WHY DO PEOPLE CHOOSE THEIR BELIEFS?
A NEW PLURALIST PERSPECTIVE ON BELIEF REGULATION

by

WILLIAM M. JETTINGHOFF
B.A., Indiana University, 2018


A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF

MASTER OF ARTS

in

THE FACULTY OF GRADUATE AND POSTDOCTORAL STUDIES

(Psychology)


THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

August 2020

The following individuals certify that they have read, and recommend to the Faculty of Graduate and Postdoctoral Studies for acceptance, the thesis entitled:

Why do people choose their beliefs? A New Pluralist Perspective on Belief Regulation

submitted by        William M. Jettinghoff        in partial fulfillment of the requirements for

the degree of        Master of Arts

in        Psychology

**Examining Committee:**

Kristin Laurin, Psychology
Co-Supervisor

Azim Shariff, Psychology
Co-Supervisor

Toni Schmader, Psychology
Supervisory Committee Member

**Abstract**

Why do people choose their beliefs? Research on this question has been dominated by a *Traditional Monist Perspective*, assuming that people think reasoning must always be in service of producing unbiased, evidence-based beliefs, embodying *Epistemic Value*. But recent research hints at the possibility that this may be an unwarranted assumption. People knowingly hold incorrect beliefs (Walco & Risen, 2017), prescribe morally motivated reasoning to others (Cusimano & Lombrozo, 2020), and report not caring that much about Epistemic Value when directly asked (Ståhl, Zaal, & Skitka, 2016; Pennycook, Cheyne, Koehler, & Fugelsang, 2019). Extending this work, I propose a *New Pluralist Perspective*, arguing that people find it worthwhile to believe in service of non-epistemic goals, embodying other values. Based on a review of the motivated reasoning literature, I propose a non-exhaustive list of three non-epistemic values about believing that people could explicitly endorse: (1) *Emotional Value* (that beliefs can be valuable by supporting positive emotions), (2) *Moral Value* (that beliefs can be valuable by supporting a moral agenda), and (3) *Affiliative Value* (that beliefs can be valuable by supporting meaningful affiliations). In Study 1 (n=456), I develop a self-report scale, the Values about Belief Scale (VBS), to measure endorsement of these values. In Study 2 (n=207), I assess the convergent validity of the Emotional Value subscale, and its relationship with emotionally motivated beliefs. In Study 3 (n=449), I explore how Emotional Value predicts palliative beliefs about the COVID-19 pandemic. Finally, in Study 4 (n=200) I explore how the non-epistemic values predict a classic case of motivate reasoning in action: system justification. Results generally support the New Pluralist Perspective over the Traditional Monist Perspective. I discuss the implications of the New Pluralist Perspective for the study of belief regulation.

## Lay Summary

I investigate peoples' beliefs *about their beliefs*: examining what people think are valuable reasons to believe, and the impact of these beliefs. Specifically, I develop a self-report scale that measures peoples' opinions about what are valuable reasons to believe: measuring how much people see value in their beliefs being supported by logic and evidence, but also in making them feel better, supporting their morals, and connecting them with others. Across four studies, results show that people are willing to say that they care about all of these concerns. Additionally, these abstract beliefs are strongly related to participants' more specific beliefs. For example, the more people think it is appropriate to believe something because it makes them happy, the more they think the political system is fair. I discuss the impact of these findings for the way that psychologists should study beliefs.

**Preface**

This thesis is an original intellectual product of the author, William M. Jettinghoff. The research in Studies 1-4 were covered by UBC Behavioral Research Ethics Board Certificate number H17-00011. Professors Kristin Laurin and Azim Shariff were the supervisors on this project and were involved throughout all stages of the project in creating and testing the theoretical ideas, as well as in editing the manuscript.

# Table of Contents

# List of Tables

# List of Figures

**Acknowledgments**

I would like to thank my advisors, Kristin Laurin and Azim Shariff, for the guidance, insight, constructive criticism, brainstorming sessions, and dealing with my very long emails. I am also thankful to my committee Chair, Toni Schmader, for her feedback on this project in its earliest stages, and for her time and energy spent sifting through this final product.

## Introduction

A scientific worldview mandates that our beliefs should come from an unbiased review of evidence, guiding effective, rational action (Comesaña, 2010). But as psychological scientists, we know that beliefs help people accomplish other powerful goals (Boden, Berenbaum, & Gross, 2016; McKay & Dennett, 2009), biasing their reasoning at the expense of accuracy (Kunda, 1990). For example, often in spite of the evidence, people will believe that their world is just because it makes them feel better (Jost & Hunyaday, 2003), that legal cases are handled with (im)propriety to support their moral agenda (Skitka & Mullen, 2006), and that athletes are (un)talented depending on their membership in one's preferred team (Wann et al., 2006) presumably because of the implications this can have for their group (Cialdini & Goldstein, 2004). These types of motivated beliefs are ubiquitous: held by our leaders, doctors, friends, and, of course, ourselves. They are even crucial to social (Murray, Holmes, & Griffin, 1996) and psychological (Taylor & Brown, 1988) wellbeing. That people routinely violate logic and evidence when they choose their beliefs begs the question: Do people think it is appropriate, and even valuable to choose their beliefs in service of non-epistemic goals?

Traditionally, psychologists have assumed the answer is no, taking a monist view about the goals people think they should reason for. From this *Traditional Monist Perspective*, everyday people think reasoning should only pursue accurate, unbiased beliefs. Thus, when people cling to unfounded or biased beliefs, it is because they do not realize their reasoning is compromised by non-epistemic goals. This implies, for example, that the 49% of Americans who do not believe humans mostly cause global warming (Pew Research Center, 2020) are doing so by accident. If they realized that their belief is guided by a fear of climate change, a moral disapproval of governments regulating private businesses, or a desire to support their political

1

party, then they would change their mind out of sheer respect for the rational interpretation of data.

In contrast, I argue for a *New Pluralist Perspective*: that while people care about evidence and being reasonable, they also knowingly endorse other, non-epistemic goals for reasoning. From this view, achieving accurate beliefs is not the only explicit goal people reason for. They also see value in reasoning to support their positive emotions, moral agendas, or meaningful social affiliations. Moreover, I explore whether these values could explain individual differences in motivated reasoning. For example, do the people who more strongly *endorse* the pursuit of happiness through reasoning *actually* pursue it more through reasoning?

## Motivated Reasoning

The literature most closely related to these questions is that on motivated reasoning. Reasoning is motivated when it is biased it away from accurate and logical beliefs, toward beliefs that serve other goals (Kunda, 1990). For example, people are less likely to believe in climate change when it is framed as a serious threat to life on Earth, presumably because this threatens positive emotional goals (Feinberg & Willer, 2011). In other words, people have a goal to maintain positive affect which in this instance conflicts with the goal to be accurate, motivating them to believe less in climate change. Motivated reasoning like this has been observed in politics (Jost & Banaji, 1994), morality (Haidt, 2001), mortality (Greenberg, Pyszczynski, & Solomon, 1986), religion (Kay, Gaucher, Napier, Callan, & Laurin, 2008), organizational behavior (Rousseau & Tijoriwala, 1999), scientific cognition (Hart & Nisbet, 2012), attitudes towards emerging technologies (Druckman & Bolsen, 2011), close relationships (Murray, 1999), stereotypes (Kunda & Sinclair, 1999), and more. This has made it clear that people pursue non-epistemic goals when reasoning. But do people think this is appropriate?

2

## The Traditional Monist Perspective

Traditionally, the assumption has been that people only think it is appropriate to believe based on an unbiased interpretation of the relevant evidence. For example, on the limits of introspection, Nisbett & Wilson (1977, p. 247) argued that "if people knew that their judgments were subject to influence from other judgments made about an object or from judgments just previously made about other objects, or from the order in which the object was examined, then they would correct for such influences and these effects would not exist." These scholars clearly assumed that people care deeply about being unbiased: so deeply that they would correct for any bias if they knew it existed. This view implies that anytime judgments *are* biased, people must not know it, or else they would correct it.

On error in human judgement, Kruglanski & Ajzen (1983, p. 14) argued that "human beings are *subjectively logical*; that is, they operate deductively by forming 'if-then' linkages among cognitions and reaching their conclusions in accordance with such reasoning." In other words, their view was that while people may violate formal logical rules, they are very much *trying* to be logical: they draw conclusions by deducing them from their other beliefs, and only accept claims if they are consistent with their other beliefs.

On motivated social cognition, Pyszczynski & Greenberg (1987) argued that people try to maintain an "illusion of objectivity" that shields them from the biased nature of their thinking. For them, people care so much about being unbiased interpreters of the evidence that they ironically create elaborate illusions to maintain the sense that they are being fair reasoners. Epley & Gilovich (2016, p. 133) took a similar stance in a recent review of motivated reasoning's mechanics, arguing that it leads to "biased beliefs that feel objective." They cite work on naïve

realism (Pronin, Lin, & Ross, 2002; Pronin, Gilovich, & Ross, 2004; Pronin, 2007), in which people tend to think that they are less biased than others.

Finally, on motivated reasoning's phenomenology, Kunda (1990, p. 483) argued that people "draw the desired conclusion only if they can muster up the evidence necessary to support it" and that they "do not realize that the [reasoning] process is biased by their goals." Like Nisbett, Wilson, Kruglanski, Ajzen, Pyszczynski, Greenberg, Epley, Gilovich, Pronin, Lin, and Ross, Kunda believed that people would only every consciously acknowledge caring about the *Epistemic Value* of their beliefs, and always portray themselves as grounding their beliefs in unbiased reasoning about the relevant evidence.

This Traditional Monist Perspective represents the everyday person as caring deeply about evidence and logic, aiming to hold beliefs that fit the evidence without bias, and shunning the intentional pursuit of non-epistemic goals. But are people really like this, or do they see value in pursuing beliefs in service of other goals?

## Challenging the Traditional Monist Perspective

Synthesizing scattered research hints at the possibility that people might actually endorse a plurality of non-epistemic goals for reasoning, in line with the New Pluralist Perspective. By documenting how people seemingly find it appropriate to believe for non-epistemic reasons, it paints a different picture of those 49% of Americans who do not believe humans mostly cause global warming (Pew Research Center, 2020). In this new picture, some of those whose belief is driven by their emotional preference, moral agenda, or political allegiance may in fact be well aware of these influences and find them perfectly appropriate.

**Religious Beliefs**

Religious beliefs often contradict scientific findings, making them an intuitive candidate for the type of transparently motivated belief precluded by the Traditional Monist Perspective. In one paper directly aimed at seeing if religious people believe for non-epistemic reasons, participants explained why they believe what they do about Creationism and anthropogenic climate change (Metz, Weisberg, and Weisberg, 2018). Religious participants readily used justifications that scholars would not consider valid reasons for descriptive beliefs: they frequently justified their counter-scientific beliefs by appealing to scripture, their upbringing, and their feelings about what is true (i.e., intuitions), for example. The more strongly they endorsed these normatively questionable justifications, the stronger their disbelief in evolution and anthropogenic climate change. The authors concluded that among the religious, "non-epistemic criteria for belief sustain counter-scientific beliefs" (Metz, Weisberg, and Weisberg, 2018): that is, differences in scientific beliefs exist because some people do not think their beliefs require Epistemic Value.

But did their participants really endorse non-epistemic *criteria*, or did they simply accept non-standard *sources* of evidence as fulfilling the epistemic criterion? I argue for the latter: their participants did not reject the need for evidence altogether (i.e., the epistemic criterion for belief), but simply accepted unusual sources of evidence. It is different to say "I don't need evidence to support my belief in Creationism, I believe it because it feels good to me and I prefer to feel good." than to say "The way I feel about Creationism means there must be evidence for it, even if I don't directly know that evidence." The former rejects Epistemic Value entirely, while the latter simply interprets non-scientific evidence as epistemically valid. Indeed, Metz and colleagues (2018, pg. 1481) ask us to consider the following application of a non-epistemic

criterion: "[a community] accepts both (a) the belief that humans possess souls with a truth-recognizing capacity and (b) the criterion for belief *it feels true in my heart*. The legitimacy of the criterion "feeling true" can be explained and justified by the possession of a truth-recognizing soul." In other words, people appeal to their feelings to justify their descriptive beliefs, but justify this appeal itself with the belief that their feelings come from a soul with a "truth-recognizing capacity." But if someone thinks their feelings have direct access to the factual truth, then when they use their feelings to justify a belief, from their perspective, they *are* justifying that belief with evidence. They are heeding the epistemic-criterion that our beliefs need evidence.

As such, their religious participants were not rejecting the more foundational need for evidence, they just held a broader view of what counted as evidence. This changes the conclusion of Metz and colleagues' (2018) data to something weaker: that *non-standard evidence* sustains counter-scientific religious beliefs. Because their participants still justified their beliefs with what they thought was evidence, their findings actually do not undermine the Traditional Monist Perspective. These data also do not directly address the New Pluralist Perspective that people believe for non-epistemic goals.

**Superstitious Beliefs**

In contrast to these observations, acquiescence is a phenomenon whereby superstitious beliefs persist even when people know they are unfounded (Risen, 2016; Risen, 2017; Walco & Risen, 2017). When people acquiesce, they consciously flag a belief as incorrect with respect to the evidence but choose not to correct it. For example, people will call the wrong play in a hypothetical sports game even when they explicitly acknowledge that there is a better option, simply because the suboptimal choice is more intuitively appealing (Walco & Risen, 2017).

6

Acquiescence challenges the assumption inherent in the Traditional Monist Perspective that once an unfounded belief is noticed, it is corrected (Risen, 2016; Risen 2017). This could be taken to suggest that non-epistemic goals are consciously overwhelming an epistemic goal. But acquiescence research only focuses on superstitious beliefs about risky decisions (Walco & Risen, 2017): situations which are not all that similar to the goal-relevant beliefs that motivated reasoning researchers typically study, like whether climate change exists. More importantly, because acquiescing participants are never asked why they believe, it is not clear if they are pursuing non-epistemic goals with their unfounded beliefs. Instead, acquiescence simply demonstrates that people can knowingly hold incorrect beliefs. It does not tell us why, from the believer's perspective, they see value in doing this.

**Perceptions of Morally Motivated Beliefs**

In contrast, other research has examined the perceived appropriateness of holding unfounded beliefs when there is a moral reason to do so (Cusimano & Lombrozo, 2020). In these studies, participants made third-party judgements of people reasoning about issues where epistemic and moral value conflicted: where the evidence-based belief was morally wrong, or vice versa. For example, in one vignette someone had to privately decide if their friend had possessed cocaine. While the evidence suggested their friend did (i.e., drugs were reportedly found in their dorm, and there were rumors of them associating with drug dealers), they felt a moral obligation to be loyal, and believe that they did not (i.e., their friend requested the benefit of the doubt, demanding trust).

After learning about the character's situation, participants made judgements about the proposition the character was considering (e.g., "My friend did *not* possess cocaine"). First, they reported what a "perfectly detached observer" would estimate as the likelihood that the

proposition was true (e.g., 25% chance the proposition is true). Next, they reported the range of estimates they considered "consistent with" and "based on" the evidence (e.g., between 15%-30% chance the proposition is true). Finally, they reported the estimate they thought the character should make.

Participants prescribed morally motivated reasoning in two ways. First, the estimate they prescribed the character was biased relative to what they thought an "objective" observer would believe. For example, a typical participant might have prescribed a 35% estimate that the friend did not possess cocaine, while also reporting that an objective observer would report a 25% estimate. Second, participants prescribed estimates outside the range that they themselves thought were warranted by the evidence, implying that they thought the character had non-epistemic justifications for belief (e.g., a moral obligation to be a loyal friend). For example, a typical participant might have prescribed a 35% estimate while also reporting an evidence-based range of 15%-30%.

In a second study, participants judged beliefs that characters already had, as opposed to propositions they were considering. Participants again read vignettes like those in Study 1. This time, characters were either purely epistemically motivated (all the information, but no friendship with the accused) or additionally morally motivated (all the information, and a friendship with the accused). They further chose either an unfounded belief (the accused did not have cocaine) or an evidence-based belief (the accused did have cocaine). After reading the vignettes, participants rated the *overall quality* of the belief (i.e., how justified it was), the *moral quality* of the belief (i.e., how morally good it was), and the *evidentiary quality* of the belief (i.e., how supported it was by evidence).

They found that unfounded beliefs (e.g., that the friend did not have cocaine despite evidence that they did) were viewed as being higher in overall, moral, and evidentiary quality when they were morally motivated compared to purely epistemically motivated. That is, the presence of a moral motive boosted the perceived value of a belief, suggesting that people see value in morally motivated reasoning. That these unfounded but morally motivated beliefs were viewed as having more *evidentiary* value, in particular, also supports the idea that people possess moral standards for belief: the presence of a moral motive seemed to provide its own justification, beyond the evidence. Finally, they used ratings of the moral and evidentiary quality of beliefs to predict participants ratings of their overall quality. Moral quality predicted overall quality, even when controlling for evidentiary quality. This suggests that when people judge the value of other's beliefs, the moral correctness of those beliefs matters independent of the factual correctness.

By showing that sometimes people actually think others *should* engage in morally motivated reasoning, these findings challenge the Traditional Monist Perspective. But it departs from the present work for several reasons. First, it only examines perceptions of *others* motivated reasoning, and not also one's own. This difference is consequential because I may think it is fine for others to engage in morally motivated reasoning, but not for myself to do the same thing. Second, not all motivated reasoning is *morally* motivated. Our belief goals are often not socially desirable, like being a loyal friend or protecting those in need: they are often selfish, like simply wanting to feel happy or make an outgroup look bad. In fact, even moral goals can seem wrong to people with different moral agendas (Haidt & Graham, 2007). Therefore, other cases of motivated reasoning may be viewed unfavorably. Finally, the reasoning in this research is all about private interpersonal beliefs (e.g., the guilt of a friend). But there are many consequential

instances of motivated reasoning for non-interpersonal beliefs too, such as belief in global warming's existence. When more than the private relationships of strangers are on the line, motivated reasoning may be viewed unfavorably. Because of these important differences, this research is but the very beginning of what it would take to truly test the Traditional Monist and New Pluralist Perspectives.

**Individual Differences in Epistemic Value**

While the previous research has focused on specific instances of motivated beliefs, other research has examined the beliefs that people have *about* beliefs in general. This work has looked at individual differences in the perceived importance of Epistemic Value, and has found significant variation: not everyone cares that much about being unbiased reasoners (Ståhl, Zaal, & Skitka, 2016) with evidence-based beliefs (Pennycook, Cheyne, Koehler, & Fugelsang, 2019). This contrasts with the Traditional Monist Perspective. From this traditional view, people care so deeply about being rational stewards of the evidence that they try and maintain elaborate illusions of objectivity. These illusions, if shattered, halt their motivated reasoning. Yet here, people willingly report not caring that much.

Still, this individual difference work can only offer limited support for the New Pluralist Perspective. One limitation is that it has not specified for participants what *kind* of beliefs they should have in mind when reporting how important they view Epistemic Value. While reporting Epistemic Value, some participants may have been thinking about descriptive beliefs, which express falsifiable positions about the way the world *actually is* (e.g., whether or not torture is effective). But others may have been thinking about injunctive beliefs, which express moral and aesthetic preferences about the way the world *should be* (e.g., whether or not torture is an acceptable thing to do). Not only do people make this distinction (e.g., Heiphetz, Spelke, Harris,

& Banaji, 2013), but a position being evidence-based is clearly more important if it makes a falsifiable claim than one based on preference. This is because, unlike injunctive beliefs, descriptive beliefs actually have a correct answer that evidence can uncover. While moral injunctive positions can be perceived to be objective (Goodwin & Darley, 2012) and universal (Skitka, 2010), they are not clearly falsifiable with data in this way. The present analysis is concerned with descriptive beliefs, as these are the types of issues motivated reasoning theorists seem to have originally had in mind. It also would not be very valuable to learn that people allow non-epistemic goals to guide their preferences when there is not a correct answer (e.g., thinking one painting is better than another because it arouses awe).

But there is an even larger limitation to this individual difference work: it has taken a Monist approach, measuring only the endorsement of Epistemic Value. This ignores the possibility that people explicitly endorse other, non-epistemic values about their beliefs. If some people do not strongly endorse Epistemic Value, what else *do* they value?

