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The Problem with Morality: Impeding Progress and Increasing Divides

Chloe Kovacheff, Stephanie Schwartz, Yoel Inbar and Matthew Feinberg*
University of Toronto

Morality is commonly held up as the pinnacle of goodness but can also be a source of significant problems, interfering with societal functioning and progress. We review the literature regarding how morality diverges from nonmoral attitudes, biases our cognitive processing, and the ways in which it can lead to negative interpersonal and intergroup consequences. To illustrate the negative implications of morality, we detail two specific examples of how moral convictions impair societal progress: the rejection of science and technology, and political polarization in the United States. Specifically, we discuss how moral convictions can cause individuals to challenge scientific facts (e.g., evolution), oppose technologies that can improve health and well-being (e.g., vaccinations and GMO foods), and fuel political polarization and segregation. We conclude this review by suggesting strategies for policy makers and individuals to help overcome the problems morality can cause.

The Problem with Morality: Impeding Progress and Increasing Divides

> "Never let your sense of morals get in the way of doing what's right"
> (Isaac Asimov, The Foundation, 1983, page 102)

At first glance, Asimov's quote may seem paradoxical. Most of us consider acting "morally" to be the epitome of doing what is right. We elevate our own morality to a sacred status and praise those who stand by their moral convictions, especially in the face of adversity. We stigmatize those who express inconsistent moral values, or even worse, morally transgress.

We do this for good reason; morality is at the heart of a well-functioning society. Our moral compass compels us to keep our baser instincts in check and

*Correspondence concerning this article should be addressed to Matthew Feinberg, Rotman School of Management, University of Toronto, 105 St. George Street, Toronto, ON, M5S 3E6, Canada Tel: 416-946-5652 [E-mail: matthew.feinberg@rotman.utoronto.ca].

put our self-interest aside for the good of the group. As a result, morality directly affects group-living, and in many ways, positively shapes society. Morally like-minded individuals band together to form moral communities that adhere to agreed upon codes of conduct (Haidt, 2001; 2007). These codes of conduct function to guide interpersonal behavior based on mutually understood notions of right and wrong, and in this way, morality is fundamental to the smooth functioning of society. Without it, cooperation and collective action would unravel.

However, morality is also the cause of many societal problems. While our moral codes can motivate us to cooperate with others, their uncompromising and absolute nature can also lead to many negative interpersonal consequences; we vilify and dehumanize those that disagree with our moral beliefs and we justify any means to a moral end. Furthermore, morality alters our interpretation of the world around us, affecting our reasoning and beliefs regarding what is fact versus fiction, and what is safe and what is dangerous. In combination, these processes can lead individuals to act in ways that significantly impair societal progress under the guise of fighting for a moral cause.

To examine the potential negative consequence of morality, this article unfolds in four stages. First, we define morality and distinguish it from nonmoral attitudes. We then discuss the intrapersonal and interpersonal consequences of morality, reviewing how our morality alters our cognitive processing (i.e., motivated reasoning, bias, and dogmatism), leads to negative interpersonal consequences (i.e., outgroup derogation and dehumanization), and can result in intergroup conflict, and even violence. To illustrate these negative consequences of morality more clearly, we also highlight two examples of how morality impairs societal progress: the rejection of science and technology, and political polarization in the United States. In doing so, we review the literature regarding morality's role in causing people to challenge scientific facts (e.g., evolution), oppose technologies that can improve health and well-being (e.g., vaccinations and GMO foods), and fuel political polarization and segregation. Finally, we conclude this review with possible strategies, grounded in existing research, individuals and policy makers might implement to help overcome the problems with morality.

What Is Morality?

Notions of morality have been broadly discussed in many literatures, and definitions vary among them. For instance, the disciplines of philosophy and psychology approach morality from diverging perspectives, with psychology primarily focusing on one facet within philosophical moral reasoning; *deontological ethics*. Within moral philosophy, the terms *deontological ethics* and *deontology* refer to moral theories on which certain choices and actions are morally mandated or forbidden, regardless of their outcomes. In other words, deontological views are concerned with the rightness and wrongness of means and actions, not the

outcomes of actions. Some actions are wrong regardless of their outcomes—they are simply immoral (Alexander & Moore, 2007; Davis & Singer, 1991). In this view, moral rules are absolute and on this basis alone, must be followed by all. Philosophers typically contrast deontological reasoning with *consequentialism*, a class of ethical theories concerned with the morality of the outcomes of actions, rather than the morality of the means used to reach these outcomes. In this view, consequences are the central basis for moral judgment about whether an action or decision is "right" or "wrong."

Although philosophical argument establishes that there are different types of moral reasoning, we focus here on the deontological definition of morality held by most people. As shown by Kreps and Monin (2014), lay perceivers conceptualize morality according to the deontological definition. When comparing consequentialist and deontological moral reasoning, they find that individuals who present arguments that are framed in terms of consequences, rather than absolute values, are perceived to moralize the issue less, and therefore to be less moral (Kreps & Monin, 2014). With this in mind, we apply a deontological lens throughout this analysis, defining morality by how lay people conceive of it and how psychologists typically operationalize it—as moral values and convictions that distinguish right from wrong.

These moral values are deeply engrained in our psyches, provide a filter for how we see the world, and are fundamentally and qualitatively different from other attitudes. In contrast to other held beliefs, the literature argues that moral convictions are experienced as universally applicable and objectively true, and are associated with strong emotional responses (Tetlock, 2003; Skitka, Bauman & Sargis, 2005). In addition, they provide a motivational basis for action, dictating what an individual *ought* and *ought not* to do. In what follows, we draw on the protected values and moral conviction literatures to provide a detailed discussion of how morality is fundamentally distinct from other types of attitudes due to its indisputable and motivational nature.

Protected Values and Taboo Tradeoffs

Economic theories of human behavior hold that when making decisions between complex alternatives, people employ a variety of strategies to assess the available options. For example, decision makers may prioritize conflict avoidance or conflict confrontation, ignoring options that are dominated across all evaluated traits (e.g., both more expensive and lower in quality; Hogarth, 1987; Einhorn & Hogarth, 1981). A common assumption is that decisions between alternatives with multiple attributes are made by trading off between one or more relevant attributes. For example, a car buyer might be willing to trade off a higher price for an increased safety rating. In this way, conflicts between competing preferences may be resolved (Payne, Bettman, & Johnson, 1992). However, contradicting this

traditional model of trade-off-based decision-making, an abundance of evidence shows that the mere consideration of some trade-offs can be unacceptable because they are immoral (Fiske & Tetlock, 1997; Baron and Spranca, 1997). An individual's moral rules can give rise to *protected* or *sacred values*, which have been defined in the literature as "any value that a moral community implicitly or explicitly treats as possessing infinite or transcendental significance that precludes comparisons, trade-offs, or indeed any other mingling with bounded or secular values" (Tetlock, Kristel, Elson, Green, & Lerner, 2000, p. 853).

Most research on the nature of protected/sacred values focuses on individuals' beliefs about the permissibility of certain actions and/or situations. For example, some individuals will refuse to answer a question assessing the monetary value of protecting a wilderness area, because "we ought not to put a price on nature" (Mitchell & Carson, 1989). Individuals holding protected values will tend to deny the need for trade-offs, and even be angered and disgusted at the mere thought of having to engage in these trade-offs, commonly referred to as *taboo trade-offs* (Baron & Spranca, 1997; McGraw & Tetlock, 2005). This results in an unwillingness to engage in cost-effective trade-offs, because these values trump all others and ultimately drive decision-making (Ritov & Baron, 1999).

