	<0.001	1.46 (0.39 – 2.52)	2.69	0.007	1.20 (0.10 – 2.30)	2.14	0.033
Valence	0.01 (-0.04 – 0.06)	0.42	0.675	-0.00 (-0.07 – 0.06)	-0.06	0.954	-0.06 (-0.13 – 0.00)	-1.93	0.054	-0.10 (-0.17 – -0.04)	-2.99	0.003
Strength	0.59 (0.43 – 0.76)	6.97	<0.001	0.61 (0.39 – 0.84)	5.45	<0.001	0.49 (0.26 – 0.71)	4.26	<0.001	0.39 (0.16 – 0.62)	3.29	0.001
Moral Okayness	-0.02 (-0.15 – 0.11)	-0.34	0.738	-0.14 (-0.31 – 0.03)	-1.66	0.097	0.08 (-0.10 – 0.25)	0.87	0.382	0.13 (-0.05 – 0.31)	1.41	0.158
Essentialist Frame	0.02 (-0.10 – 0.15)	0.38	0.702	-0.01 (-0.17 – 0.15)	-0.13	0.899	0.05 (-0.11 – 0.22)	0.63	0.526	0.01 (-0.16 – 0.18)	0.10	0.923
Prevention Frame	0.06 (-0.07 – 0.18)	0.87	0.383	0.01 (-0.16 – 0.17)	0.07	0.948	0.06 (-0.11 – 0.23)	0.71	0.480	-0.06 (-0.23 – 0.11)	-0.67	0.506
Ess. Frame x Prev. Frame	-0.01 (-0.13 – 0.12)	-0.14	0.891	-0.08 (-0.24 – 0.08)	-0.97	0.333	0.01 (-0.16 – 0.18)	0.14	0.890	0.02 (-0.15 – 0.19)	0.22	0.824
Observations	417			417			417			417		
R ² / R ² adjusted	0.110 / 0.097			0.080 / 0.067			0.052 / 0.038			0.047 / 0.033		

Zero-Order Correlations

Table B.3.6. Zero-order correlations of variables in Study 3.

	Valence	Unipolar Okayness	Moral Conviction	Attitude Strength	Affective Basis	Cognitive Basis	Essential Framing	Prevention Framing
Valence								
Unipolar Okayness	0.71****							
Moral Conviction	0.14**	0.12*						
Attitude Strength	0.07	0.08	0.59****					
Affective Basis	0.11*	0.16**	0.04	0.00				
Cognitive Basis	-0.07	-0.07	0.35****	0.29****	-0.04			
Essential Framing	0.06	0.00	0.03	0.00	0.04	-0.04		
Prevention Framing	0.01	0.07	0.01	0.01	-0.01	-0.03	0.00	
Reactive Sharing	0.03	0.02	0.27****	0.33****	-0.06	0.21****	0.02	0.04
Proactive Sharing	-0.08	-0.02	0.14**	0.20****	0.24****	0.04	0.02	0.04

Table B.3.6. Continued

	Valence	Unipolar Okayness	Moral Conviction	Attitude Strength	Affective Basis	Cognitive Basis	Essential Framing	Prevention Framing
Reactive Persuading	-0.07	-0.10*	0.20*****	0.26*****	0.03	0.10*	-0.01	0.00
Proactive Persuading	-0.24**	-0.04	0.11*	0.15**	0.24*****	0.03	-0.01	-0.03
Behavioral Advocacy	-0.13**	-0.19*****	-0.03	0.02	-0.20*****	0.09	-0.04	0.01
Reactive Sharing	0.38*****							
Proactive Sharing		0.50*****						
Reactive Persuading	0.52*****							
Proactive Persuading	0.24*****	0.80	0.57*****					
Behavioral Advocacy	0.05	-0.19*****	0.01	-0.20*****				