## A New Pluralist Perspective

**Folk Theories of Belief**

The current research advances a *New Pluralist Perspective* on the beliefs that people have about belief itself, and the impact that these folk theories have on reasoning. In this new perspective, people endorse a plurality of non-epistemic values about belief, knowingly valuing non-epistemic goals guiding their reasoning and belief. While the Traditional Monist Perspective is clear that non-epistemic goals *influence* reasoning, it is also clear that, explicitly, people would only be willing to *say* that Epistemic Value should and does guide their reasoning. In other words, while people are implicitly pluralist, they are explicitly monist: they experience their reasoning as an unbiased review of the evidence and believe that this is the only appropriate way

to reason. In contrast, the New Pluralist Perspective is that people are both implicitly *and* explicitly pluralist: that the explicit, expressed narrative accounts of belief that people have include non-epistemic goals, and that people think this is an appropriate and valuable way to reason.

**Individual Differences in Motivated Reasoning**

It is generally agreed upon that there are individual differences in reasoning (Stanovich, 1999), but there is considerably less agreement about what produces these differences. For motivated reasoning, most of the debate surrounds the role of reasoning ability (literacy, numeracy, cognitive sophistication, science comprehension, etc.) in producing these differences. According to some, greater reasoning ability *increases* motivated reasoning because it makes people better at deceiving themselves, and at constructing rationalizations that make their desired conclusion erroneously seem reasonable (e.g., Kahan et al., 2012; Kahan, 2012; Kahan, Peters, Dawson, & Slovic, 2013). Monism is baked into this explanation. Although it acknowledges that people unintentionally reason in service of non-epistemic goals, it assumes that peoples' intentions are always to produce unbiased, accurate beliefs. Greater reasoning ability simply gives people more power to maintain the "illusion of objectivity" that they are so concerned with (Pyszczynski & Greenberg, 1987; Epley & Gilovich, 2016; Pronin, Lin, & Ross, 2002; Pronin, Gilovich, & Ross, 2004; Pronin, 2007).

According to others, greater reasoning ability *decreases* motivated reasoning because it makes people better at uncovering the truth, and at identifying rationales that elucidate the correct belief (e.g., Stanovich & West, 2000; Ståhl & van Prooijen, 2018; Adam-Troian, Caroti, Arciszewski, & Ståhl, 2019). Based on this logic, some researchers have even argued that unfounded beliefs are better thought of as being produced by motivated *non*-reasoning than

motivated reasoning (Pennycook & Rand, 2019; Bago, Rand, & Pennycook, 2020; Pennycook, McPhetres, Zhang, & Rand, 2020). According to this view, people arrive at motivated beliefs not because they engage in motivated reasoning, but because they simply do not reason. This perspective is inherently monist as well: it assumes that if people reasoned about an issue, they would surely arrive at more epistemically valuable conclusions because that is what they are always trying to do.

These two broad perspectives are clearly very different ways of explaining individual differences in motivated reasoning. But they actually share a deep similarity through a core assumption: that people are trying to produce unbiased, accurate beliefs. As such, they actually both build on a shared monist foundation. What would an explanation built on pluralism look like?

At its core, motivated reasoning is an application of motivation science to action, and the New Pluralist Perspective inherits this genealogy. According to goal pursuit theories, goals drive action (e.g., reasoning) because people use action to achieve their goals, and the strength of goals determines how vigorously people strive to achieve them (e.g., Kruglanski et al., 2002). Therefore, the degree to which people endorse epistemic and non-epistemic goals for reasoning should determine the amount of motivated reasoning that they engage in. For example, the more someone values positive emotional goals in reasoning, the more they should actually pursue that goal when they reason, ultimately landing them with more emotionally valuable beliefs. Put differently, the New Pluralist Perspective predicts that individual differences in motivated reasoning can be explained, in part, by individuals endorsing different belief goals to different degrees. Therefore, the more people value non-epistemic belief goals, the more they should engage in motivated reasoning to achieve those goals.

**Values about Belief**

So far, the two chief positions of the New Pluralist Perspective outlined here are (1) that people value non-epistemic goals for reasoning and (2) that the strength of these values determines the vigor of motivated reasoning. But what could these other values be? Because the Traditional Monist Perspective acknowledges that people are implicitly or "accidentally" pluralist, much of its work has identified non-epistemic goals that *do* influence belief. Turning to this literature may therefore reveal explicit values that people would endorse: if a goal is consistently found to powerfully influence belief, maybe people endorse it. A review of this literature reveals at least three values that our beliefs can obtain: emotional, moral, and affiliative value.

## Emotional Value

People usually want to feel good and avoid feeling bad (Tamir, 2016). This deeply intuitive idea has much empirical support (Gross, Richards, & John, 2006; Kampfe & Mitte, 2009; Riediger, Schmiedek, Wagner, & Lindenberger, 2009; Rusting & Larsen, 1995; Tsai, Knutson, & Fung, 2006; Västfjäll, Garling, & Kleiner, 2001). Psychological needs are even considered "basic" and "fundamental" often only if their satisfaction leads to positive emotions (Ryan & Deci, 2017) and their frustration leads to negative emotions (Bartholomew, Ntoumanis, Ryan, Bosch, & Thøgersen-Ntoumani, 2011).

Accordingly, many domain-specific theories of motivated reasoning are premised on the idea that people use beliefs to feel better. Recall Feinberg & Willers' (2011) paper showing that belief in climate change depends, in part, on how frighteningly it is framed. This paper is based on a much larger body of research on the Belief in a Just World (Lerner, 1980; Correia, Batista, & Lima, 2009; Wu et al., 2011) and System Justification Theory (Jost & Hunyaday, 2003; Jost,

Wakslak, & Tyler, 2008; Vargas-Salfate, Paez, Khan, Liu, & Gil de Zúñiga, 2018). Researchers in both of these frameworks have found that people are motivated to believe that they live in a just and fair world, and that these beliefs serve a palliative function.

Similarly, Compensatory Control Theory (Kay, Whitson, Gaucher, & Galinsky, 2009) argues that people desire to feel a sense of control that, when thwarted, instigates negative emotions. In turn, people shift their beliefs to maintain a sense of control and avoid the negative emotional consequences of not having it (e.g., Laurin, Kay, & Moskovitch, 2008). Terror Management Theory (Greenberg, Pyszczynski, & Solomon, 1986) goes so far as to argue that positive beliefs about the Self and its legacy are motivated by the desire to avoid the negative emotions of recognizing that, one day, we will all inevitably die. Finally, theory on the Psychological Immune System argues that humans have a robust set of cognitive mechanisms designed to ameliorate our negative affect, including the distortion of reality (Gilbert, Pinel, Wilson, Blumberg, & Wheatley, 1998). These bodies of research imply that people might endorse *Emotional Value*: that beliefs should be held to the extent that they help us feel better.

## Moral Value

Morality is central to our identity (Aquino & Reed, 2002) and the feeling that our basic needs are being met (Prentice et al., 2019). This importance suggests that the perceived moral value of a belief would powerfully influence its desirability: that the more "morally correct" a belief is, the more valuable it is to hold it. In line with this intuition, beliefs that people say reflect their core moral values (i.e., moral convictions) are uniquely influential (Skitka, 2010). Compared to strong but non-moral beliefs, moral convictions are especially powerful predictors of desired social and physical distance, intolerance, lack of cooperation, and ill will towards disagreeing others (Skitka, Bauman, & Sargis, 2005). In fact, merely labelling a belief as moral

makes people more resistant to changing their mind about it (Luttrell, Petty, Briñol, & Wagner 2016), perhaps explaining why moral convictions tend to persist longer through time than non-moral beliefs (Luttrell & Togans, 2020). Moral convictions are so important that people are even willing to disregard authority and violently defend them (Skitka & Mullen, 2002).

Evidence from research on moral reframing also suggests that people adopt beliefs *because* they are moral. Feinberg & Willer (2013) found that people of opposing political parties held different beliefs about the environment, in part, due to their different moral concerns. Reframing pro-environmental rhetoric (e.g., political ads) in terms of a participants' moral values (i.e., moral reframing) also persuaded them to hold more pro-environmental beliefs, an effect which has been observed for same-sex marriage, universal health care, military spending, making English America's national language, and beliefs about political candidates (Feinberg & Willer, 2015; Voelkel & Feinberg, 2018). In other words, changing the moral implications of a position changes peoples' willingness to believe it, demonstrating the influence of moral value on belief.

Taken together with the work on moral identity, the need for morality, and moral conviction, it's clear that people care about *Moral Value* when deciding what to believe: People want to believe things that they think are morally good and avoid beliefs that contradict their moral values.

### Affiliative Value

If the motivation literature were a neighborhood, morality would be the new kid on the block. But affiliation would run the street. Whether it is called the need to belong (Baumeister & Leary, 1995 or relate (Sheldon, Elliot, Kim, & Kasser, 2001), people care deeply about affiliating with others. One route to affiliation is the construction of shared realities in which

people share the same beliefs (Hardin & Higgins, 1996; Rossignac-Milon, Bolger, Zee, Boothby, & Higgins, 2020). Echterhoff, Higgins, and Levine (2009) are clear that for shared reality to be obtained "a correspondence between externally observable states or behaviors is not sufficient— it needs to involve a commonality between inner states." In other words, people desire to affiliate and can change their mind to match the beliefs of those around them to accomplish this.

Research on I-Sharing exemplifies this. When people I-Share, they perceive an identical subjective experience with others (Pinel, Long, Landau, Alexander, & Pyszczynski, 2006). For example, when two people spontaneously shout the same reaction while watching a political debate, they experience I-Sharing: they realize how deeply they agree. I-Sharing increases interpersonal liking, and people seem to know this because they strategically seek I-Sharing when they feel socially isolated (Pinel, Long, Landau, Alexander, & Pyszczynski, 2006). In other words, people strategically shift their beliefs in pursuit of affiliative goals.

Affiliative goal pursuit through belief is especially familiar in politics (e.g., Bacon, 2000; Redlawsk, 2002; Taber, Cann, & Kucsova, 2009; Leeper & Slothuus, 2014). One of the most robust similarities between liberals and conservatives is that they both display a Partisan Bias, directing their reasoning toward bolstering beliefs held by their political party (Ditto et al., 2018). For example, beliefs about hot-button political issues, such as the efficacy of gun control laws, are typically determined by political loyalties (Kahan, 2012; Kahan, 2017a, & 2017b), rather than understanding the evidence. In fact, the *more* capable someone is of understanding the evidence, the *less* consistent their beliefs become with the evidence. Instead, they become more consistent with the ingroup's agenda (Kahan et al., 2012; Kahan, Peters, Dawson, & Slovic, 2013). That is, the people with the greatest ability to assess the Epistemic Value of their beliefs are the most likely to betray this value in service of affiliative goals. These literatures all

suggest that people endorse *Affiliative Value*: People want to hold beliefs that are shared by ingroup members and close others and avoid beliefs that are not.

## Coda

That people consciously endorse non-epistemic values about belief, and that this endorsement influences their reasoning, naturally extends the study of belief. Initial researchers observed that beliefs are rarely the product of purely epistemic goals, which has become one of the most reliable findings in psychology. People are clearly implicit pluralists, who at least accidentally fall prey to non-epistemic goals when reasoning. But perhaps because scientists themselves care so deeply about Epistemic Value, researchers clung to the idea that people are explicit monists: that they only knowingly endorse Epistemic Value as an appropriate and valuable goal for reasoning. Decades later, synthesizing scattered, new research hints at the possibility that this was an unwarranted assumption. This newer research suggests that people may be both implicit *and explicit* pluralists. From this New Pluralist Perspective, people may think it is valuable to believe in service of non-epistemic goals, and that the degree of support people have for these non-epistemic values impacts their reasoning in a not-so-accidental way.

People will continue holding specific superstitious beliefs even after explicitly acknowledging they are incorrect (Walco & Risen, 2017). They will also prescribe morally motivated reasoning to hypothetical strangers in interpersonal dilemmas where Epistemic Value is pit against Moral Value (Cusimano & Lombrozo, 2020). Finally, people are also willing to say that they do not even care that much if their beliefs are supported by a rational analysis of the evidence (Ståhl, Zaal, & Skitka, 2016; Pennycook, Cheyne, Koehler, & Fugelsang, 2019).

But this work leaves many important open questions that are central to the New Pluralist Perspective. This is largely because it is disconnected, and not aimed at challenging the

Traditional Monist Perspective in earnest. In contrast, the current perspective does. It advances a New Pluralist Perspective and aims itself at two of these open questions: (1) Do people explicitly endorse non-epistemic values about belief, and (2) Do these same people engage in more motivated reasoning? In the following studies, I will take the first steps in testing these questions.

## Study 1

In Study 1 I develop a self-report scale to measure the endorsement of Epistemic, Emotional, Moral, and Affiliative Value: the Values about Belief Scale (VBS). According to the New Pluralist Perspective, I hypothesize that (1) these four values are distinct, and (2) that people willingly endorse the non-epistemic values. I test these hypotheses using exploratory and confirmatory factor analysis, as well as by examining the distributions for the resulting factors.

I also use the data to test a hypothesis implied by the Traditional Monist Perspective about the relationship *between* these values. According to the logic of the Traditional Monist Perspective, support for Epistemic Value entails opposition to non-epistemic values because, as monists, people see them as incommensurable: if it is only ever appropriate to believe based on logic and evidence, any other influence must be wrong. This predicts that Epistemic Value should be strongly negatively related to Emotional, Moral, and Affiliative Value. I test this hypothesis by examining correlations between Epistemic Value and the non-epistemic values.

**Method.**

***Participants and sample size.*** I collected data from 1,002 U.S.-based MTurk workers who successfully passed three English language comprehension questions. I then excluded participants who failed to correctly answer at least one of three attention checks, resulting in 801 participants. Next, I coded text responses that these participants provided to an open-ended comprehension question and excluded those who gave low quality responses (e.g., ambiguous

19

responses, pasting large chunks of text from a website), resulting in 689 participants. Finally, I excluded participants who appeared to be paying attention by passing all of these previous checks but failed to correctly answer this same open-ended comprehension question. This resulted in a final sample of 456 participants (43.42% male, mean age = 40.89).

*Procedure.* Participants began by reading the following scale instructions:

> We are going to ask you some questions about *how you decide what to think about various claims and positions you hear.* In other words, when you decide what to believe about the many statements, positions, and claims you are confronted with, how do you choose what to believe?

> While you are answering the questions, you should be thinking about your *beliefs about statements where only one person can be correct*: For example, your belief about whether torture does or does not cause people to give up accurate information, or whether there is or is not a gender pay gap. You should **not** have in mind beliefs about statements where more than one person can be correct: For example, your belief about whether torture is right or wrong, or whether a gender pay gap is good or bad.

These instructions described the distinction between descriptive and injunctive beliefs using language based on research conducted by Heiphetz, Spelke, Harris, & Banaji (2013; see also Spelke, Harris, & Banaji, 2014; Heiphetz, Gelman, & Young, 2017; Theriault, Waytz, Heiphetz, & Young, 2017; Heiphetz, Landers, & Van Leeuwen, 2018 for similar language) showing that adults and children make a distinction between beliefs for which only one person can be correct (descriptive beliefs) and for which multiple people can be correct (injunctive beliefs). The instructions also included two examples of descriptive and injunctive beliefs, respectively. Lastly, the instructions explicitly asked participants to think about their descriptive, and not injunctive, beliefs while answering the questions. I took these measures because I was interested if people would be willing to endorse non-epistemic values even when evidence would seem to be all that matters, because it can actually afford the correct answer (i.e., falsifiable descriptive beliefs), and because it would not be valuable to learn that non-epistemic values influence

injunctive beliefs (e.g., that peoples beliefs about the best music are the result of endorsing Emotional Value). In service of this goal, participants also answered a multiple choice attention check question which asked them what kinds of beliefs they were supposed to be thinking about while responding to the items in the scale, the correct answer being "Beliefs where only one person can be correct" (i.e., descriptive beliefs). This was one of the three attention check questions that participants were excluded on the basis of.

Participants then provided two beliefs that they thought were descriptive, and not injunctive, beliefs. These were the beliefs that were coded and that participants were excluded for. Only then did participants respond to the scale itself, which randomly presented eight items each for Epistemic (e.g., "I think that beliefs should be based on facts and evidence."), Emotional (e.g., "I think there is a lot of value in believing things that make you happy."), Moral (e.g., "When trying to decide whether or not to believe something, I think people should ask themselves if it is morally right or wrong to believe it."), and Affiliative Value (e.g., "In my view, people should adopt the beliefs of their friends and family when confronted with a new topic."). After the scale, participants responded to demographic questions and the study concluded. The full scale can be found in Appendix A.
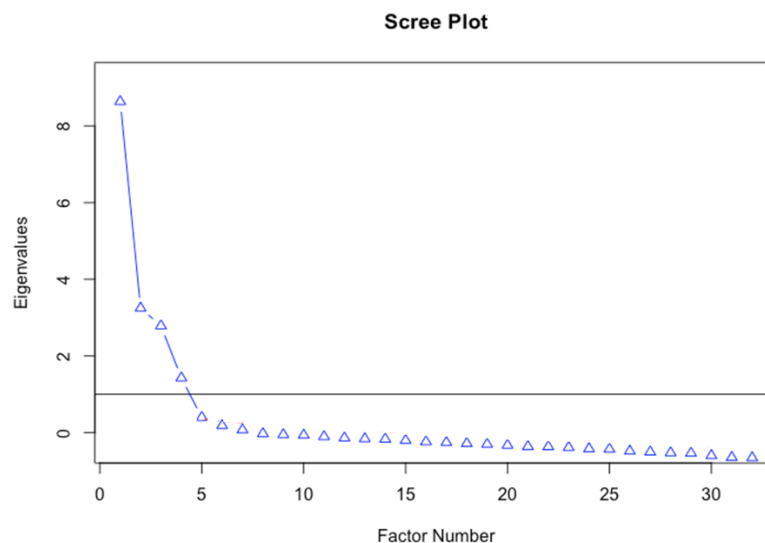
**Results.**

***Efficacy of Instructions.*** To be more confident that people were thinking about falsifiable descriptive beliefs while completing the scale, I coded the example beliefs that people gave into three categories: low quality responses (e.g., single word responses such as "abortion," or pasting large chunks of text clearly copied from a website), incorrect examples (e.g., "Abortion is wrong.", "NYC is the prettiest city in the world."), and correct examples (e.g., "Abortion is a large public health cost.", "NYC has the tallest building in the world."). I did not

code beliefs for truth value. For example, if someone stated that unicorns exist, it would have been considered a correct example because it is a testable empirical claim, even if it is obviously not true. I was blind to participant demographics and scores on the scale during this coding. Of the 689 participants who gave high quality responses and passed all attention checks, 66% (456/689) provided two correct example beliefs, and were included in the analyses. This suggests that a new iteration of the scale should be developed to improve the instruction's ability to make participants think about descriptive, but not injunctive beliefs.

*Exploratory factor analysis.* Although I had an *a priori* hypothesis about the factor structure, I first conducted an exploratory factor analysis using the psych package in R (Revelle, 2017) to see whether the hypothesized structure emerged from the data. I first produced a scree plot, which showed that four factors had eigenvalues greater than one, suggesting a four-factor solution (Figure 1).

*Figure 1*



I then extracted these four factors using factor analysis with maximum likelihood estimation and Oblimin rotation to allow factors to correlate. These factors explained 52% of

variance in participants' responses (explained variance per factor 12.30% - 14.30%). All items

loaded on their corresponding factor, with an average factor loading of .694 (range from .400 -

.891). These four factors also clearly corresponded to the four hypothesized values about belief

(Table 1), supporting the pluralist hypothesis that they would be distinct values about belief. This

suggests that people think beliefs can have multiple distinct sources of value, several of which

being non-epistemic.