While moral values remain an important guide to prosocial behavior, individuals can also respond in intolerant, counterproductive, and at times dangerous ways when they feel that their sacred values are jeopardized. The Sacred Value Protection Model (SVPM) describes two types of responses: *moral outrag*e and *moral cleansing* (Tetlock et al., 2000; Tetlock, 2003). When others, especially those within the moral ingroup (i.e., a group of individuals who share common moral values), violate sacred values, it often elicits *moral outrage*. People feel intense anger and contempt toward the violator. They view the offender's character as deficient. They often call for punishments for offenders, and believe that anyone else in the community who does not likewise call for such punishments should be punished as well. Moreover, research finds that others do not even need to fully violate a protected value, but simply hint at doing so, to elicit such outrage. For instance, in one study, learning that someone merely considered engaging in a taboo trade-off but in the end committed no immoral act, evoked outrage, harsh judgment, and a desire for punishment. Specifically, in this study, participants learned about a hypothetical target (Robert) who was weighing options when choosing between spending $100,000 to save one child's life (a sacred value), or spending the money on hospital improvements (something that could benefit many people). Even though Robert eventually upheld the sacred value by prioritizing the child's life, participants still chose to punish him because he had shown at least some willingness to violate the sacred value (Tetlock et al., 2000).[1]

[1] Although it is reasonable to believe that the welfare of children is considered to be a sacred value to most people, Tetlock et al. (2000) assumed this but never actually measured these values.

A second response to having one's sacred values jeopardized is *moral cleansing*. Exposure to sacred value violations evokes a sense of personal contamination, which requires some sort of cleansing to eliminate (Gollwitzer & Melzer, 2012; Tetlock et al., 2000; Zhong & Liljenquist, 2006). As a result, individuals will metaphorically and/or physically cleanse themselves after a sacred value has been sullied. Research has shown, for instance, that people will engage in hand washing when their sacred values have been threatened (known as the "Macbeth Effect"; Gollwitzer & Melzer, 2012; Lee & Schwarz, 2010; Zhong & Liljenquist, 2006). Moreover, research finds that even the mere contemplation of violating sacred values can motivate people to engage in acts of cleansing that demonstrate to themselves and others their commitment to the sacred value and prevent negative repercussions (Tetlock et al., 2000; Tetlock, 2003).

Moral Conviction

A separate body of research has focused on "moral convictions"—the "strong and absolute belief that something is right or wrong, moral or immoral" (Skitka et al., 2005, p. 896). This research has described beliefs based on moral convictions as "moral mandates" (Skitka, 2002; Skitka & Houston, 2001; Skitka & Mullen, 2002). Like protected and sacred values, moral mandates are believed to be experienced as universal (i.e., cross-cultural), objectively true, and are often associated with strong emotional responses. Again, like sacred and protected values, moral mandates are defined as rules regarding the rightness and wrongness of specific behaviors—e.g., "abortion is morally wrong," "natural environments must be protected," or "marijuana use has to be prohibited." In fact, the biggest difference between research on moral mandates and that on sacred/protected values is methodological. The first difference is how moral mandates are measured. Sacred/protected value research has defined these values somewhat indirectly, for example, by whether people claim to hold these values absolutely (i.e., maintaining that something should be forbidden no matter the benefits; Baron & Spranca, 1997), or whether they show outrage or moral cleansing at their violation (Tetlock, 2003). The moral conviction research takes a more direct approach, defining moral mandates by responses to items like "My attitude about [topic] reflects something about my core moral values and convictions" or "How much are your feelings about _____ connected to your core moral beliefs or convictions?" (Skitka et al., 2005). The second difference—and the one most pertinent to this review—is in what outcomes are of interest. More so than the protected/sacred value research, which focuses on the judged permissibility of actions or on moral outrage and cleansing, moral mandates have been studied in terms of their social consequences (something that we will discuss in further detail in the sections below).

Moral Beliefs versus Attitudes

In combination, both the sacred values and moral convictions literatures demonstrate how moral beliefs are distinct from attitudes. Specifically, the literature differentiates moral beliefs from other attitudes in two key ways: (1) they are seen as objectively correct; (2) they have injunctive force (i.e., they entail that one should or should not do something). People tend to be lay objectivists regarding their moral beliefs (Goodwin & Darley, 2008). They are much more likely to believe that there is an objectively correct answer—and that someone who disagrees with them is mistaken—on moral questions (e.g., "consciously discriminating against someone on the basis of race is morally wrong") as compared to questions of taste ("classical music is better than rock music") or social convention ("wearing pajamas and a bath robe to a seminar meeting is wrong behavior"). In fact, people see their moral beliefs as nearly as objective as factual statements (e.g., "The earth is not at the center of the known universe").

In addition to seeing their moral beliefs as objectively correct, people also experience them as a call to action. As Skitka et al. (2005) point out, a belief that the number 13 is prime is experienced as objectively correct, but calls for no action. Someone who thinks that the number 13 is divisible by 5 is mistaken, but they do not necessarily need to be opposed. This is not so for moral mandates. If I believe that American drone strikes in the Middle East are immoral, it follows that I should oppose them through action: by persuading my peers; by voting; by protesting; or, in extreme cases, by violence (Skitka & Mullen, 2002). In some cases, the call to action associated with moral values can lead individuals to justify any means to a "moral" end (Skitka & Mullen, 2002). For instance, there is evidence that if people have a need for vengeance for moral reasons then they have little concern for how the vengeance is achieved. When people believe a defendant to be guilty prior to a trial, for example, they consider the punishment outcomes to be morally mandated, discounting the laws of due process and need for conviction beyond a reasonable doubt (Skitka & Houston, 2001, 2002). Moral beliefs have even been postulated to be the motivational basis for terrorism, with terrorists being willing to sacrifice innocent lives for the sake of a what they consider to be a "moral" cause (Skitka, 2010).

In summary, moral convictions powerfully influence how people interpret the world around them. They dictate what is right and wrong, and facilitate judgements of others' behavior along these circumscribed lines (Ellemers & van de Bos, 2012; Haidt, 2007). Unlike other attitudes, people hold their moral beliefs as universally applicable and therefore feel everyone else should endorse them as well. As a result, moral convictions are considered unequivocal, sacrosanct and unbreakable; the mere thought of violating these values for any reason is unthinkable and taboo (Skitka et al., 2005; Tetlock, 2003). The indisputable nature of morality convinces us that our convictions are facts, and therefore anyone who violates

them is inherently and fundamentally wrong and immoral (Skitka & Mullen, 2002; Skitka, et al., 2005; Prinz, 2009). Moreover, unlike nonmoral attitudes, attitudes in the moral domain are bolstered by intense moral emotions such as fear, anger, love, compassion, guilt, shame, and disgust (Arsenio & Lover, 1995, 1997; Haidt, 2003; Schweder & Hjort, 2002). As a result, our moral attitudes are more deeply entrenched and are more influential in shaping our judgments, decisions, and behavior than other attitudes.

The Problem with Morality

Despite the many obvious positive social implications of morality, in combination, the cognitive, affective, and behavioral features of protected values and moral mandates can be a recipe for serious societal problems, and can pose many challenges for those pursuing a smoothly functioning, unified, and happy society. In the following sections, we review two ways in which morality can be harmful to society: (1) the rejection of science and technology and (2) the polarization of groups espousing different values.

Rejection of Science and Technology on Moral Grounds

When individuals view scientific facts and innovations as challenging to their moral convictions, it can substantially impede the advancement of scientific progress. Morality can lead to a biased interpretation of scientific evidence and, often, outright rejection of facts that violate one's sacred values. Such skewed perceptions can result in impasses between groups, where each side believes that the evidence supports their preferred conclusion, and their opponents' failure to acknowledge the "facts" demonstrates their ignorance, stupidity, and dishonesty. Moreover, the rejection of scientific truths on moral grounds can cause dangerous gaps between what scientists know and what the average public understands and believes about the world around them. These gaps can cause not only ignorance in the general public, but a general distrust in science and scientific education, which are both important to address society-wide problems (e.g., climate change). Below we discuss in more detail how moral convictions impact information processing and the acceptance of science, and highlight specific examples of how biased perceptions of science due to moral convictions can inhibit the adoption of life-improving innovations and technologies such as genetically modified crops and vaccinations that science deems safe and effective.