*Table 1*

| Items | Epistemic | Emotional | Affiliative | Moral |
|---|---|---|---|---|
| Epistemic 1 | .645 | | -.107 | |
| Epistemic 2 | .769 | | | |
| Epistemic 3 | .807 | | | |
| Epistemic 4 | .668 | -.106 | .130 | |
| Epistemic 5 | .519 | -.137 | .232 | |
| Epistemic 6 | .773 | | | |
| Epistemic 7 | .815 | | | |
| Epistemic 8 | .540 | | | |
| Emotional 1 | | .856 | | |
| Emotional 2 | | .756 | .116 | |
| Emotional 3 | | .889 | | |
| Emotional 4 | | .404 | | |
| Emotional 5 | | .564 | .158 | .104 |
| Emotional 6 | | .794 | | |
| Emotional 7 | | .551 | .115 | .157 |
| Emotional 8 | | .544 | | -.105 |
| Affiliative 1 | | | .814 | |
| Affiliative 2 | | | .834 | |
| Affiliative 3 | | | .520 | |
| Affiliative 4 | | .127 | .616 | |
| Affiliative 5 | | .163 | .616 | |
| Affiliative 6 | | | .700 | |
| Affiliative 7 | | | .768 | .108 |

| | | | | |
|---|---|---|---|---|
| Affiliative 8 | | .159 | .527 | |
| Moral 1 | | .324 | | .610 |
| Moral 2 | | | | .819 |
| Moral 3 | | | | .816 |
| Moral 4 | | .170 | | .634 |
| Moral 5 | .106 | | | .737 |
| Moral 6 | | | .138 | .757 |
| Moral 7 | | | | .832 |
| Moral 8 | | | | .705 |

*Confirmatory factor analysis.* I conducted a confirmatory factor analysis in order to measure the fit of my four-factor model to the data. I found the four-factor model to have 'good' Standardized Root Mean Square Residual (.063; good fit < 0.08; Hu & Bentler, 1999), 'mediocre' Root Mean Square Error of Approximation (.064; values < 0.01, 0.05 and 0.08 are considered to indicate excellent, good, and mediocre fit; MacCallum, Browne, & Sugawara, 1996), and a very nearly 'acceptable' Comparative Fit Index (.899; acceptable fit > .90; Bentler & Bonett, 1980).
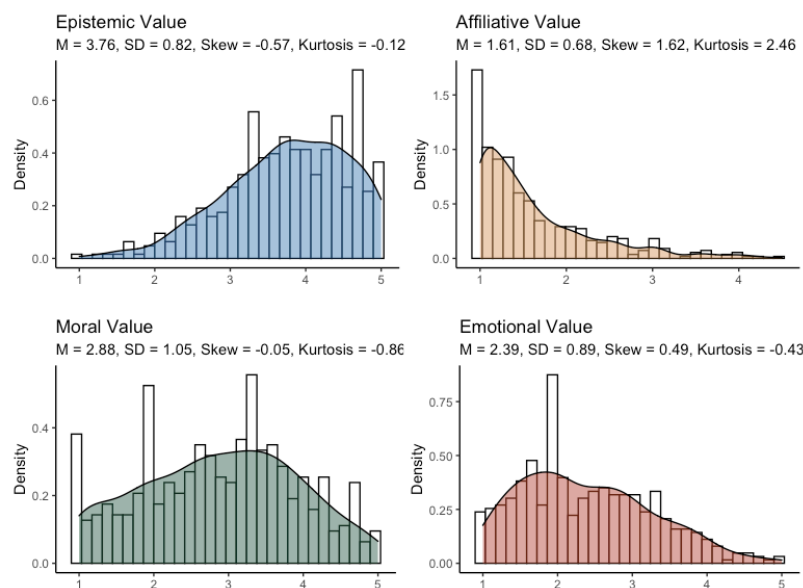
*Internal consistencies.* Cronbach's alpha was .880 for Epistemic Value, .895 for Affiliative Value, .917 for Moral Value, and .879 for Emotional Value. This suggests that, within each subscale, the items are measuring the same underlying construct: a value about belief.

*Distributions.* Figure 2 depicts the distribution of responses for each of the four subscales using density plots with underlying histograms, and includes their respective means (M), standard deviations (SD), skews, and kurtoses. Examining these distributions supports the pluralist prediction that people are willing to explicitly endorse Emotional, Moral, and Affiliative Value in their reasoning. They are even willing to do this after (1) reading detailed, empirically supported instructions that cue them to think about descriptive beliefs, (2) correctly identifying descriptive beliefs as those which they should think about while completing the scale, and (3)

successfully reporting two example descriptive beliefs that demonstrate their understanding of what counts as a descriptive belief. In other words, even when people are thinking about beliefs that they know can be informed by factual evidence, many still report that other sources of value are worth considering when choosing what to believe.

Specifically, for Emotional Value, the average participant sits somewhere between saying that it "Slightly" or "Moderately" describes them to say that they think one should believe things for its positive emotional implications: they are far from rejecting support for this value. Moral Value is nearly normally distributed around the midpoint of the scale ("Moderately describes me"), showing that many people are willing to even strongly endorse this value. Finally, although there is a strong positive skew for Affiliative Value, the distribution still indicates that many people are willing to describe themselves as believing things because other people do.

*Figure 2*



Epistemic Value
M = 3.76, SD = 0.82, Skew = -0.57, Kurtosis = -0.12

Affiliative Value
M = 1.61, SD = 0.68, Skew = 1.62, Kurtosis = 2.46

Moral Value
M = 2.88, SD = 1.05, Skew = -0.05, Kurtosis = -0.86

Emotional Value
M = 2.39, SD = 0.89, Skew = 0.49, Kurtosis = -0.43

***Value Intercorrelations.*** Figure 3 depicts the correlations between the four values. Examining these correlations challenges the Traditional Monist Perspective, which implies that
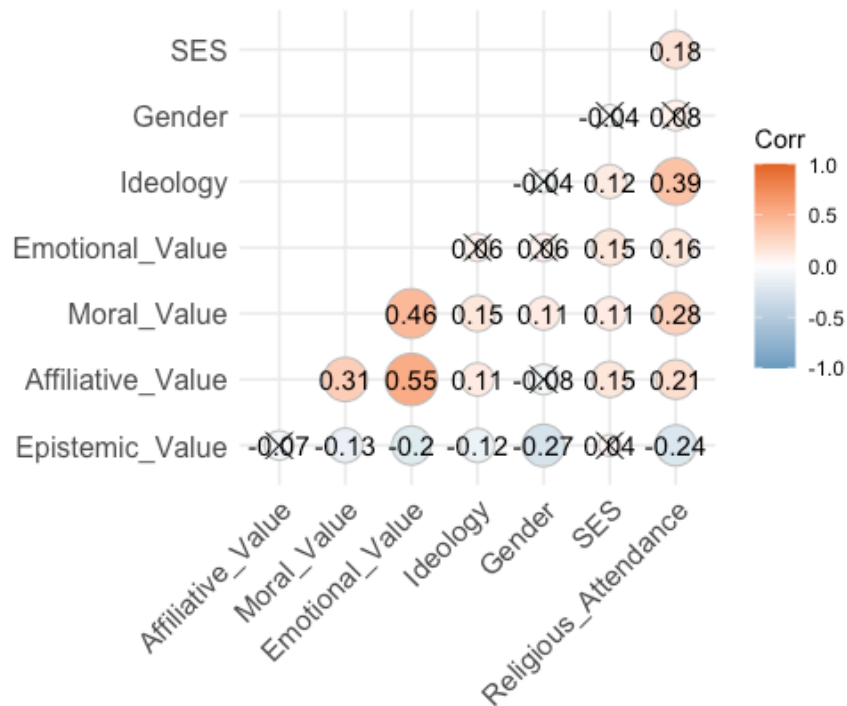
people see non-epistemic values to be strongly at odds with Epistemic Value: the more someone

cares about Epistemic Value, the more vehemently they should reject the non-epistemic values.

In contrast, Epistemic Value is only weakly negatively correlated with Emotional and Moral

Value, and uncorrelated with Affiliative Value. In other words, while there is some tension

between Epistemic and non-epistemic values, it is small.

*Figure 3*

*Demographic Correlates.* Figure 4 depicts the correlations between each of the four values and demographics.

*Figure 4*



Correlation matrix (Corr scale from -1.0 to 1.0):

| | Affiliative_Value | Moral_Value | Emotional_Value | Ideology | Gender | SES | Religious_Attendance |
|---|---|---|---|---|---|---|---|
| SES | | | | | | | 0.18 |
| Gender | | | | | | -0.04 | 0.08 |
| Ideology | | | | | -0.04 | 0.12 | 0.39 |
| Emotional_Value | | | | 0.06 | 0.06 | 0.15 | 0.16 |
| Moral_Value | | | 0.46 | 0.15 | 0.11 | 0.11 | 0.28 |
| Affiliative_Value | | 0.31 | 0.55 | 0.11 | -0.08 | 0.15 | 0.21 |
| Epistemic_Value | -0.07 | -0.13 | -0.2 | -0.12 | -0.27 | 0.04 | -0.24 |

**Study 1 Discussion.** In contrast to the Traditional Monist Perspective, the New Pluralist Perspective argues that people endorse a plurality of distinct values about belief. I tentatively proposed a non-exhaustive set of three non-epistemic values based on a review of the motivated reasoning literature. In Study 1, I developed a self-report scale, the VBS, to measure peoples' values about belief, and tested two pluralist hypotheses: (1) that there would be four distinct values about belief, and (2) that people would willingly endorse the non-epistemic values. Exploratory and confirmatory factor analyses support the first prediction: the data fit a four-factor model which includes three non-epistemic values. Moreover, people are willing to endorse the non-epistemic values, in line with the second prediction. Finally, the data also do not support

a hypothesis implied by the Traditional Monist Perspective: that Epistemic Value would be correlated with stronger rejection of non-epistemic values.

Taken together, these data paint a picture more consistent with the New Pluralist Perspective than the Traditional Monist Perspective: that people actually endorse a plurality of values about belief, seeing it as appropriate and valuable to pursue non-epistemic goals with reasoning. Moreover, that people do not see this plurality of non-epistemic values to be strongly at odds with Epistemic Value. But do people act on these non-epistemic values, and actually pursue non-epistemic goals more when reasoning?

**Study 2**

The relationship between peoples' values about belief and their actual motivated beliefs is unknown, as this is the first time they have ever been measured. Therefore, the primary purpose of Study 2 was to conduct a preliminary investigation of the relationship between peoples' values about belief, and actual beliefs that are known to be highly motivated. Specifically, this study focused on the relationship between Emotional Value and several beliefs that have been argued to be emotionally motivated. According to the New Pluralist Perspective, I predicted that Emotional Value would positively predict these beliefs: the same people who see more value in holding positive emotional beliefs would be the same people to actually hold these beliefs.

A second goal of the study was to assess the convergent validity of the Emotional Value subscale. As such, I added several measures of positive emotional goals. Because the Emotional Value subscale measures the strength of Emotional Goals in reasoning, it should be positively correlated with general measures of positive emotional goals. I also added a measure of life-

satisfaction to see if people who are more concerned with having emotionally valuable beliefs actually end up being happier.

Finally, I made two changes to the scale for Study 2: New instructions and a shortened list of items. While the scale instructions used in Study 1 are empirically supported by research on the way people categorize different types of beliefs, they do not use face valid language to ask people to think about descriptive rather than injunctive beliefs, of which the core distinction is empirical falsifiability. Perhaps as a result of this, only 66% of otherwise attentive, reliable participants in Study 1 passed the belief example coding: I was forced to exclude an entire third of my high-quality participants. To address this issue, I used more face valid language in the scale instructions in Study 2. Rather than operationalizing descriptive beliefs as "beliefs where only one person can be correct", I described them as "beliefs that CAN be proven correct or incorrect". Likewise, rather than operationalizing injunctive beliefs as "beliefs where more than one person can be correct", I described them as "beliefs that CANNOT be proven correct or incorrect." These instructions are a more face valid operationalization of our distinction between descriptive and injunctive beliefs. Moreover, as they explicitly refer to empirical falsifiability, they produce a clearer and more conservative test of peoples' willingness to endorse non-epistemic values about their descriptive beliefs. I also cut down the number of items in the scale to create a less cumbersome measure of the values people have about belief. Guided by the factor loadings and cross-loadings obtained in Study 1, I selected four of the most face valid items per subscale to measure each value. This final version of the VBS can be seen in Appendix B.

**Method.**

***Participants and sample size.*** I collected data from 350 U.S.-based MTurk workers who successfully passed three English language comprehension questions. I excluded participants

who failed to correctly answer any of three attention checks, resulting in 248 participants. For these participants, I coded three example beliefs, and excluded those who failed to provide all correct (i.e., descriptive) examples resulting in a final sample of 207 participants (47.83% male, mean age = 43.71).

    *Procedure.* Participants began the study by completing the VBS. Specifically, they read the new face valid instructions, completed an attention check item, reported three example descriptive beliefs, and then completed the scale. They then responded to each of the other scales included in the study in a random order. They concluded by responding to demographic questions.

    *Measures.* I included several scales that measured emotionally motivated beliefs. First, I included self-esteem (Robins, Hendin, & Trzesniewski, 2001), as a large literature indicates that people are motivated to defend positive views about the Self (e.g., Tesser, Crepaz, Collins, Cornell, & Beach, 2000), often at the expense of having epistemically valid beliefs (Alicke & Govorun, 2005). I also included a three-factor measure of Belief in a Just World (BJW; Lipkus, 1991), including the belief that the Self (Personal BJW) and others (Interpersonal BJW) are treated fairly, as well as that the socio-political system is just (System BJW). These were included as both Just-World Theory (Lerner, 1980) and System Justification Theory (Jost & Hunyaday, 2003) both argue and have robust empirical support for the palliative function of these just-world beliefs.

    Second, I included several scales to assess the convergent validity of the VBS. These scales can be placed into two broad categories: those that measure positive emotional goal *settings* and positive emotional goal *strivings*. Goal settings are what people believe are appropriate, valuable end states, while goal strivings are what people actually do to achieve these

end states (Bagozzi & Dholakia, 1999). Specifically, I included the Happiness Goal Orientations Scale (Schweitzer & Luhmann, 2020), which is explicitly comprised of a happiness goal *settings* subscale that measures how much people are concerned with being happy, and a happiness goal strivings subscale that measures the degree to which people actually try to be happy. As an additional measure of positive emotional goal settings, I included the Valuing Happiness Scale (Mauss, Tamir, Anderson, & Savino, 2011), which measures an almost obsessive desire to be happy. As additional measures of positive emotional goal strivings, I included the Prioritizing Positivity Scale (Catalino, Algoe, & Fredrickson, 2014), which measures how much people prioritize positive emotions, as opposed to other goals, in their behavior, and a measure of individual differences in the frequency of cognitive reappraisal (Gross & John, 2003). I hypothesized that Emotional Value would be positively correlated with all of these measures, as they all capture the more domain general desire and pursuit of positive emotions, while the Emotional Value subscale measures positive emotional goal setting specifically in the context of beliefs and reasoning.

Finally, I included a measure of life satisfaction (Diener, Emmons, Larsen, & Griffin, 1985) to see if people who think it is more appropriate to believe things because it makes them happy actually end up being happier. In other words, does Emotional Value lead to its ultimate goal? The inclusion of Emotional Value, motivated beliefs, and measures of positive emotion related goal strivings also allowed me to explore *how* Emotional Value might achieve its intended goal. Specifically, I examined the possibility that Emotional Value leads to happiness through the adoption of emotionally valuable beliefs using an exploratory mediation.
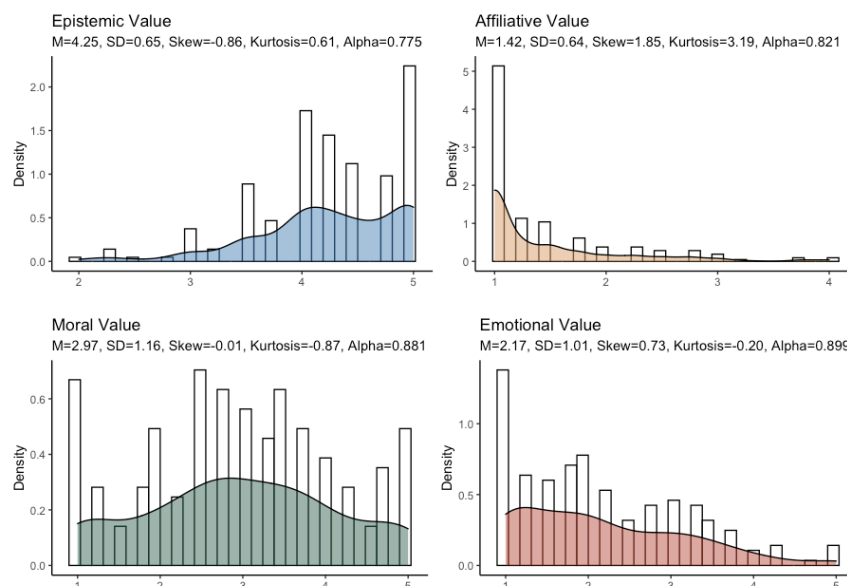
**Results.**

  ***Efficacy of Instructions.*** Of the 248 participants who passed the three attention checks, 6% (18/248) were excluded for providing low quality responses. Of those who provided high quality data, 90% (207/230) provided three correct belief examples. I only included these 207 participants in the analyses. This 90% pass rate represents a 24% improvement over the original instructions used in Study 1, indicating that the new instructions do a much better job of getting participants to think of descriptive, and not injunctive beliefs.

  ***Distributions and Internal Consistencies.*** Figure 5 depicts the distribution of responses for each of the four subscales using density plots with underlying histograms, and includes their respective means (M), standard deviations (SD), 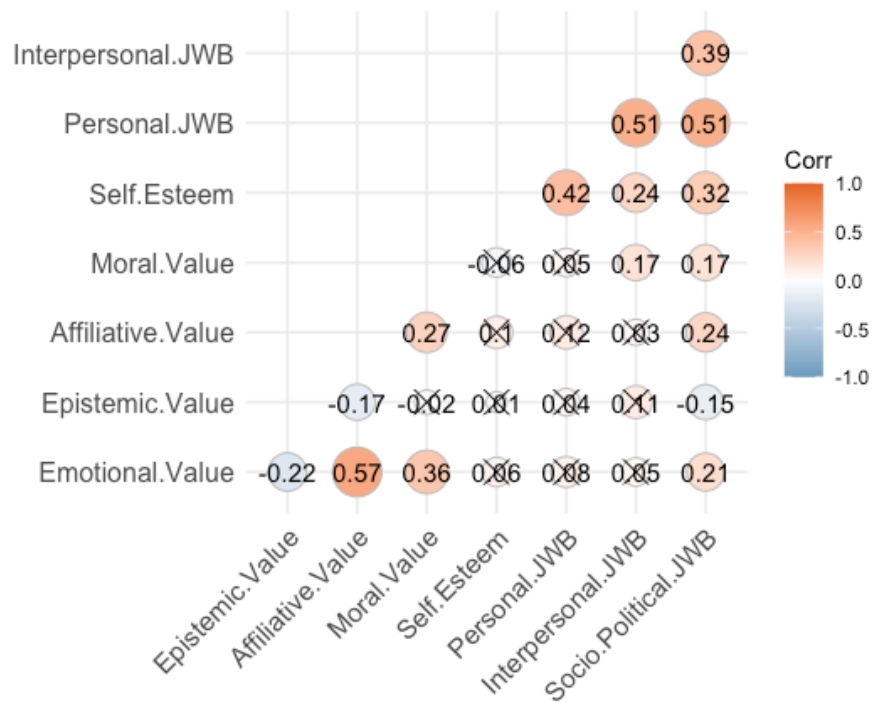skews, kurtoses, and Chronbach's alphas. Examining these distributions yields similar support for the New Pluralist Perspective as Study 1, as many people are willing to endorse non-epistemic values, even when I more clearly led them to be thinking about falsifiable descriptive beliefs.
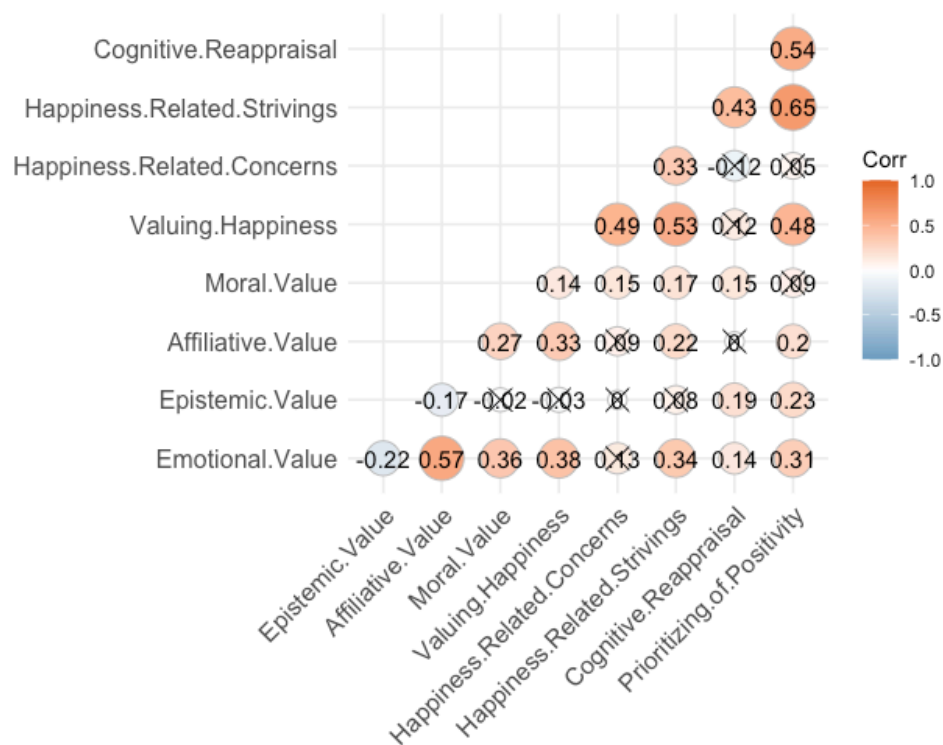
*Figure 5*

*Predicting Motivated Beliefs.* Figure 6 depicts the correlations between the values about belief and the motivated beliefs. Contrary to my predictions, Emotional Value was only positively correlated with the belief in a just system, and not also belief that the Self and others are treated fairly. In other words, Emotional Value was not a robust predictor of emotionally motivated beliefs.

*Figure 6*

*Convergent Validity.* Figure 7 depicts the correlations between Emotional Value and the

constructs included to assess convergent validity. Emotional Value was positively correlated

positive emotional goal settings and strivings. In other words, people who more strongly value

the pursuit of positive emotional goals through reasoning also set higher positive emotional goals

and reported striving to achieve those goals more often. Because the Emotional Value subscale is

intended to capture the perceived appropriateness and value of positive emotion related goals in

reasoning and belief, it bodes well for the convergent validity of the scale that it positively

relates to more domain general concerns with feeling positive emotions.

*Figure 7*



*Life Satisfaction.* Emotional Value positively correlated with life-satisfaction ($r = .192$, $p$

$= .003$, 95% CI [.064, .314]): the more people thought it was appropriate and valuable to pursue

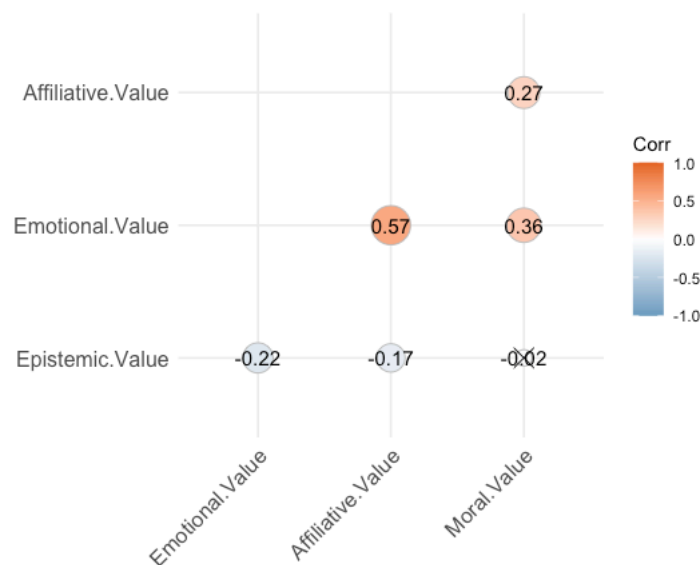positive emotional goals with their beliefs and reasoning, the more satisfied they were with their life.

**Exploratory Mediation Models.** To conduct a preliminary, exploratory investigation of *how* higher Emotional Value might relate to increased life-satisfaction, I used an exploratory correlational mediation model to see if the belief that the socio-political system is just (System BJW) would mediate the relationship between Emotional Value and life-satisfaction. This allowed me to examine the idea that those higher in Emotional Value may be more satisfied with their life because they choose to believe things that make them feel better. However, because it is correlational, this model does not allow me to make causal claims about the role that Emotional Value and emotionally motivated beliefs play in life-satisfaction.

I used System BJW because it was the only motivated belief significantly positively correlated with both Emotional Value and life-satisfaction. The indirect effect was .095, (95% CI [.026 to .190], p = .002). Moreover, the direct effect was no longer significant when System BJW was included in the model ($b_{direct}$ = .187, 95% CI [-.048, .420], $p$ = .118). In other words, the belief in a just socio-political system fully mediated the relationship between Emotional Value and life-satisfaction. This is consistent with the idea that those higher in Emotional Value end up being more satisfied with their life because they adopt more emotionally positive beliefs, in that it is what we would expect if this causal story were true.

**Value Intercorrelations.** Figure 8 depicts the correlations between the four values. According to the Traditional Monist Perspective, there should be strong negative correlations between Epistemic Value and the non-epistemic values. But, in contrast, Epistemic Value is only weakly negatively correlated with the non-epistemic values. The data also fail to replicate the negative relationship between Epistemic Value and Moral Value observed in Study 1, and

instead find a negative correlation with Affiliative Value that was not observed in Study 1. In other words, the data from Studies 1 and 2 find weak, fail to support the Traditional Monist Perspective, and instead suggest that there is not a great deal of conflict between epistemic and non-epistemic values.

*Figure 8*



**Study 2 Discussion.** The results of Study 2 replicate the results of Study 1 in that, consistent with the New Pluralist Perspective, people were willing to endorse non-epistemic values, and that, inconsistent with the Traditional Monist Perspective, there was not a strong tradeoff between epistemic and non-epistemic values. This provides further support for a pluralist perspective that people endorse a plurality of non-epistemic goals for reasoning.

But do these non-epistemic goals actually impact reasoning? Although it did positively predict peoples' belief that the socio-political system is just, Emotional Value did not predict any of the other three motivated beliefs. In other words, Emotional Value was not a robust predictor

of motivated beliefs in general. But this does not necessarily mean that Emotional Value plays no significant role in the lifespan of a motivated belief.

Motivated beliefs, such as those measured here, are merely the product of a long, multifaceted process of motivated reasoning that produces and sustains them. People make decisions about what information to expose themselves to and how to evaluate it, how they (re)appraise that information to change its emotional implications, the moral agendas that information may be construed to conflict with, and who they talk about it with, for example. So, while Emotional Value may not predict emotionally motivated beliefs (i.e., the *distal outcome* of the process), it may predict different *components* of the process that produced them. For example, Emotional Value may predict selective exposure to more positive information about the Self, even if it does not strongly predict self-esteem. More broadly, while peoples' abstract values about believing may not strongly predict specific beliefs, they may predict the various belief-relevant behaviors that produce them.

Finally, Emotional Value positively predicted satisfaction with one's life: setting stronger positive emotion related goals in reasoning and beliefs positively related to greater achievement of those goals. One theoretical interpretation of this is that those higher in Emotional Value are more willing and motivated to act on their positive emotion related goals to make themselves feel better. If this is the case, then the adoption of more emotionally positive beliefs should explain the relationship between Emotional Value and life-satisfaction. An exploratory mediation model was consistent with this perspective, as the belief in a just socio-political system mediated the relationship between Emotional Value and life-satisfaction. Although correlational, this is what one would expect if people were acting on Emotional Value to be happier by adopting more emotionally positive beliefs.

**Study 3**

Study 3 was a longitudinal study where I resampled participants who had taken part in Study 1 or 2. The purpose of Study 3 was threefold: to compare the efficacy of the VBS instructions among participants who had seen saw the old and new scale instructions (i.e., within-subjects), examine the predictive power of the scale for a new crop of potentially palliative beliefs, and assess the stability of the values about belief. I predicted that participants who had seen the older version of the scale instructions (i.e., in Study 1) would provide more correct belief examples after reading the new instructions used in Study 2. I also predicted that the Emotional Value subscale would be positively related to the palliative beliefs included in the study. I did not have specific predictions about the degree to which values would have changed over time. Study 3 took place between May 20th-23rd, after COVID-19 had been declared a pandemic on March 31st (World Health Organization, 2020), whereas our data from Studies 1 and 2 were collected before COVID-19 was even declared a pandemic. As such, I decided to focus my investigation on beliefs that pertained to COVID-19.

**Method.**

*Participants and sample size.* Only participants who had completed either Study 1 (January 19th, 2020) or Study 2 (March 6th, 2020) were invited to participate in the current study (May 20th-23rd, 2020). Because the VBS instructions in Study 1 were different than the instructions used in Study 2 and the current study, I allowed participants who had provided incorrect belief examples in Study 1, but who had passed all attention checks, to participate in the current study so I could see if those same people gave better examples with the new instructions. However, I mistakenly invited participants from Study 1 who had provided low quality text responses: twenty-nine of these respondents participated in the current study, and all

were excluded from the analyses. Because the same instructions were used in Study 2 and the current study, I only invited people who gave correct examples in Study 2 to participate. This yielded a total pool of 1,008 participants whom I invited to complete Study 3.

I collected data from 620/648 respondents who successfully passed two English language comprehension questions. I then excluded participants who failed to correctly answer either of two attention checks or who provided low quality text responses, bringing the sample down to 420. I coded three example beliefs for each of these 420 participants based on the criteria in the previous studies, and 382/420 (91%) gave all correct belief examples. However, using these belief codes, different sub-groups of participants were included in different analyses. The inclusion criteria and sample size are included for each analysis.

*Procedure.* Participants began by completing the VBS exactly as it was presented in Study 2: by reading the new instructions, completing an attention check tailored to those new instructions, providing three belief examples, and only then responding to the items. After completing the scale, participants completed various measures of COVID-19 related beliefs and mental health symptoms, as well as the Prioritizing Positivity Scale and the Cognitive Reappraisal Scale used in Study 2. Participants did not complete demographic questions, as I had access to their demographic information from their responses in the previous studies.

*Measures.* I chose COVID-19 related beliefs based on their potentially palliative value. These included (1) the belief that COVID-19 has been overblown by the media, (2) the predicted number of days it would take for COVID-19 to be reduced to a point where life would go back to normal, (3) trust in society to effectively handle the COVID-19 pandemic, (4) the perceived positivity of COVID-19 related news, and (5) perceptions about the (a) realistic and (b) symbolic threat that COVID-19 poses to America (Kachanoff, Bigman, Kapsaskis, & Gray, 2020).

I also included several measures of mental health. Specifically, I included a measure of depressive symptoms during the past month (Cohen, Kamarck, & Mermelstein, 1994), a measure of rumination about COVID-19 adapted from validated rumination measures (Trapnell & Campbell, 1999; Wade, Vogel, Liao, & Goldman, 2008), and a measure of stress during the last month (Cohen, Kamarck, & Mermelstein, 1983). I also included several measures of COVID-19 related behaviors, including self-report measures of the frequency of (1) in-person social activity with others, (2) precautionary health behaviors, and (3) the amount of news consumed about COVID-19. Finally, I included the Prioritizing Positivity Scale (Catalino, Algoe, & Fredrickson, 2014) and the Cognitive Reappraisal Scale (Gross & John, 2003).

**Results.** The belief example codes from Studies 1 and 2 as well as the current study were used to create distinct data frames to be used for different analyses. All analyses that use values provided at Time 1 as a predictor use a data frame comprised of participants who gave all correct belief examples at Time 1, but not necessarily at Time 2 (n = 327; 42.81% male, mean age = 45.41). Similarly, all analyses that use values provided at Time 2 as a predictor use a data frame comprised of participants who gave all correct belief examples in the current study, but not necessarily at Time 1 (n = 382; 42.67% male, mean age = 45.54). I specify the data frame used for any other analyses.

*Instructions Improvement.* To quantify the improvement in instructions, I analyzed data for participants that had taken Study 1 and the current study (n = 298). In Study 1, 68.79% of these participants provided all correct belief examples. In contrast, 88.26% of these same participants provided all correct belief examples in the current study. This improvement was significant $t(297) = 6.01$, 95% CI [13.10%, 25.80%], $p < .001$, $d = .487$. These data suggest that the new instructions were an improvement over the old ones.

In other words, the new, face valid instructions do a fantastic job of getting everyday people to think about the distinction between descriptive and injunctive beliefs, and then to think specifically about descriptive beliefs. I can therefore be confident that participants are reporting non-epistemic values about beliefs that are empirically falsifiable: those that actually *do* have a correct answer which evidence can uncover.

***Construct Stability.*** To examine the stability of the constructs measured by the VBS, I analyzed data from participants who passed the belief example task at both Time 1 and 2 (n = 301). Specifically, I computed a correlation between responses provided to the scale at Time 1 and at Time 2. For participants who had taken part in Study 1, this represented just over a four-month gap in time, and for participants from Study 2, this represented a two-and-a-half-month gap.
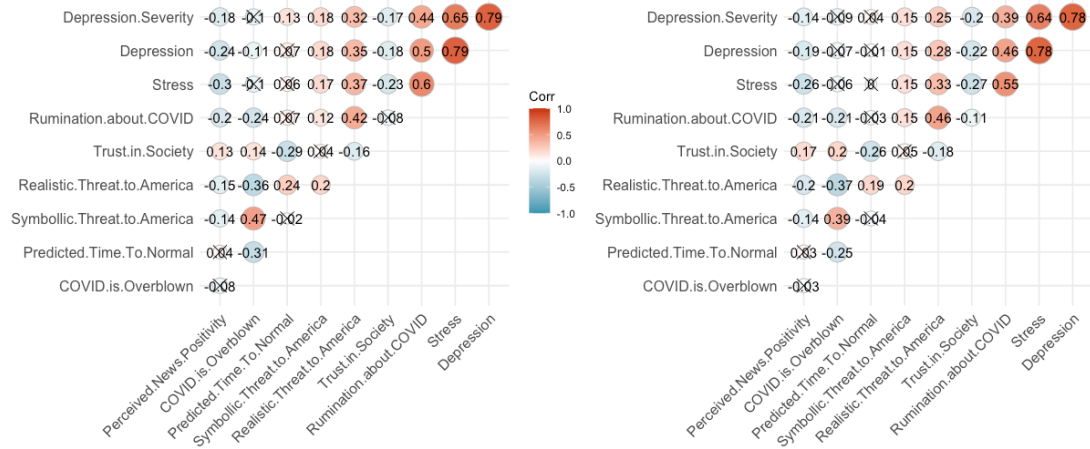
The correlation between scores at Time 1 and 2 was $r = .666$ for Epistemic Value (95% CI [.598, 725], $p < .001$), $r = .638$ for Affiliative Value (95% CI [.566, .701], $p < .001$), $r = .551$, for Moral Value (95% CI [.466, .625], $p < .001$), and $r = .700$ for Emotional Value (95% CI [.637, .754], $p < .001$). These correlations were moderately high but suggest some change in peoples' values about belief from Time 1 to Time 2. However, when interpreting these results, it is important to keep in mind that Study 3 constitutes a rather conservative test of the idea that the values about belief are stable over time, as (1) a pandemic occurred between timepoints for all participants, (2) there was a four month gap in reporting for participants from Study 1 and a two-and-a-half month gap for Study 2 participants, and (3) ~60% of participants came from Study 1, where they had responded to a different set of instructions and a larger pool of items. In this light, the correlations between Time 1 and 2 values could be interpreted as quite high.

In any case, that correlations between values at Time 1 and 2 are not perfect does not necessarily reflect negative properties of the scale. Instead, it could be taken as capturing the fluctuating nature of the construct that the scale is designed to measure. This latter interpretation is consistent with the VBS, as it is designed to capture goals which are subject to change over time. Indeed, this reflects the inherently functionalist nature of the New Pluralist Perspective: that people believe in service of their goals and have values about belief and reasoning which represent these goals.

***Belief Correlations with Mental Health Symptoms.*** Figure 9 depicts the correlations between the beliefs and mental health symptoms using participants who gave all correct belief examples on the VBS at Time 1 (left; n = 327) and Time 2 (right; n = 382).
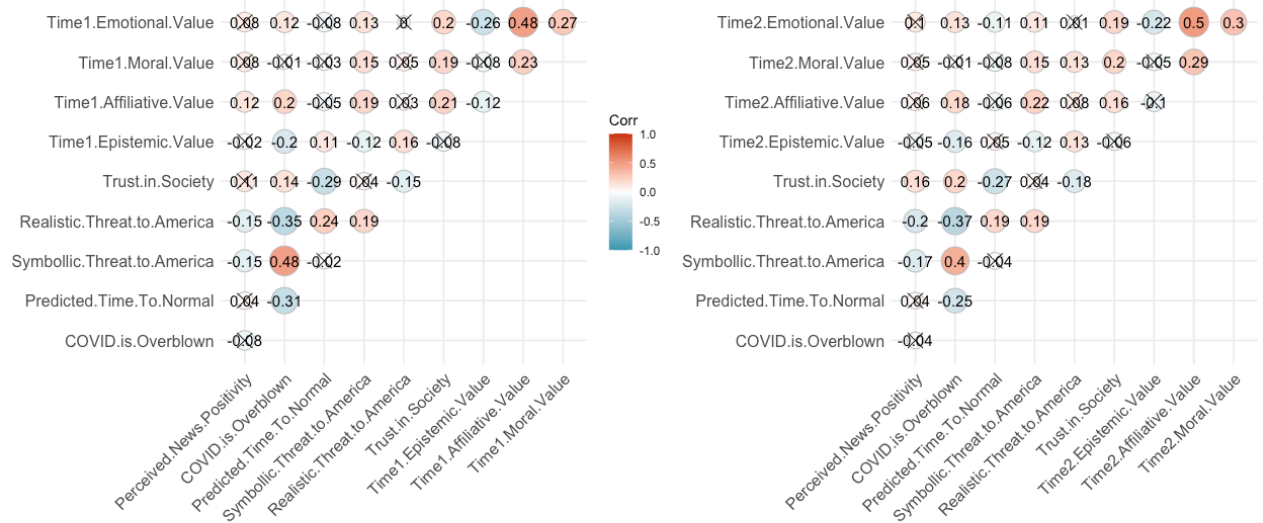
Unlike Study 2, the beliefs included in the current study were not derived from previous literature which had documented their positive emotional function. However, the pattern of correlations between the beliefs included in the study and mental health symptoms is generally consistent with them serving a positive emotional function: if a belief is positively related to mental health, then perhaps it serves a palliative function. Specifically, trust in society to effectively handle COVID-19, perceiving a lack of realistic and symbolic threat to America, believing that the COVID-19 virus is overblown, and evaluating news coverage about COVID-19 to be generally positive were all associated with better mental health. Thinking that it will take less time before COVID-19 is reduced to a point where life can go back to normal was the only belief not related to more positive mental health.

*Figure 9*



***Value Correlations with Beliefs.*** Figure 10 depicts the correlations between the VBS and

beliefs using participants who gave all correct belief examples on the VBS at Time 1 (left; n =

327) and Time 2 (right; n = 382). As in Study 2, Emotional Value was not a robust predictor of

these beliefs. That said, Emotional Value was positively correlated with trust in society to

effectively handle COVID-19, similar to the positive correlation in Study 2 between Emotional

Value and belief in the legitimacy of the socio-political system: in both studies, Emotional Value

predicted system justifying beliefs. This supports the idea that non-epistemic values do predict

beliefs when that belief is particularly goal-relevant, as system justifying beliefs are predicted to
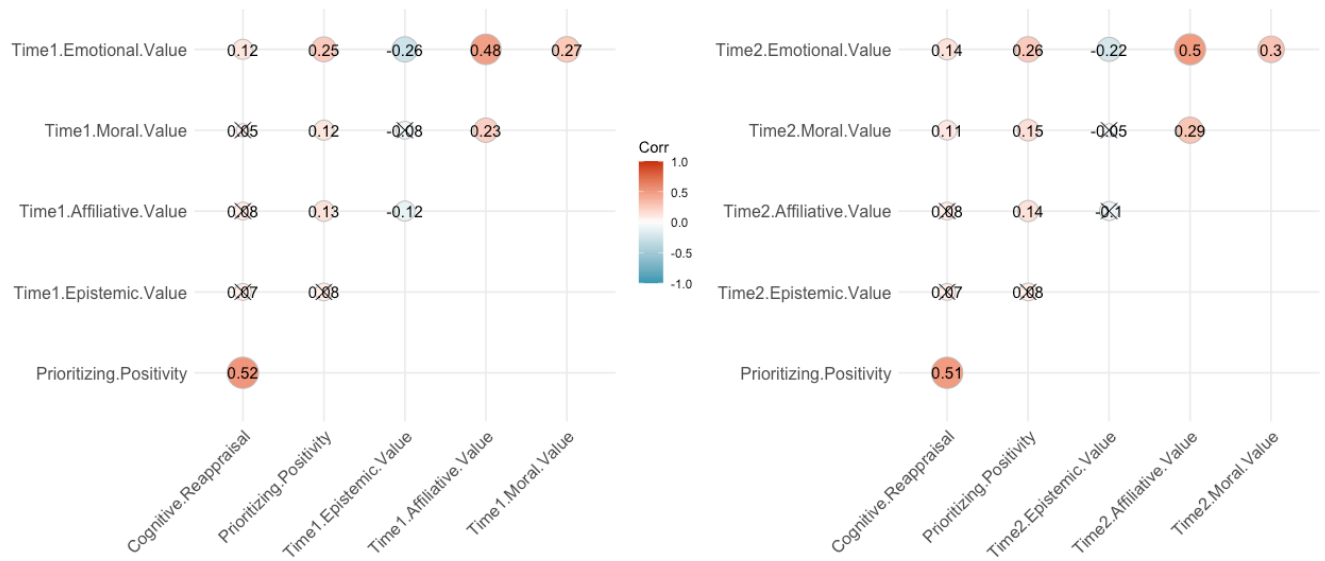
be (Jost & Hunyaday, 2003).