Morality and Information Processing: Biased Interpretation, Motivated Reasoning, and Rejection of Facts

Whether or not something coincides with our convictions often biases our interpretation of data and evidence. This is particularly the case when moral

values and scientific findings come into conflict. In such cases, to maintain their moral values, people will either reject the science or reinterpret it so that the information becomes in line with their moral beliefs (Lewandowsky & Oberauer, 2016). Consistent with this notion of a morally motivated interpretation of science, research finds that factual information and knowledge of scientific technologies are generally less predictive of evaluations of scientific findings than are preexisting moral beliefs. Science literacy and education only modestly predict general science attitudes (see Allum, Sturgis, Tabourazi, & Brunton-Smith, 2008 for a review), leading researchers to argue that public rejection of scientific findings is largely caused by motivated moral reasoning instead of evidence or data (Lewandowsky & Oberauer, 2016).

For instance, Christian Biblical literalists commonly deny that humans evolved from other animals—a theory with overwhelming scientific consensus and factual support. A recent Pew survey found that 98% of scientists agree that "Humans have evolved over time," but only 65% of laypeople do. Among self-described Evangelical Protestants, this number falls to 38% (Pew Research Center, 2017). For these individuals, the data suggest that there is a conflict between their religiously based moral values and the scientific consensus that evolution exists (Elzanowski, 2010; Garvey, 2008; Jonason & Dane, 2014; Newman, 2007; Wilson, 2007). Ultimately, the strength of these morally based beliefs outweighs the value of scientific facts.

In a similar vein, evidence suggests many of who strongly moralize equality deny the existence of any biologically based differences between individuals in terms of talents and abilities—a view that stands in contrast to scientific evidence (Pinker, 2003). Even scientists themselves are not immune from morally biased distortions of scientific evidence. Jussim et al. (2016) contend that when research findings touch on psychologists' moral values, they are prone to selective interpretation of scientific evidence—or even outright denial of it—just as laypeople are. For example, there are robust differences between men and women in many preferences, abilities, and behavior, but to some researchers, especially feminist scholars of the 1970s and 80s, acknowledging these gender differences conflicted with the moral goal of gender equality. Thus, gender differences were minimized and sometimes even denied by some researchers, despite abundant evidence for them. Likewise, some researchers are more inclined to ignore or downplay ideologically uncomfortable facts, such as differences in test scores between races (Neisser et al., 1996) or the accuracy (based on base-rates) of many stereotypes (Jussim, Crawford, & Rubinstein, 2015). However, when the existence of such differences is denied, it may impair scientists' ability to combat the underlying societal roots and find solutions to the problem. For instance, for researchers to be able to develop strategies to remedy stereotype threat (i.e., fear of confirming negative stereotypes), they first had to acknowledge the differences in performance on academic tests between African American students and their White

counterparts (Aronson, Fried, & Good, 2002; Steele & Aronson, 1995). Had researchers refused to acknowledge uncomfortable differences because doing so felt immoral, it would have been impossible to develop solutions to reduce stereotype threat and improve the performance of African American students.

Rejection of Innovation and Technology

Whether it is biased interpretation, selective attention to evidence, or denial, pre-existing moral beliefs can overrule scientifically proven facts and consensus for some people. This not only influences the scientific literacy of a society, but it can also determine how willing people are to accept novel technologies intended to improve social welfare. When individuals associate technological advances with their moral beliefs, and particularly when they challenge sacred values, individuals often refuse to accept them and refuse to let others accept them as well. As a result, these individuals, and often society at-large, can be precluded from benefitting from these new technologies.

For instance, Schwartz and Inbar (2017) recently found that moral values predict attitudes toward a broad range of scientific innovations, including evaluations of their risks and benefits, and how acceptable they are for people to use them. They found that attitudes toward a large set of scientific technologies reliably cluster together into three different categories: (1) mainstream technologies (e.g., microwaves), (2) unnatural technologies (e.g., nuclear energy and GM crops), and (3) technologies seen as "playing God" (e.g., cryogenics and cloning of humans). The extent to which individuals approved of the technologies in each category depended on the degree to which they held different types of moral beliefs. For instance, those holding strong moral beliefs regarding the sanctity of nature opposed the use of and denied the safety of technologies within the unnatural category. Those with strong convictions that certain matters "ought to be left to God" and not tampered with by humans disapproved of the use and doubted the safety of technologies in the "playing God" category (see also, Waytz & Young, in prep).

Such results suggest that individuals use sweeping morally based heuristics to evaluate whether technological innovations should be accepted for widespread use (Rozin et al., 2004). This occurs even for technologies that scientists believe to be harmless and socially beneficial. Below, we provide a more detailed review of two technologies, genetically modified crops and vaccinations, which many individuals have come to reject on moral grounds.

Genetically modified crops and foods. Scientists and the public are dramatically at odds regarding the safety of genetically modified (GM) food. Despite the scientific consensus that GM crops are as safe as conventionally grown crops (American Association for the Advancement of Science, 2012), many laypeople

see them as dangerous. In a recent Pew survey, only 37% of the U.S. public thought GM food was safe to eat, as compared to 88% of scientists (i.e., members of the American Association for the Advancement of Science; Pew Research Center, 2015). This 51-point gap between scientists and the public was the largest of any issue in the survey, including politically charged questions such as whether the earth is warming due to human activity and whether humans have evolved over time.

Past research attempting to explain the rejection of GM foods has examined scientific literacy as a predictor of GM acceptance (Frewer, Scholderer, & Bredahl, 2003), focusing on the possibility that people are simply misinformed. If this were the case, dispelling people's misconceptions about GM food should make them more positively disposed toward it. However, multiple studies in which people were given information explaining the benefits and casting doubt on the risks of GM food found no evidence of this. Exposure to these kinds of messages either did not affect attitudes at all (Frewer, Howard, Hedderly, & Shepherd, 1999); polarized attitudes such that there was no net attitude change (Frewer, Howard, & Shepherd, 1998); or even made attitudes more negative overall (Scholderer & Frewer, 2003). So, giving people more scientific information on the topic clearly did not convince them to eat GM food.

Recently, Scott, Inbar, and Rozin (2016) demonstrated that attitudes about GM food are often the result of moral values and intuitions rather than consequence-based calculations. They asked Americans for their views of the acceptability of GM using a set of questions that have previously been used to measure sacred values (Baron & Spranca, 1997), including a question that asked whether GM should be prohibited "no matter how small the risks and how great the benefits" (i.e., absolute opposition). Forty-six percent of respondents said they opposed GM and would maintain their opposition for any balance of risks and benefits (i.e., they were absolutist opponents). In comparison to supporters, GM opponents—and especially absolutist opponents—tended to feel heightened moral emotions (i.e., disgust) in response to the idea of consuming genetically modified foods, and this predicted support for legal restrictions on GM (such as labeling, extensive safety testing, or outright bans).

Scott et al.'s approach to the issue of GM foods, examining opposition in terms of moral values rather than based on cost-benefit analyses, helped answer why people often reject GM technology. More specifically, answering this question from a moral perspective illuminates: (1) why GM food opposition is so widespread despite minimal knowledge about GM technology; (2) why GM food attitudes resist disconfirmation by evidence about risks and benefits (e.g., Scholderer & Frewer, 2003); and (3) why the popular rhetoric about GM so often invokes metaphors of pollution, contamination, and unnaturalness (e.g., "Frankenfoods"; McWilliams, 2015). Of course, people may object to GM foods for a variety of reasons, including generalized mistrust of science, poorly calibrated beliefs about risks, or dislike

of large agricultural corporations. Nor is it known precisely what intuitions underpin people's moral objections to GM food (although preliminary research points to concerns about contamination and unnaturalness as prime suspects). Nonetheless, the example of GM foods demonstrates the power of moral beliefs and intuitions to fuel opposition to a technology that a large majority of scientists see as safe.