*Figure 10*

***VBS Correlations with Emotional Goal Strivings.*** Figure 11 depicts the correlations between the values about belief and individual differences measures of positive emotion goal strivings using participants who gave all correct belief examples on the VBS at Time 1 (left; n = 327) and Time 2 (right; n = 382). Replicating Study 2, Emotional Value was positively correlated with both measures of positive emotional goal strivings: those who found it more valuable to believe in service of positive emotional goals were the same people who were more likely to pursue happiness in their thought and behavior. This supports the convergent validity of the Emotional Value subscale, and is consistent with the idea that non-epistemic values predict striving to achieve corresponding non-epistemic goals.

*Figure 11*



***Exploratory Mediation Models.*** According to the New Pluralist Perspective, people

arrive at motivated beliefs by acting on their non-epistemic belief goals. In other words, non-

epistemic values increase non-epistemic goal striving, which increases the achievement of non-

epistemic goals (i.e., motivated beliefs). I conducted a preliminary, exploratory investigation of

this proposed relationship using a correlational mediation model to see if positive emotion

related strivings would mediate the relationship between Emotional Value and trust in society.

Although these data are correlational and therefore do not permit causal interpretation, they did

allow me to see if the data were consistent with the aforementioned causal hypothesis.

I operationalized positive emotion related strivings as a composite of Cognitive

Reappraisal and Prioritizing Positivity (correct examples at Time 1: *r* = .674, *p* < .001; correct

examples at Time 2: *r* = .668, *p* < .001). The indirect effect was .070, (95% CI [.033, .110], *p* <

.001) for those who gave correct example beliefs at Time 1, and .100, (95% CI [.060, .150], *p* <

.001) for those who gave correct example beliefs at Time 2. In other words, more frequently

striving to achieve positive emotions through thoughts and behavior mediated the relationship

between valuing positive emotions and trust in society. This is consistent with the idea that those higher in Emotional Value end up with more emotionally positive beliefs because they engage in more thoughts and behaviors that justify such beliefs.

### *Interactions Between Political Ideology and Affiliative Value.*

COVID-19 is a highly politicized issue (Jiang et al., 2020) with beliefs differing starkly across party lines. Specifically, conservatives tend to view COVID-19 less seriously, as conservatism predicts less compliance with recommended health behaviors, consumption of reliable news about COVID-19, and perceived threat posed by the virus (Rothgerber et al., 2020). This means that for a conservative the most affiliatively valuable beliefs are those that downplay the significance of COVID-19, insofar as this is what other conservatives tend to believe. This suggests that the more conservatives are concerned with having shared beliefs with their political ingroup (i.e., endorse Affiliative Value), the more strongly they will endorse beliefs that belittle the pandemic. In other words, it predicts an interaction between political ideology and Affiliative Value, such that those who are more conservative and who more strongly endorse Affiliative Value will hold the most palliative and belittling beliefs about the pandemic. This hypothesis is also supported by pre-pandemic research showing that conservatives are more likely to engage in motivated cognition (Jost, Glaser, Kruglanski, & Sulloway, 2003), and are more concerned with ingroup loyalty (Graham, Haidt, & Nosek, 2009) and affiliation (Jost, van der Linden, Panagopoulos, & Hardin, 2018), suggesting that they would be more likely to engage in motivated cognition in service of affiliative goals. Therefore, in a final set of analyses, I tested for interactions between Affiliative Value and political ideology predicting all COVID-19 related beliefs.

Despite this logic and previous research, a majority of these interactions were not significant: there was no significant interaction between political ideology and Affiliative Value predicting the belief that COVID-19 is overblown, that COVID-19 poses a realistic financial and public health threat to the United States, predictions about how much longer the virus will last, or how positive news about COVID-19 tends to be. However, there were two significant interactions. First, the interaction term between political ideology and Affiliative Value accounted for a significant proportion of the variance in perceptions of symbolic threat to America (e.g., threat to "What it means to be American") using Time 1 Affiliative Value scores $F(3, 315) = 28.50$, $p = 0.001$, $R^2 = 0.21$ (Figure 12) and Time 2 Affiliative Value scores $F(3, 368) = 28.89$, $p = 0.004$, $R^2 = 0.19$ (Figure 13), such that conservatives tended to see less symbolic threat to America the more they endorse Affiliative Value. In other words, as conservatives care more about agreeing with ingroup members, they tend to see less symbolic threat to the nation. This is consistent with previous findings that conservatives view COVID-19 less seriously (Rothgerber et al., 2020), and that conservatives are particularly motivated by affiliative belief goals (Jost, van der Linden, Panagopoulos, & Hardin, 2018).
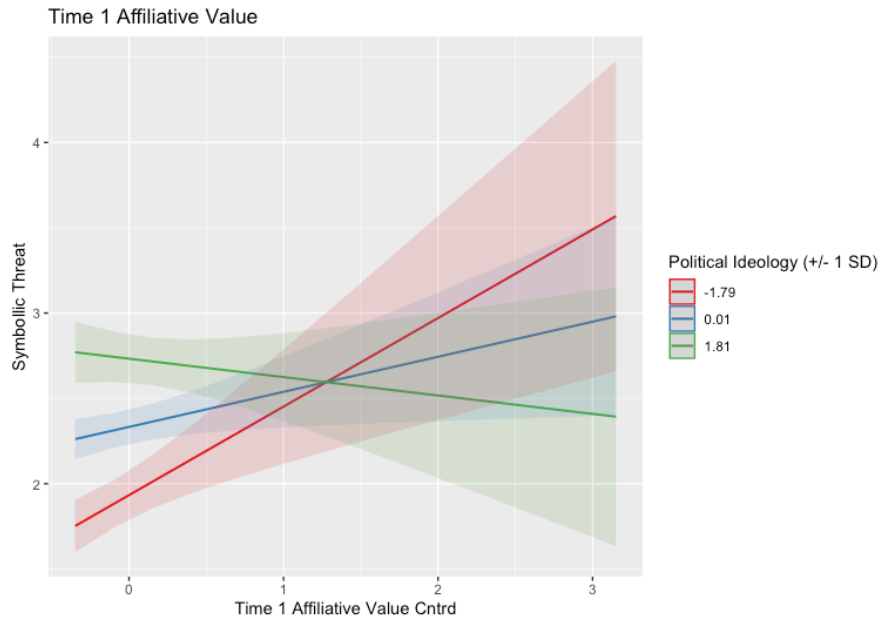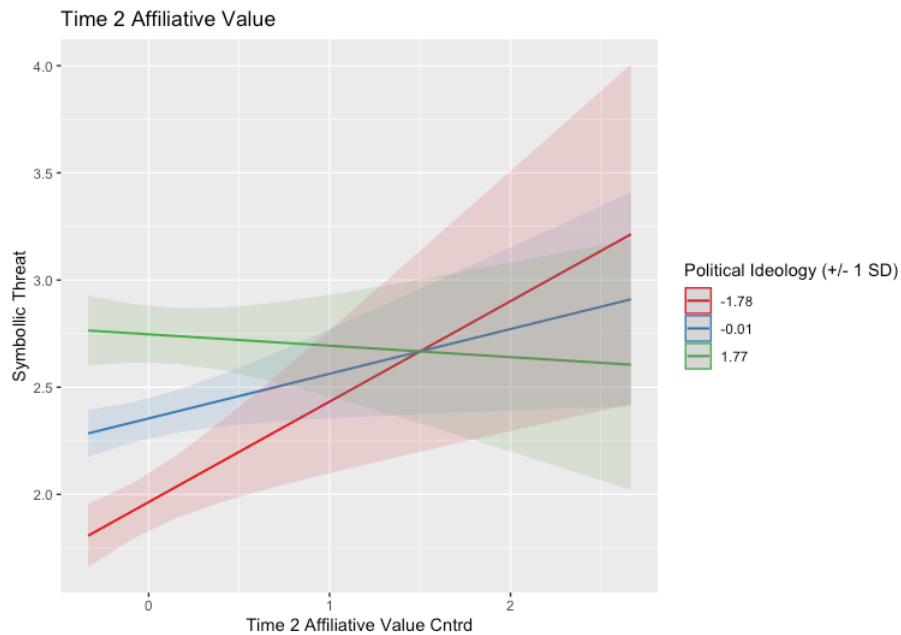
*Figure 12*


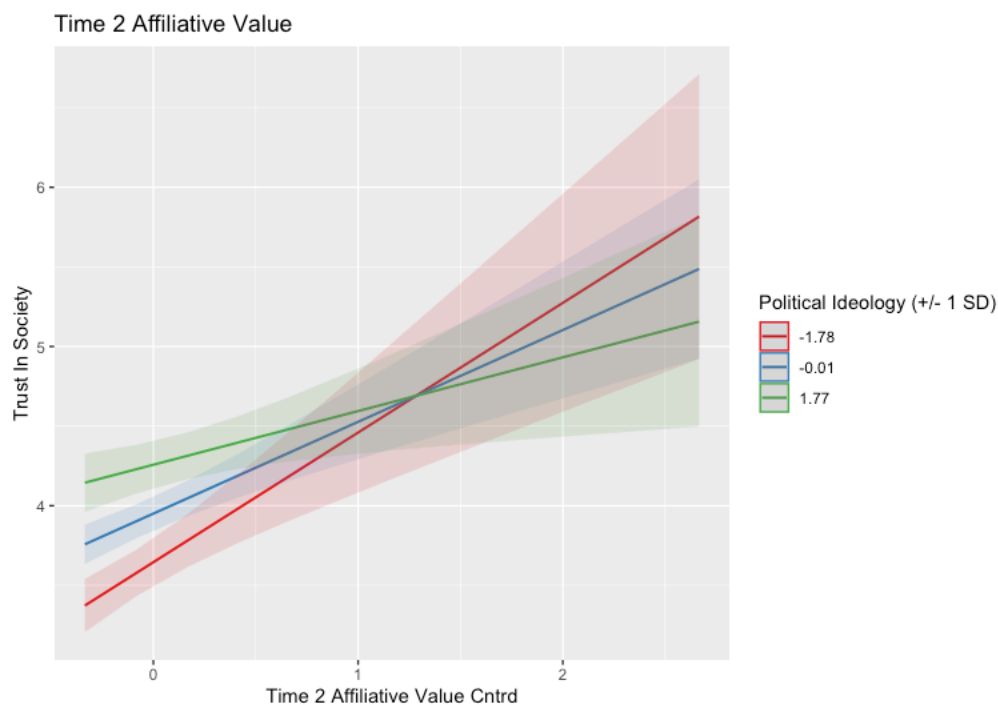
Time 1 Affiliative Value

*Figure 13*



Time 2 Affiliative Value

Second, the interaction term between political ideology and Affiliative Value accounted

for a significant proportion of the variance in trust in society to effectively handle COVID-19

(e.g., "I trust government officials to effectively handle the COVID-19 situation.") using Time 2

Affiliative Value scores $F(3, 368) = 25.62$, $p = 0.021$, $R^2 = 0.17$ (Figure 14). Although both

liberals and conservatives tended to trust society more as their endorsement of Affiliative Value

increased, this effect was stronger for liberals. However, this interaction was not significant

using Time 1 Affiliative Value scores ($p = .908$). If anything, the results of this analysis

contradict the above logic: if conservatives are more likely to adopt beliefs that belittle the

COVID-19 pandemic and pursue affiliative belief goals, one should expect that conservatives,

not liberals, would trust society the most at higher levels of Affiliative Value. In other words, if

the conservative COVID-19 narrative is that there is nothing to worry about, then conservatives

should have the most trust in our ability to combat the virus.

*Figure 14*



The lack of consistent interactions in the predicted direction makes it difficult to draw

conclusions about the relationship between political ideology, Affiliative Value, and COVID-19

related beliefs. One possible interpretation is that conservatives are simply not adopting their

COVID-19 beliefs in order to affiliate with their political ingroup. This could be taken to contradict previous theories of political asymmetries which stress how conservatives tend to set stronger affiliative goals (Jost, van der Linden, Panagopoulos, & Hardin, 2018), but it is also possible that conservatives are attempting to align with other social groups (e.g., a religious ingroup). Afterall, people are affiliated with multiple social groups, and although conservatives are more concerned with affiliation in general, this does not necessarily mean that the primary group they are trying to affiliate with is their political ingroup. As such, future research at the intersection of Affiliative Value and motivated beliefs may benefit from better, and wider, measurement of social identities.

### Study 3 Discussion.

Emotional Value was not a robust predictor of motivated beliefs. That said, Emotional Value was positively correlated with trust in society to effectively handle COVID-19, similar to the positive correlation in Study 2 between Emotional Value and belief in the legitimacy of the socio-political system: in both studies, Emotional Value predicted system justifying beliefs. This is consistent with the fact that system justifying beliefs have been consistently argued to serve a palliative function (e.g., Jost & Hunyaday, 2003; Jost, Wakslak, & Tyler, 2008; Correia, Batista, & Lima, 2009; Wu et al., 2011; Vargas-Salfate, Paez, Khan, Liu, & Gil de Zúñiga, 2018). In contrast, while the other beliefs measured in the current study do seem to serve some emotional function, they likely serve other goals as well, crowding out the predictive power of Emotional Value. That Emotional Value is positively related to beliefs that have been consistently argued, and shown, to serve a palliative function suggests that Emotional Value may actually be a good predictor of beliefs *when they are particularly palliative*. More generally, a measure of peoples' abstract belief-related goals (i.e., the VBS) may only predict beliefs in cases where there is a

particularly strong belief-goal pairing, as is the case with system justifying beliefs and Emotional Value.

However, that Emotional Value was not a robust predictor of beliefs does not mean that Emotional Value played no role in their lifespan: Emotional Value may have been implicated in the mechanisms which produced these beliefs, such as selective exposure to news coverage that would support them, alignment with groups which espouse them, or recruitment of moral principles that are (in)consistent with them. The idea that Emotional Value may motivate non-epistemic goal strivings in this way is consistent with the fact that Emotional Value was positively correlated with individual difference measures of positive emotional goal striving in Study 2 and the current study: in both studies, the same people who set stronger positive emotion related goals (i.e., who endorsed Emotional Value more strongly) were the same people who reported striving to achieve positive emotions in their thoughts and behavior. Additionally, in the current study, more frequently striving to attain happiness through thoughts and behavior mediated the relationship between Emotional Value and trust in society. This is consistent with the New Pluralist Perspective's prediction that stronger endorsement of non-epistemic goals should lead to more non-epistemically valuable beliefs because people would engage in more goal-directed behaviors to try and produce them. This speaks to the importance of measuring the processes that produce motivated beliefs, in addition to the outcome of that process (i.e., the beliefs), as non-epistemic values may drive their deployment.

**Study 4**

Taken together, Studies 2 and 3 revealed a robust relationship between Emotional Value and system justifying beliefs. This is consistent with past work on the Belief in a Just World (Lerner, 1980) and System Justification Theory (Jost & Hunyaday, 2003) which both argue, and

have robust empirical support, for the palliative function of system justifying beliefs. The goal of Study 4 was to explore this relationship in more detail. As in Study 2 and 3, I measured system justifying beliefs in the current study (i.e., the *output* of system justification). But I also measured the *process* of *system justification*. This is the difference between measuring a static motivated belief, and the process of motivated reasoning that produced it. This was intended to address the need to examine the relationship between non-epistemic values and the process of belief change, as opposed to simply measuring the outcome of that process.

When people engage in the process of system justification, they change their beliefs about a feature of the status quo to frame it more positively, making themselves feel better in the process (Jost & Hunyaday, 2003). For example, voters will perceive a politician, even of the opposing political party, more favorably when they are simply led to believe that they are more likely to win (Kay, Jimenez, & Jost, 2003). People are especially likely to justify a feature of the system when it is difficult to escape (e.g., when a policy impacts *all* citizens; Laurin, Shepherd, & Kay, 2010), certain (e.g., when a policy is sure to come into effect; Laurin, Kay, & Fitzsimons, 2012), stable (e.g., when an inequality is unlikely to change or go away; Laurin, Gaucher, & Kay, 2013), and psychologically real or concrete (e.g., after a politician has already been inaugurated; Laurin, 2018). These findings speak to the "if you can't change it, rationalize it" nature of system justification, in which people essentially adopt beliefs that help them cope with realities that they cannot control.

In the current study, system justification was operationalized in two ways. First, I indirectly measured system justification as change in system justifying beliefs from before to after a manipulation intended to induce system justification. Second, I directly asked participants if they had changed their mind to view the status quo more positively. I predicted that Emotional

Value would positively predict system justifying beliefs, as well as both measures of system justification: those who think it is more valuable to believe things in support of emotional goals would be more likely to change their beliefs about the system. This aligns with the findings in Study 2 and 3, as well as the common argument that system justification serves a particularly palliative function (Jost & Hunyaday, 2003).

**Method.**

*Participants and sample size.* I collected data from 350 U.S.-based MTurk workers who successfully passed three English language comprehension questions. I also excluded participants who failed to correctly answer any of four attention checks, and who did not believe that the manipulation article used in the study was real, resulting in a final sample of 200 participants (58.50% male, mean age = 38.27). Because the instructions used in Study 2 and 3 achieved a pass rate of 90%, I did not elicit belief examples in the current study. But, importantly, one of the four attention checks used in the current study did force participants to explicitly identify "Beliefs about statements that CAN be proven correct or incorrect" as those which they should have in mind while responding to the items in the values about belief scale.

*Procedure.* Participants began the study by reporting their beliefs about three social issues: two filler issues, and one target issue. The two filler issues were social media and government funding of space exploration, and participants indicated their (dis)agreement with three-statements per issue which implied either positive or negative beliefs about the issue. Participants also rated their (dis)agreement with three-statements about the legitimacy of wealthy political leaders (e.g., "In politics, when someone wealthy gets elected, they usually coasted in on their money and connections."), the target issue, which were dispersed throughout the filler items.

After reporting these beliefs, participants read a short news article about each issue. The two filler articles included innocuous information about social media and space exploration, but the target article was intended to induce system justification. Specifically, the target article informed participants that the "net worth of the typical Congressperson is quite a bit larger than the typical American", that this "gap had existed for at least the past century", and that this state of affairs is "very unlikely to change." By informing participants of an unjust status quo that they are dependent on, and signaling to them that this status quo is difficult to escape and unlikely to change, the article constituted an empirically supported trigger for system justification (Laurin, Shepherd, & Kay, 2010; Laurin, Kay, & Fitzsimmons, 2012; Laurin, Gaucher, & Kay, 2013; Laurin, 2018): if you cannot avoid something, you might as well make yourself feel better about it.

After reading the three articles, participants responded to the same items that they did at the beginning of the study, which allowed me to see how the article changed their beliefs about the legitimacy of wealthy political leaders (i.e., the indirect measure of system justification). Participants then reported their perceptions about how they changed their mind about each of the three issues throughout the study (i.e., the direct measure of system justification). Finally, participants completed the VBS and demographic questions, and the study concluded.

**Results.**

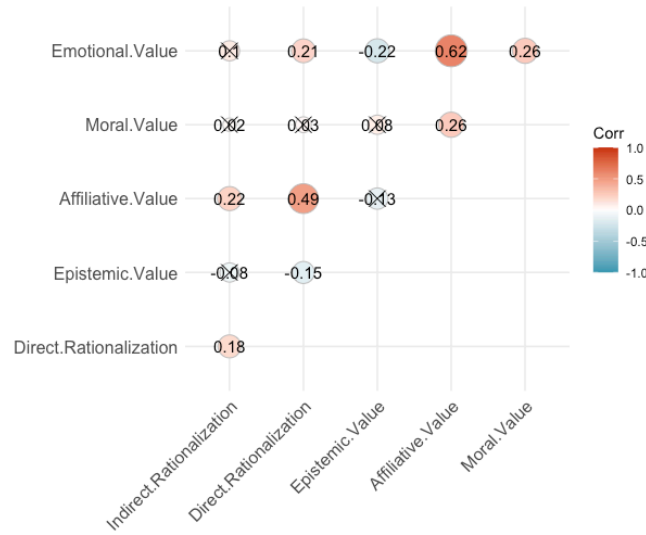*System Justification.* In Study 2 and 3, I measured the output of system justification system justifying beliefs. In the current study, I also measured the process of system justification itself to see if Emotional Value predicted *change* in beliefs.

Indirect system justification was operationalized as a difference score between beliefs reported before and after reading the news article that was designed to induce system

justification. Specifically, I subtracted beliefs reported about the legitimacy of wealthy political leaders *before* reading the article from those same beliefs reported *after* reading the article, such that more positive scores indicated more system justification. In contrast, a direct measure of system justification simply asked people how "reading the news article about the wealth of congress change[d] how [they felt] about wealthy political leaders", with response options ranging from "It made me feel a great deal more negative about wealthy political leaders " to "it made me feel a great deal more positive about wealthy political leaders." While these two measures of system justification were positively related, the relationship was somewhat weak ($r = .199$, $p < .001$, 95% CI [.062, .329]) for two measures of the same process. Correlations between each measure of system justification and the values about belief can be seen in Figure 15.

Contrary to System Justification Theory and my predictions, Emotional Value only predicted the direct measure of system justification. Instead, Affiliative Value emerged as the most consistent and strong predictor of system justification, as it was positively correlated with both operationalizations. This suggests that, at least in this case, people may have been justifying the system out of a desire to share beliefs with other people, rather than to make themselves feel better about this wealth inequality.

*Figure 15*



**System Justifying Beliefs.** Like Study 2 and 3, I also measured the output of system justification: system justifying beliefs. In this case, these were beliefs about the legitimacy of wealthy political leaders reported *after* reading the manipulation article. Correlations between these beliefs and the values of belief can be seen in Figure 16. Similar to the relationship between the values about belief and system justification, participants' system justifying beliefs about the wealth gap between political leaders and their constituents was better predicted by their desire to share beliefs with others (i.e., Affiliative Value) than their desire to feel better (i.e., Emotional Value). This provides further support for the idea that, in this case, people were justifying the system out of a desire to share beliefs with other people, rather than to make themselves feel better about this wealth inequality.

*Figure 16*



***Examining Affiliative Value.*** Although unpredicted, the correlations between Affiliative

Value and beliefs about the legitimacy of wealthy political leaders as well as both measures of

system justification were quite strong, and in the direction of system justification. That is,

Affiliative Value was correlated with *more* system justification, as opposed to *less* system

justification like Moral and Epistemic Value were. However, because I had such a small sample

after exclusions (n = 200), I wanted to see how robust these relationships were when controlling

for theoretically relevant covariates: political ideology and subjective Socio-Economic Status

(SES).

Political ideology was selected because conservatism was positively correlated with

Affiliative Value ($r = .303$, $p < .001$, 95% CI [.169, .426]), and because prior work has shown

that conservatives are more motivated and likely to justify the system (Jost, Glaser, Kruglanski,

& Sulloway, 2003). As such, those higher in Affiliative Value may not justify the system more

out of a desire to fulfill some affiliative goal, but simply because they are more politically

conservative. SES was selected because it is also positively correlated with Affiliative Value ($r =$

$.290$, $p < .001$, 95% CI [.158, .412]), and because it is particularly relevant to the feature of the

status quo that was the focus of the manipulation article: inequalities in wealth between the politically powerful and the everyday citizen. As such, those higher in Affiliative Value may not justify the system more out of a desire to fulfill some affiliative goal *per se*, but simply because they are trying to defend the social and material benefits that come with being high SES, such as political power.

Affiliative Value, political ideology, and SES were all entered into multiple regressions predicting beliefs about the legitimacy of wealthy political leaders reported *after* reading the manipulation article, indirect system justification, and direct system justification, respectively. After controlling for political ideology and SES, there was still a significant positive relationship between Affiliative Value and beliefs about the legitimacy of wealthy political leaders ($b = .148$, $p = .012$), indirect system justification ($b = .101$, $p = .003$), and direct system justification ($b = 1.011$, $p < .001$).

**Study 4 Discussion.** The primary purpose of the current study was to examine the relationship between Emotional Value and system justification, building of the relationship between Emotional Value and system justifying belief measured in Study 2 and 3. In other words, while Study 2 and 3 examined how Emotional Value predicted the output of motivated reasoning, the current study also examined how emotional value predicted the process of motivated reasoning (i.e., motivated belief *change*). I predicted that setting stronger positive emotion related goals in reasoning and belief (i.e., Emotional Value) would relate to greater system justification. In contrast, Affiliative Value emerged as the best predictor of system justifying beliefs and both measures of system justification. While this contradicts System Justification Theories prediction about the relationship between Emotional Value and system justification, it actually supports the New Pluralist Perspectives prediction that non-epistemic

values would predict the process of belief change. Again, this emphasizes the importance of measuring the relationship between non-epistemic values and the strategies that people use to produce their beliefs, rather than just the output of those strategies (i.e., beliefs).

Looking back to Studies 2 and 3, Affiliative Value was also positively correlated with system justifying beliefs: in Study 2, it predicted the abstract belief in a just system, and in Study 3 it predicted trust in society to effectively handle COVID-19. Taken together, this suggests that people may not always justify the system solely out of a desire to achieve positive emotional goals: sometimes it may be about affiliation with a group by agreeing with them, which in this case was likely the voting Americans that put congress members in their positions. This contradicts SJT's explicit distinction between the "system-justification" motive and the "group-justification" motive, and the proposition that people justify the system for the palliative benefits of defending the system, rather than the affiliative benefits of supporting an ingroup (Jost & Banaji, 1994). It also draws a clear connection to theories which SJT commonly tries to distinguish itself from, such as Shared Reality Theory (Echterhoff, Higgins, & Levine, 2009; Rossignac-Milon, Bolger, Zee, Boothby, & Higgins, 2020), Relative Deprivation Theory (Walker & Pettigrew, 1984), and Social Identity Theory (Tajfel, 1974) which all recognize the importance of group, rather than system, allegiance.

But this study can tell us about more than system justification: it is also a useful demonstration of the novel predictive and explanatory value of the New Pluralist Perspective and the VBS derived from it. From the New Pluralist Perspective, we can just ask people why they believe, and see how that relates to their beliefs and reasoning. This is because in the eyes of a New Pluralist, people are pragmatic believers who see value in using their beliefs to achieve non-epistemic goals, like making them feel better about the world they live in, supporting their moral

agendas, and making them closer to others. Direct questions about these non-epistemic goals can therefore carry useful information. In the current study, a straightforward New Pluralist approach revealed that people may not be engaging in the standard, emotionally motivated reasoning that System Justification Theory describes. Their emotional goals didn't predict their beliefs or their indirect system justification, while their affiliative goals did. While direct system justification, which one could argue is actually a better measure of system justification, was predicted by Emotional Value, Affiliative Value predicted this perception much more strongly.

By actually directly asking people what values they have about their beliefs and how they changed their mind, something a Traditional Monist would never do, I was able to directly identify the presence of affiliative goals in system justification: a novel finding that implies fruitful theoretical and empirical follow-ups. In short, the New Pluralist Perspective and the VBS gave new insights into a process that may not have otherwise been uncovered.

## General Discussion

Across four studies, I took the first steps in laying the foundation for a New Pluralist Perspective on the beliefs that people have about belief itself. According to this new perspective, people are explicit pluralists about belief. That is, peoples' consciously accessible folk theories about belief include the view that it is appropriate and valuable to believe in service of non-epistemic goals. This contrasts with the Traditional Monist Perspective, in which people are explicit monists about belief who only care about *Epistemic Value*. From this view, peoples' consciously accessible folk theories about belief only ever derogate non-epistemic goals.

Based on decades of research on motivated reasoning, I derived a preliminary, non-exhaustive taxonomy of non-epistemic values that people could have about belief. First, I argued that people may endorse *Emotional Value:* that it is valuable to believe things that help us feel

better. Second, I argued that people may endorse *Moral Value*: that it is valuable to believe things that support a positive moral agenda. Finally, I argued that people may endorse *Affiliative Value*: that it is valuable believe things that support meaningful social affiliations.

In Study 1, I developed the Values about Belief Scale (VBS), to measure these values. Contrary to the Traditional Monist Perspective, and in line with the New Pluralist Perspective, non-epistemic values were distinct from each other and Epistemic Value, and people were willing to endorse them. Also contradicting the Traditional Monist Perspective, the endorsement of non-epistemic values was not strongly at odds with Epistemic Value.

Studies 2 & 3 examined the relationship between non-epistemic values and motivated beliefs. In line with the New Pluralist Perspective that motivated reasoning often reflects intentional non-epistemic goal pursuit, non-epistemic values were positively related to motivated beliefs. However, these relationships were not particularly robust, aside from Emotional Value's positive relationship with system justifying beliefs across studies, which are argued to primarily serve a palliative function. This suggests that non-epistemic values may predict motivated beliefs when the relationship between a belief and a non-epistemic goal is particularly strong.

Study 4 extended Studies 2 & 3 by capturing the process of motivated reasoning (system justification) in addition to the output of motivated reasoning (system justifying beliefs). Emotional, and especially Affiliative, Value particularly strongly predicted system justification. This suggests that non-epistemic values may play a role in the process that produces motivated beliefs, which is not entirely captured by asking people to report the outcome of that multifaceted process: the beliefs themselves. In other words, non-epistemic values may not predict beliefs *per se*, but rather belief change and components of that process.

This is a possibility that requires direct attention. But some preliminary correlational data obtained are consistent with this proposition. In Studies 2 & 3, Emotional Value positively correlated with positive emotional goal strivings: the more people valued the pursuit of positive emotions through reasoning, the more they reported actually engaging in actions to achieve positive emotions. Moreover, correlational mediational models were consistent with the idea that Emotional Value impacts beliefs largely by leading to more positive emotion related behaviors. In both studies, the relationship between Emotional Value and system justifying beliefs was mediated by measures of positive emotion goal strivings. This is consistent with the idea that non-epistemic values lead to processes which produce motivated beliefs. However, these data are merely correlational, and do not permit causal conclusions. Future research is needed to establish a causal relationship between non-epistemic values, goal-directed behaviors, and motivated beliefs.

**Future Directions**

**Empirical.** So far, I have only discussed the *why* of motivated reasoning: the "motivated" aspect of motivated reasoning. But a great deal of research has instead focused on the *how*: the "reasoning" aspect of motivated reasoning (see Epley & Gilovich, 2016 for a review). This research has focused on the mechanisms between belief goals and beliefs. Because the present data hint at a potentially meaningful relationship between the values about belief and these mechanisms, it is important to consider how people arrive at motivated beliefs.

One way is by engaging in biased information gathering. People avoid that which clashes with a desired conclusion, and seek out that which confirms it (Kunda, 1990). Models of information gathering argue that people seek out information only if they perceive it as valuable. While this value can be epistemic, it can also derive from its ability to help accomplish other

goals, like emotional, moral, or affiliative goals (Sharot & Sunstein, 2020). For example, investors will check their portfolio's performance less when concerned that its value will drop (Karlsson, Loewenstein, & Seppi, 2009) and patients will refuse to learn the result of an important medical test when they are concerned it is bad (Lerman et al., 1998), as this negative information might dampen their mood or threaten their financial and physical wellbeing. Through this kind of *motivated exposure*, people are able to bias their information consumption towards that which supports their belief goals.

But even when forced to confront information that contradicts a desired belief, people will undermine its validity. They suddenly become extreme skeptics, on the watch for misinformation (Ditto & Lopez, 1992). This is especially true in political discourse, when emotions are high, morals are on the line, and groups are at war (Taber & Lodge, 2006). Put by Gilovich (2008), motive-inconsistent information leads people to ask themselves if they *must* believe it, and to look for excuses that would lead them to say no. On the other hand, motive-consistent information leads people to ask themselves if they *can* believe it, and to look for excuses that would lead them to say yes. Through this kind of *motivated evaluation*, people are able to erroneously invalidate information that contradicts their motivated beliefs.

Yet even when people are forced to accept information that threatens their goals, they can still manipulate their memory in a way that supports motivated beliefs. For example, people will often selectively recall information from memory. If they want to believe they are outgoing, they will recall situations where they were, ignoring situations where they were shy (Sanitioso, Kunda, & Fong, 1990; Brunot & Sanitioso, 2004). In addition to selectively pulling supportive memories from storage, they will also push out unsupportive ones. This essentially warps or deletes memories that threaten a desired conclusion (e.g., Shu, Gino, & Bazerman, 2011;

Anderson & Hanslamyr, 2014; Carlson, Maréchal, Oud, Fehr, & Crockett, 2020). Through this kind of *motivated memory*, people are able to put threatening information through yet another biased filter.

Because these various strategies are motivated (Kunda, 1990; Epley & Gilovich, 2016) to attain non-epistemic belief goals, and the VBS essentially measures the strength of belief goals, the values about belief discussed in this paper may be implicated in the implementation of these strategies. This is consistent with the fact that Emotional Value robustly positively correlated with individual differences in the *pursuit of* (vs. desire for) happiness. Moreover, individual differences in these positive emotion related strivings mediated the relationship between Emotional Value and emotionally motivated beliefs. As such, future empirical research may broaden the study of these mechanisms by examining their relationship with the values about belief.

**Theoretical.** A closer look at the research on these mechanisms suggests that they may also benefit from a theoretical, in addition to empirical, application of the New Pluralist Perspective. Just like research on individual differences in belief goals and motivated reasoning itself are built on a monist foundation, so too is research on the mechanics of motivated reasoning. This is because the included mechanisms (motivated exposure, evaluation, and memory) are "evidence-centric": they are all about how people manipulate the evidence to empirically justify desired conclusions. It is as if they do not think other kinds of justifications are valid reasons to believe, and that their hand would be forced by undesirable information, so they must avoid, undermine, or forget it if they want to believe as they wish.

This exclusive focus on evidence-centric mechanisms follows from the assumption that people will only believe if they think their belief is backed by the evidence. This is more or less

exactly Kunda's (1990, p. 483) claim that people will "draw the desired conclusion only if they can muster up the evidence necessary to support it," and Nisbett & Wilson's (1977, p.247) view that if people knew their reasoning was biased "then they would correct for such influences and these effects would not exist." In line with such widespread and foundational views, conceptualizations of the mechanics of motivated reasoning have seemingly completely ignored behaviors aimed at finding non-epistemic justifications for a belief. While researchers have acknowledged non-epistemic influences on belief, that they have assumed that these influences are mediated by peoples' perceptions about the epistemic value of their belief. That is, while people may criticize threatening information to defend a more emotionally positive view, they would only ever view this behavior as healthy skepticism and adherence to Epistemic Value. This exclusionary focus on how people interact with evidence makes sense from the Traditional Monist Perspective: if all people care about is Epistemic Value, then it is no surprise that the mechanisms which support their beliefs are entirely aimed at manipulating a belief's fit with the evidence. Afterall, people would never see non-epistemic justifications as relevant and appropriate.

But from the New Pluralist Perspective, people knowingly care about more than the epistemic value of their beliefs: their hand is not necessarily forced when they confront undesirable evidence, because they can have non-epistemic justifications for their beliefs. Therefore, to the extent that psychologists are concerned with why people choose their beliefs, and not just how people construe their beliefs as factually correct, behaviors that are directed at regulating the non-epistemic value of one's beliefs should also be considered "motivated reasoning."

For example, people will selectively recruit moral principles to morally justify a desired conclusion (Uhlmann, Pizarro, Tannenbaum, & Ditto, 2009). But because this behavior is not aimed at *epistemically* justifying a desired belief, it would not typically be thought of as a mechanism of motivated reasoning, even though it allows people to achieve a belief goal. Ideological segregation presents a similar case (Motyl, Iyer, Oishi, Trawalter, & Nosek, 2014). As people segregate themselves into likeminded communities, this helps them maintain more affiliatively valuable beliefs. But again, this would not typically come to mind as a mechanism of motivated reasoning because it does not necessarily have to do with people manipulating empirical evidence to justify a belief. Likewise, cognitive reappraisal is a motivated process that results in more emotionally valuable beliefs (Gross, 1998). Yet it also would not typically count as a mechanism of motivated reasoning because it involves reconstruing the emotional, not epistemic, components of a position. But if these behaviors are, at least in part, motivated by the desire to hold certain beliefs, then why should they not be considered mechanisms of motivated reasoning?

In short, when people try and make their beliefs fit the evidence, that has been considered a mechanism of motivated reasoning. But when people try and find non-epistemic justifications for their beliefs, that has been considered something else. Yet, from the New Pluralist Perspective, if motivated reasoning is the use of strategies to justify desired conclusions, then this distinction is unwarranted: behaviors directed at regulating the non-epistemic value of a belief are just as much mechanisms of motivated reasoning. Why has this seemingly obvious view been ignored? I argue that, like the research on individual differences in belief goals and motivated reasoning itself, it is because the research has been built on a monist foundation.

**A New Science of Motivated Belief: Belief Regulation**

Research on motivated reasoning has been built on a monist foundation which assumes that people only ever think they are engaging in an unbiased review of the evidence, and that this is the only type of reasoning that is appropriate. This monist foundation has led to three systematic biases in the study of motivated reasoning. First, it has biased the study of individual differences in peoples' explicit belief goals, which has entirely focused on how concerned people are with Epistemic Value, at the exclusion of non-epistemic values. Second, it has biased the study of individual differences in motivated reasoning, with the two dominant perspectives assuming that reasoning is always in pursuit of Epistemic Value, excluding the possibility that people could simply be pursuing non-epistemic goals. Third, it has biased the study of the mechanics of motivated reasoning, which has conceptualized motivated reasoning as processes that shift views about the epistemic value of beliefs, excluding behaviors aimed at shifting perceived non-epistemic value. Why have these monist biases been so pernicious?

Perhaps one explanation is that monism is baked into the concept of motivated reasoning itself. Afterall, the focus is on *reasoning*: "The action of thinking about something in a logical, sensible way" (Oxford University Press, 2020). The Traditional Monist Perspective – that people *only* care about their beliefs being based on a logical analysis of the evidence – is so deep that it may be inseparable from the term itself. But we know, from decades of research, that this scholarly version of "reasoning" is almost never what people are actually doing when they are trying to decide what to believe. And research synthesized in the current paper suggests that this is not even what people think they should be doing. Therefore, if we are interested in why people choose their beliefs, and not just how they construe them to comport to scholarly definitions of

reasoning as logical and evidence-based, then maybe we should abandon the terminology of motivated reasoning altogether. What could take its place?

Because "motivated reasoning" was simply intended as a domain specific case of goal directed behavior, it can be understood as a special case of a more general construct: motivated regulation. This is a process in which actions are directed at shifting current states toward desired states (i.e., goals; Carver & Scheier, 2000; Tamir, Vishkin, & Gutentag, 2020) that is grounded in regulation (Bandura, 1991; Carver & Scheier, 2000; Kuhl, 2000; Shah & Kruglanski, 2000; Carver & Scheier, 2001) and goal pursuit theories (Fishbach & Ferguson, 2007; Kruglanski et al., 2002; Oettingen & Gollwitzer, 2001).

For example, like people are motivated to hold particular beliefs, they are also motivated to hold particular emotions (Tamir, 2016). To arrive at desired emotions, people engage in emotion regulation (Gross, 1998; Gross, 2015): people distract themselves with positive stimuli, reappraise emotionally evocative situations, and engage in suppression all to manage their emotions. In the emotion regulation literature, these mechanisms between emotion goals and emotions are called emotion regulation strategies. Like emotions are motivated, these emotion regulation strategies are also motivated (Tamir, 2016; Tamir & Millgram, 2017; Tamir, Vishkin, & Gutentag, 2020). This exemplifies the way that motivated regulation can be fruitfully applied to the regulation of specific mental states.

Analogously, motivated reasoning may be more fruitfully understood as another special case of motivated regulation: *belief regulation*. Like the process of arriving at desired emotions is considered emotion regulation, the process of arriving at desired beliefs can be understood as belief regulation. This reconceptualization changes the mechanisms that constitute motivated

reasoning (e.g., motivated exposure, evaluation, and memory) into *belief regulation strategies*, just like the mechanisms that regulate emotions are considered emotion regulation strategies.