Vaccinations. An outbreak of measles in Ontario, Canada during the spring of 2015 caused a resurgence of concern about the number of children in the area who, for various reasons, remain unvaccinated against highly contagious, yet preventable diseases. According to a recent report, only 90.1% of 7-year-olds had received the measles, mumps, and rubella vaccination (Busby & Chesterley, 2015). This is notably below the medical community's recommended 95% vaccination rate needed to achieve herd immunity (i.e., the resistance to a disease within a population that occurs due to a sufficient number of people being immune; Iorfida, 2015), and could be severely endangering hundreds of thousands of children.

Recent work on the predictors of anti-vaccination attitudes suggests that those who are opposed to vaccinating children base their beliefs in moral values and intuitions. Clifford and Wendell (2016) have shown that among a diverse sample of adults, overall disgust sensitivity, including the moral disgust[2] subscale of the Three Domain Disgust Scale (i.e., pathogen, sexual, and moral disgust; Tybur, Lieberman & Griskevicius, 2009) is significantly correlated with opposing vaccinations and the belief that such vaccinations cause autism—a myth that has long been debunked. In other words, in contrast to individuals that are low in disgust sensitivity, individuals who are most likely to express disgust at moral violations (e.g., being hit on by a member of the same sex, or someone who is addicted to drugs), are the most opposed to vaccinations and the most likely to wrongly believe that vaccinations cause autism. The same is true of GM foods—those who are morally opposed to GM foods are more disgust-prone in general (Scott, Inbar, & Rozin, 2016). Similarly, pathogen disgust sensitivity is further predictive of mistrust in the safety of vaccines and skepticism of their efficacy, as those who are most likely to express disgust at pathogen exposure (e.g., accidentally touching someone's bloody cut, or stepping in dog poop), are also less likely to believe that vaccinations are effective in protecting against communicable diseases. At face value pathogen disgust sensitivity may be seemingly less directly linked to moral values than pure moral violation disgust sensitivity. However, previous work has shown that pathogen disgust sensitivity predicts moral evaluations of homosexuals (Inbar, Pizarro, Knobe, & Bloom, 2009), suggesting a broad relationship between disgust sensitivity and moral judgment in general.

[2] Moral disgust is defined as occurring in response to antisocial behavior and social transgressions (Tybur et al., 2009).

Thus, there is growing evidence that moral values and moral emotions play a fundamental role in attitudes about vaccinations. On moral grounds, many parents refuse to vaccinate their children, and they often reference debunked scientific evidence to justify their beliefs. Their moral convictions blind them to the scientific consensus on the issue. As a result, these parents put their children at risk of dying from diseases that are easily preventable. Moreover, they also put at risk other children, who for legitimate reasons (e.g., health conditions, allergies) cannot be vaccinated.

In summary, scientific breakthroughs and new technologies are key to solving many social issues, such as hunger and disease. However, people need to be accepting of the solutions put in place (i.e., the technology) for these issues to actually be addressed. Furthermore, they must also accept the facts and truth behind the reasoning for the need of the technology itself. Despite this, as we have demonstrated throughout this section, when people feel their sacred values are at stake, they often reject both the science and the facts that are the basis of societal progress, leaving unrealized potential scientific and societal benefit.

Moral Polarization

Morality is key to social functioning. It sets norms for correct behavior that are necessary for group cohesion. However, the same processes that lead morality to have positive ingroup outcomes can also be the source of intergroup conflict. People tend to see those disagreeing with them on moral mandates as at best mistaken and at worst wicked. In either case, they must be confronted and persuaded or opposed. Therefore, when individuals who hold opposing moral beliefs interact there are negative interpersonal consequences, with each of them avoiding and punishing the other, both when the interactions are intimate (e.g., friends, romantic partners) and when they are not (e.g., neighbors, doctors; Cole Wright, Cullum, & Schwab, 2008; Skitka et al., 2005).

When groups who hold opposing moral beliefs interact it can lead to derogation and segregation between them, ultimately resulting in intergroup moral polarization. These processes have a direct impact on societal progress—when moral polarization is present, intergroup agreement or compromise regarding solutions to social ills is often impossible, and intergroup conflict and violence can break out. In the following section, we first discuss the processes that lead to moral polarization followed by an illustration of large-scale moral polarization—political polarization in the United States.

Morality and Group Formation

As described above, morality is of utmost social importance. This is particularly the case when determining whom to trust, cooperate with, and befriend.

Person perception and social judgment research indicates that individuals evaluate others based on three criteria: competence, sociability, and morality, with morality having the greatest influence in determining positive or negative judgment of others (Brambilla, Sacchi, Pagliaro, & Ellemers, 2013; Brambilla, Rusconi, Sacchi, & Cherubini, 2011; Leach, Ellemers, & Barreto, 2007; Rokeach, 1968; Willis & Todorov, 2006). Along these lines, moral character has been found to be the most important dimension for selecting friends, colleagues and romantic partners (Buss, 1989; Goodwin, Piazza & Rozin, 2014; Nowak, Page, & Sigmund, 2000). It is not surprising, then, that morality is integral in the selection of and admission into groups (Ellemers & Van den Bos, 2012; Haidt, Rosenberg, & Hom, 2003; Opotow, 1990).[3] In support of this, individuals often self-select into groups that share their values (Bar-Tal, 1990; Byrne, 1971; Leach et al., 2007; Parker & Janoff-Bulman, 2013), and groups commonly rely on moral overlap as a means for acceptance into their ranks (Brambilla et al., 2011; Brambilla, Hewstone & Colucci, 2013; Ellemers & van den Bos, 2012). As a result, many social groups are largely morally homogeneous.

There is good reason for groups to seek moral uniformity. Possessing shared values reinforces and validates each group member's sense of self, bolstering self-esteem and providing meaning to members' lives (Johnson & Mullins, 1990; Pyszczynski, Greenberg, & Solomon, 1997; Tajfel & Turner, 1979; Vail, Arndt, Motyl, & Pyszczynski, 2012). It also means that individuals will more strongly identify with the group, take more pride in their membership, and strive to improve the group's well-being (Bettencourt & Hume, 1999; Leach et al., 2007; Pagliaro, Ellemers & Barreto, 2011; Tajfel & Turner, 1979). In turn, this group-orientation contributes to the smooth functioning of the group, as those with shared moral values treat one another more fairly, cooperate better, and rely on the same principles and standards for overcoming internal disputes (Greene, 2015; Haidt 2007; 2012; Janoff-Bulman, Sheikh, & Hepp, 2009; Krebs, 2008; Opotow, 1990a, 1987).

As much as moral homogeneity yields important benefits to the individual and the group, it can be problematic, even dangerous, for intergroup relations, when groups ascribe to different moral perspectives. This is because moral differences are inherently threatening. As described earlier, morality is largely categorical. The literature clearly asserts that individuals hold their moral positions as self-evidently right, like factual knowledge, in the same way $2+2=4$, and experience moral statements as objectively correct (Goodwin & Darley, 2008). Thus, different moral positions are often incomprehensible (Ditto & Koleva, 2011; Feinberg & Willer, 2013; 2015) and inherently wrong, just as $2+2$ does not equal 5 (Ellemers & Van den Bos, 2012; Goodwin & Darly, 2008; Gray & Wegner, 2009; Skitka

[3] It is important to note that according to Social Identity Theory (Tajfel & Turner, 1979), group formation can occur based on a host of shared characteristics, values, or behaviors (Mercken, Candel, Willems, & De Vries 2007), not only shared morality.

et al., 2005). As such, moral differences challenge our reality and the rules we follow, and call into question our basic worldview, which is extremely threatening (Brambilla et al., 2011, 2013; Parker & Janoff-Bulman, 2013). Similarly, because morality is sacred and central to our identity and self-worth (Aquino & Reed, 2002; Strohminger & Nichols, 2014; Tetlock et al., 2000) anyone espousing different morality threatens our core sense of self.