Reframing motivated reasoning as belief regulation sheds the scholarly, Monist assumptions about why people regulate their beliefs: it puts the focus on why people choose their beliefs instead of how people convince themselves that they are rational, evidence-based believers. Because regulation strategies are aimed at a variety of goals, this reframing is also inherently pluralist. Accordingly, thinking of "motivated reasoning" as a regulation strategy motivated by a plurality of goals could debias the literature on belief. First, research on the mechanics of motivated reasoning could be debiased by readily considering behaviors like the motivated use of moral principles, ideological segregation, and cognitive reappraisal as belief regulation strategies, incorporating them into a more unified framework. Second, because the New Pluralist Perspective on belief regulation shifts the focus away from how people reason (i.e., try to think about things in a "logical, sensible way") to the way people achieve a plurality of belief goals, it also does not inherently imply that people only care about Epistemic Value. This could debias the approach that researchers to take to understanding peoples' explicit belief goals. Lastly, as differences in emotion regulation have been attributed to differences in emotion goals (Tamir, 2016; Tamir & Millgram, 2017; Tamir, Vishkin, & Gutentag, 2020), differences in belief regulation could be naturally understood as the product of differences in belief goals, as the New Pluralist Perspective argues. In other words, reconceptualizing motivated reasoning as belief regulation can debias the study of individual differences in "motivated reasoning."

Placing belief regulation in terms of motivated regulation also allows it to directly benefit from the rich, rigorous body of theory and research on regulation (e.g., Carver & Scheier, 2001) and goal pursuit (e.g., Kruglanski et al., 2002). This implies exciting empirical questions. For

example, one concept that can be fruitfully applied to belief regulation is the distinction between self-regulation, which targets intrinsic states, and social regulation, which targets extrinsic states (e.g., Volet, Vauras, & Salonen, 2009). This distinction has been applied to emotion regulation, differentiating intrinsic emotion regulation (i.e., regulating one's own emotions) from extrinsic emotion regulation (i.e., regulating other's emotions; Gross & Thompson, 2007; Niven, Totterdell, & Holman, 2009; Niven, Totterdell, Stride & Holman, 2011; Zaki & Williams, 2013). These different kinds of emotion regulation are associated with unique outcomes. For example, relationship partners view more frequent extrinsic emotion regulators as being more emotionally supportive (Niven, Totterdell, Stride & Holman, 2011). Similarly, belief regulation could be separated into *intrinsic* and *extrinsic belief regulation.* Those more likely to engage in extrinsic belief regulation may be viewed similarly to those who engage in extrinsic emotion regulation: helping others support their desired beliefs could lead to interpersonal benefits.

Another concept that comes from the literature on emotion regulation is the idea of emotion polyregulation (Ford, Gross, & Gruber, 2019), in which people deploy multiple emotion regulation strategies at once. For example, someone could try and positively reappraise the negative emotional features of a situation at the same time that they are trying to simply suppress their negative emotions. Similarly, while the mechanisms of motivated reasoning are often studied in isolation, they could be recognized as potentially combining to form cases of *belief polyregulation*. This could benefit future research by exploring the unique impact of different combinations of belief regulation strategies. For example, when people engage in motivated skepticism, they attempt to undermine the veracity of information because it conflicts with non-epistemic goals (Taber & Lodge, 2006), like rejecting useful medical information because it scares them (Ditto & Lopez, 1992). Getting these same people to engage in belief polyregulation

may attenuate these negative effects. For example, instructing skeptics to engage in cognitive reappraisal, viewing the situation less negatively, may make them more willing to accept threatening, but important information as true, and therefore more likely to engage in healthy behaviors to rectify their medical issues.

In sum, reframing motivated reasoning as a special case of motivated regulation – belief regulation – and the mechanisms of motivated reasoning as a special case of regulation strategies – belief regulation strategies – could dramatically benefit the science of why people choose their beliefs. Specifically, it could potentially debias the classification of belief regulation strategies, the measurement of belief goals, and explanations for individual differences in belief regulation by being built on a pluralist foundation that assumes a variety of goals. By pulling from basic research on regulation and goal pursuit theories, as well as reasoning analogically from other cases of motivated regulation (e.g., emotion regulation), this reframing could also inspire novel theoretical innovations, such as the distinction between intrinsic and extrinsic belief regulation and belief polyregulation. Most importantly, through this debias and theoretical innocation, this reframing could sharpen our understanding of why people choose their beliefs, a problem of increasing importance in an age of increasing misinformation (Lewandowsky, Ecker, Seifert, Schwarz, & Cook, 2012; Lazer et al., 2018) and political polarization (Heltzel & Laurin, 2020).

## Conclusion

Why do people choose their beliefs? The most direct exploration of this question currently comes from research on motivated reasoning. This research acknowledges that when people reason, they are biased by a plurality of non-epistemic goals, like trying to be happy, moral, or affiliated. However, this same program traditionally assumes that people are explicitly monist in the values that they have about belief: that their folk theory of beliefs dictates that it is

only ever appropriate to believe based on a rational review of the evidence. In contrast, I propose that people are explicitly pluralist: their folk theory of beliefs includes the view that it is valuable to believe in service of non-epistemic goals. I provide preliminary evidence to support this perspective, showing that there are a distinct set of non-epistemic values about belief: Emotional, Moral, and Affiliative Value. I also show that people are willing to support these non-epistemic values, and that their degree of endorsement predicts their beliefs and the process of belief change. Based on these findings and a review of other related research, I conclude that a pluralist perspective is preferable to a monist perspective.

I further identify three systematic biases in the motivated reasoning literature that can be attributed to the Traditional Monist Perspective, and that these may be the result of the monist perspective being seemingly baked into the concept of motivated reasoning itself. Therefore, if we wish to rid ourselves of these biases and study why people choose their beliefs, and not just the way that they construe their beliefs to be empirically supported, we should move beyond the concept of motivated reasoning and adopt a new concept of belief regulation. This new concept of belief regulation does not carry the monist connotations of motivated reasoning. I also show how its grounding in goal and regulation literature, as well as its homology with emotion regulation research, can lead to exciting future research on why people believe.

## References

Adam-Troian, J., Caroti, D., Arciszewski, T., & Ståhl, T. (2019). Unfounded beliefs among teachers: The interactive role of rationality priming and cognitive ability. *Applied Cognitive Psychology*, *33*(4), 720-727.

Alicke, M. D., & Govorun, O. (2005). The better-than-average effect. *The self in social judgment*, *1*, 85-106.

Aquino, K., & Reed II, A. (2002). The self-importance of moral identity. *Journal of personality and social psychology*, *83*(6), 1423.

Bacon, F. (2000). Three steps toward a theory of motivated political reasoning. *Elements of reason: Cognition, choice, and the bounds of rationality*, *183*.

Bago, B., Rand, D. G., & Pennycook, G. (2020). Fake news, fast and slow: Deliberation reduces belief in false (but not true) news headlines. *Journal of experimental psychology: general*.

Bagozzi, R. P., & Dholakia, U. (1999). Goal setting and goal striving in consumer behavior. *Journal of marketing*, *63*(4_suppl1), 19-32.

Bandura, A. (1991). Social cognitive theory of self-regulation. *Organizational behavior and human decision processes*, *50*(2), 248-287.

Bartholomew, K. J., Ntoumanis, N., Ryan, R. M., Bosch, J. A., & Thøgersen-Ntoumani, C. (2011). Self-determination theory and diminished functioning: The role of interpersonal control and psychological need thwarting. *Personality and Social Psychology Bulletin*, *37*(11), 1459-1473.

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological bulletin*, *117*(3), 497.

Bentler, P. M., & Bonett, D. G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological bulletin*, *88*(3), 588.

Boden, M. T., Berenbaum, H., & Gross, J. J. (2016). Why do people believe what they do? A functionalist perspective. *Review of General Psychology*, *20*(4), 399-411.

Brunot, S., & Sanitioso, R. B. (2004). Motivational influence on the quality of memories: Recall of general autobiographical memories related to desired attributes. *European Journal of Social Psychology*, *34*(5), 627-635.

Carlson, R. W., Maréchal, M. A., Oud, B., Fehr, E., & Crockett, M. J. (2020). Motivated misremembering of selfish decisions. *Nature Communications*, *11*(1), 1-11.

Carver, C. S., & Scheier, M. F. (2000). On the structure of behavioral self-regulation. In *Handbook of self-regulation* (pp. 41-84). Academic Press.

Carver, C. S., & Scheier, M. F. (2001). *On the self-regulation of behavior*. Cambridge University Press.

Catalino, L. I., Algoe, S. B., & Fredrickson, B. L. (2014). Prioritizing positivity: An effective approach to pursuing happiness?. *Emotion*, *14*(6), 1155.

Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annu. Rev. Psychol.*, *55*, 591-621.

Cohen, S., Kamarck, T., & Mermelstein, R. (1983). A global measure of perceived stress. *Journal of health and social behavior*, 385-396.

Cohen, S., Kamarck, T., & Mermelstein, R. (1994). Perceived stress scale. *Measuring stress: A guide for health and social scientists*, *10*, 1-2.

Comesaña, J. (2010). Evidentialist reliabilism. *Noûs*, *44*(4), 571-600.

Correia, I., Batista, M. T., & Lima, M. L. (2009). Does the belief in a just world bring happiness?

Causal relationships among belief in a just world, life satisfaction and mood. *Australian Journal of Psychology*, *61*(4), 220-227.

Cusimano, C., & Lombrozo, T. Morality justifies motivated reasoning. *Pre-Print*.

Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of personality assessment*, *49*(1), 71-75.

Ditto, P. H., Liu, B. S., Clark, C. J., Wojcik, S. P., Chen, E. E., Grady, R. H., ... & Zinger, J. F. (2019). At least bias is bipartisan: A meta-analytic comparison of partisan bias in liberals and conservatives. *Perspectives on Psychological Science*, *14*(2), 273-291.

Ditto, P. H., & Lopez, D. F. (1992). Motivated skepticism: Use of differential decision criteria for preferred and nonpreferred conclusions. *Journal of personality and social psychology*, *63*(4), 568.

Druckman, J. N., & Bolsen, T. (2011). Framing, motivated reasoning, and opinions about emergent technologies. *Journal of Communication*, *61*(4), 659-688.

Echterhoff, G., Higgins, E. T., & Levine, J. M. (2009). Shared reality: Experiencing commonality with others' inner states about the world. *Perspectives on Psychological Science*, *4*(5), 496-521.

Epley, N., & Gilovich, T. (2016). The mechanics of motivated reasoning. *Journal of Economic Perspectives*, *30*(3), 133-40.

Feinberg, M., & Willer, R. (2011). Apocalypse soon? Dire messages reduce belief in global warming by contradicting just-world beliefs. *Psychological science*, *22*(1), 34-38.

Feinberg, M., & Willer, R. (2013). The moral roots of environmental attitudes. *Psychological science*, *24*(1), 56-62.

Feinberg, M., & Willer, R. (2015). From gulf to bridge: When do moral arguments facilitate

political influence?. *Personality and Social Psychology Bulletin*, *41*(12), 1665-1681.

Fishbach, A., & Ferguson, M. J. (2007). The goal construct in social psychology.

Ford, B. Q., Gross, J. J., & Gruber, J. (2019). Broadening our field of view: The role of emotion polyregulation. *Emotion Review*, *11*(3), 197-208.

Gilbert, D. T., Pinel, E. C., Wilson, T. D., Blumberg, S. J., & Wheatley, T. P. (1998). Immune neglect: a source of durability bias in affective forecasting. *Journal of personality and social psychology*, *75*(3), 617.

Gilovich, T. (2008). *How we know what isn't so*. Simon and Schuster.

Goodwin, G. P., & Darley, J. M. (2012). Why are some moral beliefs perceived to be more objective than others?. *Journal of Experimental Social Psychology*, *48*(1), 250-256.

Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. In *Public self and private self* (pp. 189-212). Springer, New York, NY.

Gross, J. J. (1998). The emerging field of emotion regulation: An integrative review. *Review of general psychology*, *2*(3), 271-299.

Gross, J. J. (2015). Emotion regulation: Current status and future prospects. *Psychological inquiry*, *26*(1), 1-26.

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: implications for affect, relationships, and well-being. *Journal of personality and social psychology*, *85*(2), 348.

Gross, J. J., Richards, J. M., & John, O. P. (2006). Emotion regulation in everyday life.

Gross, J. J., & Thompson, R. A. (2007). Emotion regulation: Conceptual foundations.

Haidt, J. (2001). The emotional dog and its rational tail: a social intuitionist approach to moral

judgment. *Psychological review*, *108*(4), 814.

Haidt, J., & Graham, J. (2007). When morality opposes justice: Conservatives have moral

intuitions that liberals may not recognize. *Social Justice Research*, *20*(1), 98-116.

Hardin, C. D., & Higgins, E. T. (1996). Shared reality: How social verification makes the

subjective objective.

Hart, P. S., & Nisbet, E. C. (2012). Boomerang effects in science communication: How

motivated reasoning and identity cues amplify opinion polarization about climate

mitigation policies. *Communication research*, *39*(6), 701-723.

Heiphetz, L., Gelman, S. A., & Young, L. L. (2017). The perceived stability and biological basis

of religious beliefs, factual beliefs, and opinions. *Journal of Experimental Child

Psychology*, *156*, 82-98.

Heiphetz, L., Landers, C. L., & Van Leeuwen, N. (2018). Does think mean the same thing as

believe? Linguistic insights into religious cognition. *Psychology of Religion and

Spirituality*.

Heiphetz, L., Spelke, E. S., Harris, P. L., & Banaji, M. R. (2013). The development of reasoning

about beliefs: Fact, preference, and ideology. *Journal of experimental social

psychology*, *49*(3), 559-565.

Heiphetz, L., Spelke, E. S., Harris, P. L., & Banaji, M. R. (2014). What do different beliefs tell

us? An examination of factual, opinion-based, and religious beliefs. *Cognitive

development*, *30*, 15-29.

Heltzel, G., & Laurin, K. (2020). Polarization in America: two possible futures. *Current Opinion

in Behavioral Sciences*, *34*, 179-184.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis:

Conventional criteria versus new alternatives. *Structural equation modeling: a multidisciplinary journal*, *6*(1), 1-55.

Jiang, J., Chen, E., Yan, S., Lerman, K., & Ferrara, E. (2020). Political polarization drives online conversations about COVID-19 in the United States. *Human Behavior and Emerging Technologies*, *2*(3), 200-211.

Jost, J. T., & Banaji, M. R. (1994). The role of stereotyping in system-justification and the production of false consciousness. *British journal of social psychology*, *33*(1), 1-27.

Jost, J. T., Glaser, J., Kruglanski, A. W., & Sulloway, F. J. (2003). Political conservatism as motivated social cognition. *Psychological bulletin*, *129*(3), 339.

Jost, J., & Hunyady, O. (2003). The psychology of system justification and the palliative function of ideology. *European review of social psychology*, *13*(1), 111-153.

Jost, J. T., Wakslak, C., & Tyler, T. R. (2008). System justification theory and the alleviation of emotional distress: Palliative effects of ideology in an arbitrary social hierarchy and in society. *Justice: Advances in group processes*, *25*, 181-211.

Jost, J. T., van der Linden, S., Panagopoulos, C., & Hardin, C. D. (2018). Ideological asymmetries in conformity, desire for shared reality, and the spread of misinformation. *Current opinion in psychology*, *23*, 77-83.

Kachanoff, F., Bigman, Y., Kapsaskis, K., & Gray, K. (2020). Measuring two distinct psychological threats of COVID-19 and their unique impacts on wellbeing and adherence to public health behaviors.

Kahan, D. M. (2012). Ideology, motivated reasoning, and cognitive reflection: An experimental study. *Judgment and Decision making*, *8*, 407-24.

Kahan, D. M. (2017). Misconceptions, misinformation, and the logic of identity-protective

cognition.

Kahan, D. M. (2017). Misinformation and identity-protective cognition. *Fake News in Context*, 51.

Kahan, D. M., Peters, E., Dawson, E., & Slovic, P. (2013). Motivated numeracy and enlightened self-government. *Behavioural Public Policy*, *1*, 54-86.

Kahan, D. M., Peters, E., Wittlin, M., Slovic, P., Ouellette, L. L., Braman, D., & Mandel, G. (2012). The polarizing impact of science literacy and numeracy on perceived climate change risks. *Nature climate change*, *2*(10), 732-735.

Kämpfe, N., & Mitte, K. (2009). What you wish is what you get? The meaning of individual variability in desired affect and affective discrepancy. *Journal of Research in Personality*, *43*(3), 409-418.

Karlsson, N., Loewenstein, G., & Seppi, D. (2009). The ostrich effect: Selective attention to information. *Journal of Risk and uncertainty*, *38*(2), 95-115.

Kay, A. C., Gaucher, D., Napier, J. L., Callan, M. J., & Laurin, K. (2008). God and the government: testing a compensatory control mechanism for the support of external systems. *Journal of personality and social psychology*, *95*(1), 18.

Kay, A. C., Jimenez, M. C., & Jost, J. T. (2002). Sour grapes, sweet lemons, and the anticipatory rationalization of the status quo. *Personality and Social Psychology Bulletin*, *28*(9), 1300-1312.

Kay, A. C., Whitson, J. A., Gaucher, D., & Galinsky, A. D. (2009). Compensatory control: Achieving order through the mind, our institutions, and the heavens. *Current Directions in Psychological Science*, *18*(5), 264-268.

Kouchaki, M., & Gino, F. (2015). Dirty deeds unwanted: The use of biased memory processes in

the context of ethics. *Current Opinion in Psychology*, *6*, 82-86.

Krasko, J., Schweitzer, V., & Luhmann, M. (2019). Happiness Goal Orientations and their

Associations with Well-Being. *Pre-Print.*

Kruglanski, A. W., & Ajzen, I. (1983). Bias and error in human judgment. *European Journal of*

*Social Psychology*, *13*(1), 1-44.

Kruglanski, A. W., Shah, J. Y., Fishbach, A., Friedman, R., Chun, W., & Sleeth-Keppler, D.

(2002). A theory of goal systems. *Advances in experimental social psychology*, *34*.

Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M., Pierro, A., Shah, J. Y., &

Spiegel, S. (2000). To" do the right thing" or to" just do it": locomotion and assessment

as distinct self-regulatory imperatives. *Journal of personality and social*

*psychology*, *79*(5), 793.

Kunda, Z. (1990). The case for motivated reasoning. *Psychological bulletin*, *108*(3), 480.

Kuhl, J. (2000). A functional-design approach to motivation and self-regulation: The dynamics

of personality systems interactions. In *Handbook of self-regulation* (pp. 111-169).

Academic Press.

Laurin, K. (2018). Inaugurating rationalization: Three field studies find increased rationalization

when anticipated realities become current. *Psychological science*, *29*(4), 483-495.

Laurin, K., Gaucher, D., & Kay, A. (2013). Stability and the justification of social

inequality. *European Journal of Social Psychology*, *43*(4), 246-254.

Laurin, K., Kay, A. C., & Fitzsimons, G. J. (2012). Reactance versus rationalization: Divergent

responses to policies that constrain freedom. *Psychological Science*, *23*(2), 205-209.

Laurin, K., Kay, A. C., & Moscovitch, D. A. (2008). On the belief in God: Towards an

understanding of the emotional substrates of compensatory control. *Journal of Experimental Social Psychology*, *44*(6), 1559-1562.

Laurin, K., Shepherd, S., & Kay, A. C. (2010). Restricted emigration, system inescapability, and defense of the status quo: System-justifying consequences of restricted exit opportunities. *Psychological Science*, *21*(8), 1075-1082.

Lazer, D. M., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., ... & Schudson, M. (2018). The science of fake news. *Science*, *359*(6380), 1094-1096.

Leeper, T. J., & Slothuus, R. (2014). Political parties, motivated reasoning, and public opinion formation. *Political Psychology*, *35*, 129-156.

Lerman, C., Hughes, C., Lemon, S. J., Main, D., Snyder, C., Durham, C., ... & Lynch, H. T. (1998). What you don't know can hurt you: adverse psychologic effects in members of BRCA1-linked and BRCA2-linked families who decline genetic testing. *Journal of Clinical Oncology*, *16*(5), 1650-1654.

Lerner, M. J. (1980). The belief in a just world. In *The Belief in a just World* (pp. 9-30). Springer, Boston, MA.