Along these lines, early work by Rokeach (1960) suggested that dogmatism and close-mindedness can occur in response to others that do not share our values. Furthermore, it was suggested that when such value incongruity occurs between individuals, it can lead to interpersonal prejudice and tensions. Supporting these propositions, more recent research shows a positive association between the perception of outgroup members as having divergent morality and beliefs that these individuals pose a significant threat (Brambilla et al., 2013). Further, morally different outgroup members trigger concepts related to harm and danger (Leidner & Castano, 2012) and are viewed as a significant threat to the group's existence and survival (Brambilla et al., 2011; 2013). Simply put, moral outsiders are "perceived as a plague" (Opotow, 1990, p. 2).

Morality and Intergroup Relations: Derogation and Segregation

While there are many contributing factors to negative intergroup relations, morally based threats between groups can be particularly destructive. This is because when forming impressions of outgroups, individuals rely extensively on the extent to which they view other groups as threatening (Brambilla et al., 2013; Pettigrew, 2008). Faced with a moral outgroup and the threat its existence evokes, the literature points to two responses: derogation and segregation. Below we discuss each of these and how the two can form a feedback loop, resulting in escalating tensions, conflict, and even violence, between morally divergent groups.

One consequence of moral outgroup threat is the derogation of that outgroup (Bar-Tal, 1990). Fueled largely by the experience of strong negative emotions, such as contempt and disgust (Cole Wright et al., 2008; Horberg Oveis, Keltner & Cohen, 2009; Mullen & Skitka, 2006; Skitka & Morgan, 2009; Skitka & Mullen, 2002), individuals derogate those in the moral outgroup, which helps delegitimize that outgroup's perspective while bolstering the ingroup's moral superiority (Bar-Tal, 1990; Ellemers & Van den Bos, 2012; LeVine & Campbell, 1972). For instance, individuals will use derogatory labels, such as "barbarians" and "vermin," to emphasize the moral outgroup's inferiority (Opotow, 1990). They will also engage in dehumanization strategies, attributing to the moral outgroup less capacity to feel emotions, suffer, and more generally, less able to possess the underlying features of the human mind (Opotow, 1990; see also Cehajic, Brown, & Gonzalez, 2009; Gray, Gray, & Wegner, 2007; Haslam, 2006; Leyens et al., 2003;

Waytz & Epley, 2012). Doing so not only devalues the moral outgroup's moral perspective, but its very existence (Bar-Tal, 1990). Moreover, such derogation gets perpetuated and amplified via the spread of negative stereotypes and assumptions about the threatening nature of the moral outgroup (Bar-Tal, 1990; Bishop, 2008; Brewer, 1979, Ellemers & Van den Bos, 2012; Waytz & Young, 2012), which only serves to heighten the experience of threat the moral outgroup evokes.

Along with derogation, a natural response to moral outgroup threat is segregation. If the moral outgroup is perceived as dangerous and a source of moral contamination, then it makes sense to keep physical, social, and psychological distance (Bishop, 2008; Brambilla et al., 2011; Leach et al., 2007; Opotow, 1990; Skitka et al., 2005; Cole Wright et al., 2008). For instance, Skitka et al. (2005) found that not only did participants report not wanting to interact with or be around moral outgroup members, but they even demonstrated a desire for increased physical distance from them, with participants that held stronger pro-life moral convictions against abortion moving their chair farther away from a pro-choice target (see also Cole Wright et al., 2008). Moreover, in response to the threat the outgroup poses, the moral ingroup focuses increasingly on cohesion and conformity, looking to root out dissent and censor information that might interfere with group solidarity (Bishop, 2008; Greene, 2015; Opotow, 1990). In line with this, information processing and perceptions regarding the group get skewed in favor of the group's infallibility and superiority which further bonds the group together and distinguishes it from the outgroup (Opotow, 1990; see Ditto, Pizarro, & Tannenbaum, 2009) (see section above for more information on motivated moral reasoning and cognitive biases associated with morality).

Rather than this isolation alleviating the perceived threat the moral outgroup elicits, group polarization research suggests that segregation achieves the exact opposite. Specifically, studies have found that the more homogenous and cohesive a group is, the more likely it is to undergo group polarization, in that the beliefs, attitudes, and behaviors of the group shift to become more extreme than the average of each group member's own initial beliefs, attitudes, and behaviors (Bishop, 2008; Kogan & Wallach, 1967; Schacter, 1951; Stoner, 1968). In other words, groups can become more extreme in the direction in which the group members were already leaning. One explanation underlying this phenomenon is that individuals, in order to fit in, signal their conformity to the group by being extra "groupish," which often translates into them taking a stance that is slightly more extreme in the direction the group is already leaning. However, since everyone in the group has this same motive to signal their commitment, they end up one-upping each other in terms of extremity, resulting in the entire group becoming increasingly more extreme and isolated. Thus, the emphasis on isolation and homogeneity of the moral ingroup fosters even greater efforts to solidify and bolster the group's morality, which further makes salient how different and threatening the moral outgroup is (Cohen,

Montoya, & Insko, 2006; Kosterman & Feshbach, 1989; Leidner, Castano, Zaiser, & Giner-Sorolla, 2010; Opotow, 1990; Schatz, Staub, & Lavine, 1999).

All in all, segregation breeds segregation, and derogation breads derogation. And both segregation and derogation can fuel one another forming a feedback loop (Bar-Tal, 1990; Cohen et al., 2006; Harris & Fiske, 2006; Janoff-Bulman & Carnes, 2013; Opotow, 1990; Parker & Janoff-Bulman, 2013; Schatz et al., 1999). Dehumanizing and stigmatizing the moral outgroup (e.g., "they are immoral") enhances the threat that group evokes. In response, individuals distance themselves from the outgroup to escape the threat and danger the outgroup poses (e.g., "we must avoid them at all costs"). Yet, the more distant and isolated the moral ingroup gets, the more homogenous it becomes (e.g., "we all agree they are immoral!"), which fosters more extreme attitudes and beliefs toward the moral outgroup (e.g., "they are evil").

This escalating threat spiral can have detrimental effects on intergroup relations. Conflict—whether actual or perceived—between the morally divergent groups becomes more likely. It is easy to assume that a group you have little contact with but feel great animosity toward has goals that directly challenge your group's own goals. Whether true or not, it is easy to imagine that the moral outgroup wishes to do your group harm (Bar-Tal, Kruglanski, & Klar, 1989). Thus, out of self-defense, groups will act aggressively against the moral outgroup (Bandura, Underwood, & Fromson, 1975; Bar-Tal, 1990; Opotow, 1990). Conflict resolution, in turn, becomes almost impossible. Delegitimizing processes have rendered the moral outgroup inferior and unworthy of trust and cooperation, and compromising with them would be tantamount to compromising one's own morality, even endorsing the "enemy's" morality (e.g., Bar-Tal, 1990; Feinberg & Willer, 2015; Skitka, 2010; Tetlock, 2003). As a result, between-group violence can ensue (Bandura et al., 1975; Cohen et al., 2006; Haidt et al., 2003; Kosterman & Feshbach, 1989; Mullen & Skitka, 2006; Schatz et al., 1999; Skitka & Mullen, 2002; Skitka et al., 2005)

Worse, perpetrating harm against those in the moral outgroup is often viewed positively and as a source of pride. Harming "vermin" is a good thing, and harming "sinners" is righteous and laudable (Bandura, 1999; Bandura, Barbaranelli, Caprara & Pastorelli, 1996; Opotow, 1990; Skitka & Morgan, 2009). Moreover, in order to justify and rationalize the violence committed, individuals will escalate the delegitimization and dehumanization of the moral outgroup (Bar-Tal, 1990), which serves to motivate further violence. Additionally, individuals use motivated moral reasoning (Ditto, Pizzaro, & Tannenbaum, 2009) to further rationalize their behavior, and abide by a different code of fairness and justice than they would otherwise use (Bastian & Loughnan, 2017; Deutsch 1973, 1985).

Many of the biases and behaviors described above may not require moral differences to be involved for them to happen (Brewer, 1979; Tajfel, 1974; Tajfel & Turner, 1979). However, there is little doubt that morality magnifies the speed

and intensity of many of these processes. As consistently argued in the literature, the universally applicable and objectively true nature or moral convictions in combination with their associated strong emotional responses (see above for more detail), render them qualitatively different than general attitudes (Parker & Janoff-Bulman, 2013; Skitka et al., 2005; Tetlock et al., 2000). As a result, intergroup processes take on a different character when morality is involved (Opotow, 1990). For instance, in intergroup contexts where differences in morality are not central, the biases groups enact typically involve favoring the ingroup (i.e., ingroup love), with little evidence of harming the outgroup (i.e., outgroup hate) as a goal (e.g., Allport, 1954; Brewer, 1999; Halevy, Borstein, & Sagiv, 2008; Halevy, Weisel, & Bornstein, 2012). However, when the intergroup context is steeped in morality, outgroup hate manifests just as much as ingroup love, if not more (Parker & Janoff-Bulman, 2013; see also Janoff-Bulman & Carnes, 2013). Specifically, in comparison to nonmorality-based groups (i.e., sports fans or university affiliations), morality-based groups (i.e., abortion or politically based groups) demonstrate stronger negative reactions to moral outgroups and consider them to be more threatening (Parker & Janoff-Bulman, 2013).

Political Polarization

The political polarization in the United States exemplifies how morality can be problematic for intergroup relations, and more generally, is a case study in how morality can damage and upend liberal democracy. Liberal democracy (also called deliberate democracy or western democracy) is a form of government based on classically liberal ideas. Liberal democracies ensure freedom of expression and speech and freedom of the press. They openly accept, even applaud, divergent viewpoints and value civil debate and compromise (Bishop, 2008; Calhoun, 2000; Maoz & Russett, 1992; Miller & Conover, 2015; Mousseau, 1998; Zurn, 2013). These hallmarks of liberal democracy in the United States are under siege largely due to the problems morality creates at the intergroup level (Gutmann & Thompson, 2014; Iyengar, 2016; Iyengar & Westwood, 2015; Mann & Ornstein, 2013; Rutchick, Smyth, & Konrath, 2009).

The liberal–conservative ideological divide in the United States (and many other nations) stems, in large part, from diverging values and moral beliefs (Haidt, 2012). Along these lines, various research programs have demonstrated the different moral fault lines separating the two sides. For instance, Schwartz, Caprara, and Vecchione (2010) find that liberals tend to be higher on openness and universalism values, whereas conservatives are more traditional and more attuned to conservation values (see also Wetherell, Brandt, & Reyna, 2013). Lakoff (1996) distills the divisions into two categories based on moral principles of strictness versus nurturance (see also Feinberg & Wehling, 2017; Wehling, Feinberg, Saslow, Malevaar, & Lakoff, 2017). However, the most prominent research exploring the

divisions between liberals and conservatives stems from Moral Foundations Theory (Feinberg & Willer, 2013, 2015; Graham, Haidt & Nosek, 2009; Graham et al., 2011; Haidt & Graham, 2007; Haidt & Joseph, 2004). Moral Foundations research finds evidence for five distinct moral domains: harm/care, fairness/reciprocity, ingroup/loyalty, authority/respect, and purity/sanctity, and has further shown that liberals and conservatives ascribe to these different domains to varying degrees. Liberals are more strongly concerned with the harm/care and fairness/reciprocity moral values, whereas conservatives more strongly endorse the other three domains. These differences in underlying morality help explain the diverging political stances of liberals and conservatives (Haidt, 2012; Koleva, Graham, Ditto, Iyer, & Haidt, 2012; Lakoff, 1996; Wetherell, Brandt, & Reyna, 2013).

In line with the research described above regarding morality's impact on intergroup relations, liberals and conservatives demonstrate clear evidence of both outgroup derogation and ingroup segregation to avoid the "threatening" ideas, influence, and even the presence of those in the moral outgroup (e.g., Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014; Motyl et al., 2014; Skitka et al. 2005). In terms of derogation, both liberals and conservatives demonstrate great hostility toward the other side (Iyengar, Sood, & Lelkes, 2012; Iyengar, 2016; Levendusky, 2009; Miller & Conover, 2015; Smith, Seger, & Mackie, 2007). In fact, negativity expressed toward those on the other side of the political aisle has bypassed levels of animosity felt toward those of other races or religions (Chambers, Schlenker, & Collisson, 2013; Iyengar & Westwood, 2015). Evidence suggests that much of this negativity is ingrained in Americans' minds—to the point that such hostility is both unconscious and automatically processed, as demonstrated by the results of implicit partisan affect tests for both liberals and conservatives (Iyengar & Westwood, 2015). Further, even though both sides prefer to view the other as the source of hostility, research indicates that liberals and conservatives tend to be equally hostile toward those on the other side of the political spectrum (Brandt et al., 2014; Crawford & Pilanski, 2014; Crawford, Kay, & Duke, 2015; Crawford, Mallinas, & Furman, 2015; Waytz, Young, & Ginges, 2014; Wetherell et al., 2013).

The hostility both sides feel toward the other manifests in various forms of stereotyping, prejudice, and discrimination. It has become commonplace for liberals to label conservatives, as a group, "racists," "misogynists," and "rednecks," while conservatives often label liberals "snowflakes," "tree-huggers," and "communists" (see Crawford et al, 2013; Udolf, 1973). A recent poll (Pew Research Center, 2016) found that partisans on both sides of the aisle deemed those on the other side as "close-minded," "immoral," "lazy," "dishonest," and "unintelligent" (see also Farwell & Weiner, 2000; Graham, Nosek, & Haidt, 2012). And, research finds that such stereotypes directly correspond with the delegitimization and dehumanization of the other side (e.g., Crawford et al., 2013; Crawford, 2017). For instance, in a recent interview President Trump's son, Eric Trump, referring to

Democrats and opponents of his father's, stated "To me, they're not even human." (Resnick, 2017).