Lewandowsky, S., Ecker, U. K., Seifert, C. M., Schwarz, N., & Cook, J. (2012). Misinformation and its correction: Continued influence and successful debiasing. *Psychological science in the public interest*, *13*(3), 106-131.

Lipkus, I. (1991). The construction and preliminary validation of a global belief in a just world scale and the exploratory analysis of the multidimensional belief in a just world scale. *Personality and Individual Differences*, *12*(11), 1171-1178.

Luttrell, A., Petty, R. E., Briñol, P., & Wagner, B. C. (2016). Making it moral: Merely labeling

an attitude as moral increases its strength. *Journal of Experimental Social Psychology*, *65*, 82-93.

Luttrell, A., & Togans, L. J. (2020). The stability of moralized attitudes over time. *Personality and Social Psychology Bulletin*, 0146167220935737.

MacCallum, R. C., Browne, M. W., & Sugawara, H. M. (1996). Power analysis and determination of sample size for covariance structure modeling. *Psychological methods*, *1*(2), 130.

Mauss, I. B., Tamir, M., Anderson, C. L., & Savino, N. S. (2011). Can seeking happiness make people unhappy? Paradoxical effects of valuing happiness. *Emotion*, *11*(4), 807.

McKay, R. T., & Dennett, D. C. (2009). Our evolving beliefs about evolved misbelief. *Behavioral and Brain Sciences*, *32*(6).

Metz, S. E., Weisberg, D. S., & Weisberg, M. (2018). Non-Scientific Criteria for Belief Sustain Counter-Scientific Beliefs. *Cognitive Science*, *42*(5), 1477-1503.

Motyl, M., Iyer, R., Oishi, S., Trawalter, S., & Nosek, B. A. (2014). How ideological migration geographically segregates groups. *Journal of Experimental Social Psychology*, *51*, 1-14.

Mullen, E., & Skitka, L. J. (2006). Exploring the psychological underpinnings of the moral mandate effect: Motivated reasoning, group differentiation, or anger?. *Journal of personality and social psychology*, *90*(4), 629.

Murray, S. L. (1999). The quest for conviction: Motivated cognition in romantic relationships. *Psychological Inquiry*, *10*(1), 23-34.

Murray, S. L., Holmes, J. G., & Griffin, D. W. (1996). The benefits of positive illusions: Idealization and the construction of satisfaction in close relationships. *Journal of personality and social psychology*, *70*(1), 79.

Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: verbal reports on mental processes. *Psychological review*, *84*(3), 23.

Niven, K., Totterdell, P., & Holman, D. (2009). A classification of controlled interpersonal affect regulation strategies. *Emotion*, *9*(4), 498.

Niven, K., Totterdell, P., Stride, C. B., & Holman, D. (2011). Emotion Regulation of Others and Self (EROS): The development and validation of a new individual difference measure. *Current Psychology*, *30*(1), 53-73.

Oxford University Press, 2020. *Reasoning*. In: Lexico.com, Available at: https://www.lexico.com/definition/reasoning [Accessed 09/07/2020].

Pennycook, G., Cheyne, J. A., Koehler, D., & Fugelsang, J. A. (2019). On the belief that beliefs should change according to evidence: Implications for conspiratorial, moral, paranormal, political, religious, and science beliefs. *Pre-Print*.

Pennycook, G., McPhetres, J., Zhang, Y., Lu, J. G., & Rand, D. G. (2020). Fighting COVID-19 Misinformation on Social Media: Experimental Evidence for a Scalable Accuracy-Nudge Intervention. *Psychological science*, 0956797620939054.

Pennycook, G., & Rand, D. G. (2019). Lazy, not biased: Susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning. *Cognition*, *188*, 39-50.

Pew Research Center. (June, 2020) "Millennial and Gen Z Republicans stand out from their elders on climate and energy issues." https://www.pewresearch.org/fact-tank/2020/06/24/millennial-and-gen-z-republicans-stand-out-from-their-elders-on-climate-and-energy-issues/

Pinel, E. C., Long, A. E., Landau, M. J., Alexander, K., & Pyszczynski, T. (2006). Seeing I to I:

a pathway to interpersonal connectedness. *Journal of personality and social psychology*, *90*(2), 243.

Prentice, M., Jayawickreme, E., Hawkins, A., Hartley, A., Furr, R. M., & Fleeson, W. (2019). Morality as a basic psychological need. *Social Psychological and Personality Science*, *10*(4), 449-460.

Pronin, E. (2007). Perception and misperception of bias in human judgment. *Trends in cognitive sciences*, *11*(1), 37-43.

Pronin, E., Gilovich, T., & Ross, L. (2004). Objectivity in the eye of the beholder: divergent perceptions of bias in self versus others. *Psychological review*, *111*(3), 781.

Pronin, E., Lin, D. Y., & Ross, L. (2002). The bias blind spot: Perceptions of bias in self versus others. *Personality and Social Psychology Bulletin*, *28*(3), 369-381.

Pyszczynski, T., & Greenberg, J. (1987). Toward an integration of cognitive and motivational perspectives on social inference: A biased hypothesis-testing model. In *Advances in experimental social psychology* (Vol. 20, pp. 297-340). Academic Press.

Redlawsk, D. P. (2002). Hot cognition or cool consideration? Testing the effects of motivated reasoning on political decision making. *The Journal of Politics*, *64*(4), 1021-1044.

Revelle, W. R. (2017). psych: Procedures for personality and psychological research.

Riediger, M., Schmiedek, F., Wagner, G. G., & Lindenberger, U. (2009). Seeking pleasure and seeking pain: Differences in prohedonic and contra-hedonic motivation from adolescence to old age. *Psychological Science*, *20*(12), 1529-1535.

Risen, J. L. (2016). Believing what we do not believe: Acquiescence to superstitious beliefs and other powerful intuitions. *Psychological Review*, *123*(2), 182.

Risen, J. L. (2017). Acquiescing to intuition: Believing what we know isn't so. *Social and*

*Personality Psychology Compass*, *11*(11), e12358.

Robins, R. W., Hendin, H. M., & Trzesniewski, K. H. (2001). Measuring global self-esteem:

Construct validation of a single-item measure and the Rosenberg Self-Esteem

Scale. *Personality and social psychology bulletin*, *27*(2), 151-161.

Rothgerber, H., Wilson, T., Whaley, D., Rosenfeld, D. L., Humphrey, M., Moore, A., & Bihl, A.

(2020). Politicizing the covid-19 pandemic: Ideological differences in adherence to social

distancing.

Rossignac-Milon, M., Bolger, N., Zee, K. S., Boothby, E. J., & Higgins, E. T. Merged minds:

Generalized shared reality in dyadic relationships. *Journal of personality and social*

*psychology*.

Rousseau, D. M., & Tijoriwala, S. A. (1999). What's a good reason to change? Motivated

reasoning and social accounts in promoting organizational change. *Journal of applied*

*psychology*, *84*(4), 514.

Rusting, C. L., & Larsen, R. J. (1995). Moods as sources of stimulation: Relationships between

personality and desired mood states. *Personality and individual differences*, *18*(3), 321-

329.

Ryan, R. M., & Deci, E. L. (2017). *Self-determination theory: Basic psychological needs in*

*motivation, development, and wellness*. Guilford Publications.

Sanitioso, R., Kunda, Z., & Fong, G. T. (1990). Motivated recruitment of autobiographical

memories. *Journal of Personality and Social psychology*, *59*(2), 229.

Sharot, T., & Sunstein, C. R. (2020). How people decide what they want to know. *Nature Human*

*Behaviour*, 1-6.

Sheldon, K. M., Elliot, A. J., Kim, Y., & Kasser, T. (2001). What is satisfying about satisfying

events? Testing 10 candidate psychological needs. *Journal of personality and social psychology*, *80*(2), 325.

Shu, L. L., Gino, F., & Bazerman, M. H. (2011). Dishonest deed, clear conscience: When cheating leads to moral disengagement and motivated forgetting. *Personality and social psychology bulletin*, *37*(3), 330-349.

Sinclair, L., & Kunda, Z. (1999). Reactions to a black professional: motivated inhibition and activation of conflicting stereotypes. *Journal of personality and social psychology*, *77*(5), 885.

Skitka, L. J. (2010). The psychology of moral conviction. *Social and Personality Psychology Compass*, *4*(4), 267-281.

Skitka, L. J., Bauman, C. W., & Sargis, E. G. (2005). Moral conviction: Another contributor to attitude strength or something more?. *Journal of personality and social psychology*, *88*(6), 895.

Skitka, L. J., & Mullen, E. (2002). The dark side of moral conviction. *Analyses of Social Issues and Public Policy*, *2*(1), 35-41.

Ståhl, T., & Van Prooijen, J. W. (2018). Epistemic rationality: Skepticism toward unfounded beliefs requires sufficient cognitive ability and motivation to be rational. *Personality and Individual Differences*, *122*, 155-163.

Ståhl, T., Zaal, M. P., & Skitka, L. J. (2016). Moralized rationality: Relying on logic and evidence in the formation and evaluation of belief can be seen as a moral issue. *PloS one*, *11*(11), e0166332.

Stanovich, K. E. (1999). *Who is rational?: Studies of individual differences in reasoning*. Psychology Press.

Stanovich, K. E., & West, R. F. (2000). Advancing the rationality debate. *Behavioral and brain sciences*, *23*(5), 701-717.

Taber, C. S., Cann, D., & Kucsova, S. (2009). The motivated processing of political arguments. *Political Behavior*, *31*(2), 137-155.

Tajfel, H. (1974). Social identity and intergroup behaviour. *Information (International Social Science Council)*, *13*(2), 65-93.

Tamir, M. (2016). Why do people regulate their emotions? A taxonomy of motives in emotion regulation. *Personality and Social Psychology Review*, *20*(3), 199-222.

Tamir, M., & Millgram, Y. (2017). Motivated emotion regulation: Principles, lessons, and implications of a motivational analysis of emotion regulation. In *Advances in motivation science* (Vol. 4, pp. 207-247). Elsevier.

Tamir, M., Vishkin, A., & Gutentag, T. (2020). Emotion regulation is motivated. *Emotion*, *20*(1), 115.

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: a social psychological perspective on mental health. *Psychological bulletin*, *103*(2), 193.

Tesser, A., Crepaz, N., Collins, J. C., Cornell, D., & Beach, S. R. (2000). Confluence of self-esteem regulation mechanisms: On integrating the self-zoo. *Personality and Social Psychology Bulletin*, *26*(12), 1476-1489.

Theriault, J., Waytz, A., Heiphetz, L., & Young, L. (2017). Examining overlap in behavioral and neural representations of morals, facts, and preferences. *Journal of Experimental Psychology: General*, *146*(11), 1586.

Trapnell, P. D., & Campbell, J. D. (1999). Private self-consciousness and the five-factor model of personality: distinguishing rumination from reflection. *Journal of personality and*

*social psychology*, *76*(2), 284.

Tsai, J. L., Knutson, B., & Fung, H. H. (2006). Cultural variation in affect valuation. *Journal of personality and social psychology*, *90*(2), 288.

Västfjäll, D., Gärling, T., & Kleiner, M. (2001). Does it make you happy feeling this way? A core affect account of preference for current mood. *Journal of happiness studies*, *2*(4), 337-354.

Uhlmann, E. L., Pizarro, D. A., Tannenbaum, D., & Ditto, P. H. (2009). The motivated use of moral principles. *Judgment and Decision making*, *4*(6), 479-491.

Vargas-Salfate, S., Paez, D., Khan, S. S., Liu, J. H., & Gil de Zúñiga, H. (2018). System justification enhances well-being: A longitudinal analysis of the palliative function of system justification in 18 countries. *British Journal of Social Psychology*, *57*(3), 567-590.

Voelkel, J. G., & Feinberg, M. (2018). Morally reframed arguments can affect support for political candidates. *Social Psychological and Personality Science*, *9*(8), 917-924.

Volet, S., Vauras, M., & Salonen, P. (2009). Self-and social regulation in learning contexts: An integrative perspective. *Educational psychologist*, *44*(4), 215-226.

Wade, N. G., Vogel, D. L., Liao, K. Y. H., & Goldman, D. B. (2008). Measuring state-specific rumination: development of the rumination about an interpersonal offense scale. *Journal of Counseling Psychology*, *55*(3), 419.

Walco, D. K., & Risen, J. L. (2017). The empirical case for acquiescing to intuition. *Psychological science*, *28*(12), 1807-1820.

Walker, I., & Pettigrew, T. F. (1984). Relative deprivation theory: An overview and conceptual critique. *British Journal of Social Psychology*, *23*(4), 301-310.

Wann, D. L., Koch, K., Knoth, T., Fox, D., Aljubaily, H., & Lantz, C. D. (2006). The impact of

team identification on biased predictions of player performance. *The Psychological Record*, *56*(1), 55-66.

World Health Organization. (2020, March 11th). WHO Timeline - COVID-19. https://www.who.int/news-room/detail/27-04-2020-who-timeline---covid-19

Wu, M. S., Yan, X., Zhou, C., Chen, Y., Li, J., Zhu, Z., ... & Han, B. (2011). General belief in a just world and resilience: Evidence from a collectivistic culture. *European Journal of Personality*, *25*(6), 431-442.

Zaki, J., & Williams, W. C. (2013). Interpersonal emotion regulation. *Emotion*, *13*(5), 803.

**Appendix A: VBS Version 1**

We are going to ask you some questions about *how you decide what to think about various claims and positions you hear*. In other words, when you decide what to believe about the many statements, positions, and claims you are confronted with, how do you choose what to believe?

While you are answering the questions, you should be thinking about your *beliefs about statements where only one person can be correct*: For example, your belief about whether torture does or does not cause people to give up accurate information, or whether there is or is not a gender pay gap. You should **not** have in mind beliefs about statements where more than one person can be correct: For example, your belief about whether torture is right or wrong, or whether a gender pay gap is good or bad.

What kinds of beliefs should you have in mind while answering the following questions?
- Beliefs where only one person can be correct
- Beliefs where multiple people can be correct
- Beliefs where nobody can be correct

----- Page Break -----

Before we begin asking you the questions, we want to get an idea of the beliefs that the instructions and our examples brought to mind for you. So, on the next page, you will be shown the instructions a second time, and asked to list some of the beliefs that you think fit the criteria we have given you.

----- Page Break -----

We are going to ask you some questions about *how you decide what to think about various claims and positions you hear*. In other words, when you decide what to believe about the many statements, positions, and claims you are confronted with, how do you choose what to believe?

While you are answering the questions, you should be thinking about your *beliefs about statements where only one person can be correct*: For example, your belief about whether torture does or does not cause people to give up accurate information, or whether there is or is not a gender pay gap. You should **not** have in mind beliefs about statements where more than one person can be correct: For example, your belief about whether torture is right or wrong, or whether a gender pay gap is good or bad.

*Now, please use the boxes below to list some beliefs that you think fit into these instructions.*

Belief 1: _____
Belief 2: _____

----- Page Break -----

Now we will begin the questionnaire! Please use the scale provided to indicate how well each statement describes you. **Please be honest as there are no right or wrong answers, and people vary substantially in their responses to the following questions.**

Let's begin.

| 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|
| Does not describe me | Slightly describes me | Moderately describes me | Very much describes me | Describes me extremely well |

*Epistemic Value*
1. I think that beliefs should be revised in the face of new evidence.
2. I think that people should remain rational and logical when deciding what to believe.
3. I think that beliefs should be based on facts and evidence.
4. In my opinion, you shouldn't believe irrational things.
5. I don't like people who can't justify their beliefs with evidence and logical arguments.
6. In my view, peoples' beliefs should come from what they know to be true and logical.
7. In my opinion, using logic is the primary way people should decide what to believe.
8. In my view, people should not continue to have a belief when they learn new evidence against it.

*Affiliative Value*
1. When deciding what to believe, I think people should just stick with the beliefs of the people in their social group.
2. I think it's annoying when someone disagrees with the others in a team.
3. I believe that group members should uphold what the others in the group believe.
4. I believe there is value in simply agreeing with people like you.
5. In my opinion, when people realize that they disagree with the people they are close to, they should change their mind to align themselves with those people.
6. When forming new beliefs, I think it's important that people try to stay loyal to the beliefs of the groups they are a part of.
7. I like people who don't "rock the boat" when it comes to what a team believes.

*Moral Value*
1. I think people should try to believe things that support their moral convictions.
2. It's my opinion that people should avoid believing things that are morally corrupt.
3. When trying to decide whether or not to believe something, I think people should ask themselves if it is morally right or wrong to believe it.
4. I think that peoples' beliefs about the world should conform to their moral values.
5. When people realize that one of their beliefs is morally wrong, I think they should try to stop believing it.
6. I think that whether or not you should believe something is largely determined by how morally good that belief is.
7. I don't understand why you would believe something if it supports an immoral point of view.
8. I believe that whether or not a position is immoral should determine if people will believe in it.

*Emotional Value*
1. I think there is a lot of value in believing things that make you happy.

2. It's my opinion that people should believe things that make them feel secure.
3. I think it's important for people to believe things that make them feel good.
4. I think beliefs can be useful tools for making people feel a sense of control.
5. I think it's pointless to continue believing something if all it does is upset you.
6. When deciding which of two opposing positions to believe on an issue, I believe people should go with the one that makes them feel happier.
7. If believing something just makes you feel bad all the time, I think you should just stop believing it.
8. I don't see the point in trying to convince people not to believe things that make them happy.

**Appendix B: VBS Version 2**

We are going to ask you some questions about how you decide what to think about the various claims you hear about the way the world is and how it works. In other words, when you decide what to think about the many statements you are confronted with, how do you choose what to believe?

While you are answering the questions, you should be thinking about your *beliefs about statements that can be proven correct or incorrect*: For example, your belief about whether torture does or does not cause people to give up accurate information, or whether there is or is not a gender pay gap. You **should not have in mind** beliefs about statements that **cannot** be proven correct or incorrect: For example, your belief about whether torture is right or wrong, or whether a gender pay gap is good or bad.

What kinds of beliefs should you have in mind while answering the following questions?
- Beliefs about statements that CAN be proven correct or incorrect.
- Beliefs about statements that CANNOT be proven correct or incorrect.

----- Page Break -----

Before we begin asking you the questions, we want to get an idea of the beliefs that the instructions and our examples brought to mind for you. So, on the next page, you will be shown the instructions a second time, and asked to list some of the beliefs that you think fit the criteria we have given you.

----- Page Break -----

We are going to ask you some questions about how you decide what to think about the various claims you hear about the way the world is and how it works. In other words, when you decide what to think about the many statements you are confronted with, how do you choose what to believe?

While you are answering the questions, you should be thinking about your *beliefs about statements that can be proven correct or incorrect*: For example, your belief about whether torture does or does not cause people to give up accurate information, or whether there is or is not a gender pay gap. You **should not have in mind** beliefs about statements that **cannot** be proven correct or incorrect: For example, your belief about whether torture is right or wrong, or whether a gender pay gap is good or bad.

Now, please use the boxes below to list some beliefs that you think fit into these instructions. Please <u>do not</u> insert the examples that we gave you.

Belief 1: _____
Belief 2: _____
Belief 3: _____

Now we will begin the questionnaire! Please use the scale provided to indicate how well each statement describes you. **Please be honest as there are no right or wrong answers, and people vary substantially in their responses to the following questions.**

Let's begin.

*Epistemic Value*
1. I think that beliefs should be revised in the face of new evidence.
2. I think that people should remain rational and logical when deciding what to believe.
3. I think that beliefs should be based on facts and evidence.
4. In my opinion, using logic is the primary way people should decide what to believe.

*Affiliative Value*
1. In my view, people should adopt the beliefs of their friends and family when confronted with a new topic.
2. When deciding what to believe, I think people should just stick with the beliefs of the people in their social group.
3. In my opinion, when people realize that they disagree with the people they are close to, they should change their mind to align themselves with those people.
4. When forming new beliefs, I think it's important that people try to stay loyal to the beliefs of the groups they are a part of.

*Moral Value*
1. It's my opinion that people should avoid believing things that are morally corrupt.
2. When trying to decide whether or not to believe something, I think people should ask themselves if it is morally right or wrong to believe it.
3. When people realize that one of their beliefs is morally wrong, I think they should try to stop believing it.
4. I don't understand why you would believe something if it supports an immoral point of view.

*Emotional Value*
1. I think there is a lot of value in believing things that make you happy.
2. It's my opinion that people should believe things that make them feel secure.
3. I think it's important for people to believe things that make them feel good.
4. When deciding which of two opposing positions to believe on an issue, I believe people should go with the one that makes them feel happier.