Beyond words, such animosity breeds uncivil and prejudicial behaviors. For instance, research has found that liberals and conservatives openly endorse discriminatory behaviors against one another, including harassment, destruction of property, and more generally, the denial of the outgroup members' basic rights (Wetherell et al., 2013; see also Miller & Conover, 2015). Studies have found that participants play much more harshly and punitively in economic game situations when they know their counterpart in the game is from the political outgroup (Crawford, 2017; Iyengar & Westwood, 2015). Moreover, in a very illustrative study, participants were assigned to read the resumes of high school students applying for an apolitical scholarship and select the student that should win the award. Results showed that Democrats were heavily biased toward selecting the student who indicated he was "President of the Young Democrats," whereas the Republican participants were heavily biased selecting the student who stated he was "President of the Young Republicans." Even more telling, however, the researchers found that when they varied the objective qualifications of the students (either 3.5 GPA or 4.0 GPA), participants' biased selection remained; partisans were punishing the more qualified candidate for being a part of the political outgroup (Iyengar & Westwood, 2015). Similar results have been found in academic settings, suggesting that researchers themselves may not be immune to prejudicial behaviors against those on the other side of the political spectrum. For instance, surveys of academics in a variety of disciplines found that they report a desire to hire colleagues and support work done by individuals that share the same political views, and are more likely to discriminate against colleagues and candidates that are known to endorse other political values (Honeycutt & Freberg, 2017; Inbar & Lammers, 2012). Importantly, many of the studies exploring the discrimination liberals and conservatives enact upon one another find that the underlying mechanism guiding and legitimizing such behavior is the other side's value violations (Brandt et al., 2014; Chambers et al., 2013; Crawford et al., 2013; Crawford, 2017; Wetherell et al., 2013). In other words, because individuals perceive those on the other side as endorsing moral values that diverge from and contradict their own moral values, they feel it is appropriate, even necessary, to openly discriminate against those on the other side (see also Miller & Conover, 2015; Skitka & Mullen, 2002).

In addition to breeding clear derogation and animosity between groups, the liberal-conservative ideological divide can also lead to political segregation wherein liberals and conservatives actively seek to separate themselves from the other, both physically and psychologically. Moreover, both sides of the divide believe their counterparts to be substantially more biased than they themselves are (Ditto et al., 2017). However, in contrast to these beliefs, a meta-analysis of 41 studies demonstrated that both liberals and conservatives are equally biased in terms of accepting information to confirm their own political beliefs (Ditto et al.,

2017). This leads individuals at each side of the political spectrum to choose to live in their own "moral echo chambers," wherein they selectively affiliate with others and expose themselves to information sources that confirm their political values and beliefs, and actively suppress, derogate or ignore opposing arguments. In fact, research has demonstrated that both liberals and conservatives seek to avoid exposing themselves to each other's opinions because of the effort and negative emotions that occur when exposed to these viewpoints (Frimer, Skitka & Motyl, 2017). Results from the study demonstrated that individuals actively avoided being exposed to ideologically opposed ideas regarding multiple politically charged issues, and would even give up the chance for a monetary reward in order to avoid being exposed to opinions from the opposing political side.

This extreme desire to avoid morally threating political opinions can lead individuals to selectively choose the information to which they are exposed, actively ignore rival information sources, and even lead them to censor and suppress what they consider to be antagonistic viewpoints. This is particularly evident when choosing news sources and other media outlets, and can lead to what is commonly referenced as the "news bubble," wherein individuals are increasingly exposed to sources of information that support their pre-existing political viewpoints. In fact, empirical evidence has shown that liberals and conservatives follow media outlets that support their political views regardless of whether the topic being discussed was political in nature or a neutral topic such as travel (Coe et al., 2008; Iyengar & Hahn, 2009). For instance, experiments demonstrated that conservatives prefer to read news provided by *Fox News*, while liberals choose to be exposed to *CNN* and *NPR* (Iyengar & Hahn, 2009). Notably, people not only selectively choose media to confirm rather than disconfirm their views, but when exposed to media sources that disagree with their political ideology, these news sources are considered more biased, less interesting, and less informational (Coe et al., 2008). Hence, our politics not only influence which news sources we seek, but how we interpret the information provided to us when it is from a source associated with the opposing political orientation. For example, the Republican U.S. president Donald Trump has repeatedly denigrated news sources with Democratic leanings, deeming them to be "fake news" (Rosen, 2017). In doing so, it allows him and those that follow him to actively ignore the information that these news sources produce by allowing them to be considered as illegitimate and untrue.

Ultimately, selective attention to ideologically favored information sources and delegitimization of opposing sources perpetuates the political divide. At the extreme, moral conflict can license people to use intimidation against their ideological opponents. When one thinks that arguments made by one's opponents are not just mistaken but immoral and dangerous, it is tempting to see preventing these arguments from being made—by violence if need be—as necessary or even morally laudable. At some elite universities, for example, left-aligned student groups have vociferously advocated silencing conservative speakers perceived as

advocating views beyond the moral pale (Lee, 2017; McLaughlin, 2017; Park & Lah, 2017; Saul, 2017). Far-right activists and left activists have likewise clashed violently in the past 6 months, leading, in one case, to the death of a left-wing counter-protestor (Hanna, Hartung, Sayers, & Alsmay, 2017). Thus, in some cases, when people see opposing political views as immoral, they are likely to seek to block the freedom of expression and dissemination of those views, in extreme cases by physical force.

Research also demonstrates that liberals and conservatives go out of their way to insert physical distance between one another. In *The Big Sort*, Bishop (2008) uses large scale demographic data to show how over the past 50 years, Americans have been increasingly moving away from neighborhoods where they hold minority moral-political values, and migrating into neighborhoods made up of others who share their same beliefs and values. Building on this work, Motyl et al. (2014) collected data from over a million participants across the United States, gauging their political ideology, where they had resided for the most time, and where they currently lived. They found that ideological misfit was a very strong predictor of migration; approximately 80% of those with a misfit moved, whereas 50% of those without a misfit had changed location. And, among those who migrated, those experiencing ideological misfit were significantly more likely to move into a community whose values more closely corresponded with their own. Furthermore, in a separate study, these researchers experimentally manipulated participants' perceptions of the values their community most strongly endorses. Participants who felt increased value misfit due to this manipulation were significantly more likely to report a desire to move to a new community, suggesting a causal role for ideological misfit in explaining the migration patterns America has experienced over the past 50 years. Overall, then, there is clear evidence that liberals and conservatives are becoming physically segregated from one another, and therefore becoming more immersed in their own homogeneous moral-political silos. As described above, such isolation, opens the door to greater stereotyping, misperception, distrust, and feelings of threat regarding those on the other side, which in turn fosters even more desire to establish social, psychological, and physical distance between the groups (Bishop, 2008; Levendusky & Malhotra, 2016; Motyl et al., 2014; Skitka et al., 2005).

Although there is clear evidence that ideological polarization between liberals and conservatives has bred political segregation, intolerance, and discrimination, the United States has somehow managed to avoid the large-scale intergroup violence that often accompanies such morally polarized groups (Bandura et al., 1996; Haslam, 2006). That said, in recent years there have been some flare ups, including physical altercations between liberals and conservatives during the Trump campaign, riots in Portland following President Trump's inauguration, clashes in Berkeley between Trump supporters and opponents, and most recently as alluded to above the extreme violence in Charlottesville. These isolated incidents may

portend more violent encounters to come given the intense nature of morality-based intergroup conflict. As Bar-Tal (1990, p. 78) states "the distance between delegitimization of this intensity and behavioral harm is very small."

Even if violent behavior has been sparse in the United States, there has certainly been violent (metaphorical) language employed by individuals on both sides of the political spectrum. It is common to hear politicians, activists, and pundits refer to the "battle" between the two political parties, and declare that the other side is "waging a war" on their own side's traditions and beliefs (e.g., "war on Christmas," "war on women"). In fact, according to Kalmoe (2012) political candidates from 1932 to 2008 averaged 2.9 violent metaphors per 1,000 words in their convention speeches. Research demonstrates that such violent metaphors can incite violent intentions. Kalmoe (2014) found that those already high on trait aggression, when presented with violent metaphorical political language (relative to a control), demonstrated increased support for political violence, including agreement with the item "some of the problems citizens have with government could be fixed with a few well-aimed bullets."

Overall, even without violence erupting, the substantial polarization and accompanying hostility have become deleterious to not just American politics, but the fabric of American society, and the possibility of bridging the divide feels increasingly further away. In many ways the political polarization has become institutionalized, where cable news and radio programs openly build on and perpetuate Americans' hostility (Baum & Groeling, 2008; DellaVigna & Kaplan, 2007; Iyengar & Hahn, 2009), congressional press statements routinely taunt and denigrate the opposition party (Grimer & King, 2011), political action committees and professional pundits exist solely for the purpose of spinning information to make the other side look bad and their own side look good regardless of the actual facts of the matter, and social media has become an echo chamber for ingroup love and outgroup hatred (Barbera, Jost, Nagler, Tucker, & Bonneau, 2015; Conover et al., 2011). Institutionalizing the intergroup conflict between liberals and conservatives in this way helps normalize it and ensures its perpetuation (Opotow, 1990), further breeding and legitimizing increased distrust and hostility, and compelling individuals to avoid those on the other side of the political spectrum at all costs.

In summary, the evidence above makes it clear that moral polarization is a problem for society. Akin to the rejection of science and technologies, morality-based political polarization impedes progress. As constituents become more polarized, so do politicians and the policies that they support. This increases the difficulty of meeting the consensus needed for policy to be passed. Furthermore, moral polarization makes it almost impossible for productive discussion of issues between citizens. Instead, they denigrate each other, self-select into neighborhoods in which they do not have to interact with anyone who holds an opposing stance, and try to suppress the expression of ideas by people from the other side

of the political spectrum. Altogether, morality creates an environment that makes it difficult to discuss and address social issues.

Solutions and Policy Recommendations

There is no conspiracy or overseer trying to perpetuate people's rejection of science or breed moral polarization. Rather, our moral nature is to blame. It compels us to find those who are morally likeminded and reject information that we deem inconsistent with our moral beliefs. It compels us to build moral boundaries, grow skeptical of those on the other side of the boundaries, socially and physically flee from them, and at times justify hatred and violence against them. In order to overcome the problems of morality, we need to confront our moral nature, understand it, and find solutions that take this nature into account. Below, we highlight some proposed solutions that we believe could be used separately or applied in combination to overcome the problems with morality.

Shared Humanity, Empathy, and Reality

As reviewed earlier, the existence of moral communities can lead to a plethora of negative consequences, including dehumanization of moral outgroups and polarization of views. As mentioned above, part of the reason that this occurs is because individuals feel extremely threatened by members of moral outgroups. One strategy for overcoming this threat and combating its associated negative effects, therefore, may be to increase empathy and a sense of shared humanity and experience between morally based groups.

Research aimed at mitigating the effects of psychological threat on outgroup negativity suggests that shared perspective taking may be key to removing prejudice and hostility toward outgroups (Motyl et al., 2011). For example, one study found that increasing levels of shared human experience via exposure to images of families of diverse cultural and ethnic groups engaging in familiar activities (such as enjoying a family meal), lowered anti-Arab sentiments (a group that has faced much morally based prejudice in the wake of 9/11 in the United States). This effect was mediated by participants' perceived similarity and thus common humanity with the target outgroup (Motyl et al., 2011). Further studies had participants read stories about outgroup members' favorite childhood memories as well as embarrassing events in their lives. Both led to increased perceived similarity with outgroup targets, as well as subsequent decreased anti-immigrant prejudice and increased support for general peace-making efforts (Motyl et al., 2011).

Related research has further contended that part of the reason why people seek to avoid information regarding the views of other morally based groups is because they *want* to have a feeling of shared reality (i.e., experienced commonality of beliefs, emotions, and inner states) with them (Echterhoff, Higgins, & Levine, 2009;

Frimer, Skitka, & Motyl, 2017). Specifically, it has been argued that people have a fundamental need for shared reality with others, because when it is experienced they feel more connected to each other (Echterhoff et al., 2009). Thus, individuals should seek to avoid situations that undermine shared reality with others. Supporting this, a study found that people did not want to be exposed to arguments from the other side of the political spectrum in part because they anticipated that it would reduce their sense of shared reality. These results provide evidence that individuals desire a sense of shared reality with others, mutual respect and trust, and seek to avoid moral conflict that could undermine these preferred outcomes and lead to a sense of disconnectedness (Frimer et al., 2017). This suggests that highlighting shared reality with those on the other side could be a useful framework for preventing adversarial thinking and easing tensions. Furthermore, due to the high levels of overlap between shared reality and related constructs, these results may indicate that people have a stronger and more fundamental desire for shared humanity, empathy, and experience than previously expected.[4]

Altogether, these lines of research suggest that increasing empathy and shared common humanity can lower prejudice against outgroups and increase the desire for reconciliation. Furthermore, people may have a stronger and more fundamental desire for this sense of similarity than expected, which could make this an effective strategy to employ when seeking to decrease moral divides.

Contact, Superordinate Goals, and Superordinate Identity

In addition to highlighting shared human experiences to increase empathy, past psychological literature has also demonstrated the promise of improving interpersonal relationships through increasing contact between group members (i.e., the contact hypothesis; Allport, 1954; Amir, 1976). By interacting with outgroup members, individuals are directly exposed to information regarding the values and experiences of the outgroup, allowing them to increase their positive perceptions of the outgroup and reduce previously held negative beliefs and hostile behaviors (Pettigrew & Tropp, 2006; Powers & Ellison, 1995). This exposure leads to increased positive perceptions of outgroup sociability, competence and morality, with increased perceptions of morality being key to identification and attitudinal change (Brambilla et al., 2013). In addition to exposure under proper conditions, strained relationships between individuals due to group membership can be ameliorated through superordinate common goals that require collaborative efforts to be achieved (Sherif, 1958). Research demonstrates the power that superordinate

[4] The construct of shared reality is closely related to empathy, shared humanity, and shared experience in that they all relate to common experiences, similarity, and shared inner states. The central distinguishing feature of shared reality from these other constructs is simply that it requires a shared view or perspective between individuals, whereas the others do not (Echterhoff et al., 2009).

goals can have in dealing with intractable group differences, which, when left untreated, can result in dangerous conflict and even violence (Pyszczynski et al., 2012). Pyszczynski et al. (2012) found that in response to a threat, Americans who were primed with the superordinate goal of stopping the progression of climate change, rather than a more localized threat (i.e., a major earth quake in San Francisco), increased support for global peacemaking efforts and decreased their desire for war against Iran. Thus, being made aware of a shared issue can help facilitate a sense of shared fate, in turn decreasing aggression toward outgroups and increasing desire for cooperation.

Building on the possibility of shared goals and common fate as a motivator for cooperation, another line of research suggests that it is possible to not only create shared goals, but to instill a shared identity. The Common Ingroup Identity Model suggests that intergroup bias and conflict can be improved by highlighting or creating a superordinate group identity that is inclusive of both groups (Gaertner, Dovidio, & Bachman, 1996). Once formed or made salient, the shared larger group identity allows for the reconceptualization of the groups from "Us" and "Them" to an interconnected "We." Empirical evidences supports this proposition, with laboratory experiments demonstrating that superordinate goals exert their influence by creating a superordinate group identity (Gaertner, Mann, Dovidio, Murrell, & Pomare, 1990) and field experiments show that creating a superordinate group identity among racial subgroups increases positive behavior toward minority outgroup members (Ward, Rust, Nier, Gaernter, & Carpenter, 1995). Furthermore, a study of a multicultural high school demonstrated that those that endorsed the superordinate group identity of being American in addition to their ethnic group identity showed reduced outgroup bias and increased desire to cooperate with members of other groups (Gaertner, Rust, Dovidio, Bachman, & Anatasio, 1994). These findings illuminate the promising benefits of highlighting larger group identities among people who hold different moral beliefs.

Greater Understanding of What Morally Divides

Another way to minimize the problems of morality could be to increase understanding of what underlies the moral divide between groups. As discussed above, a driving force underlying intergroup hostility is moral divergence—when other groups do not share our values, we are naturally skeptical of them. However, it is important to note that recognizing that the moral outgroup does not endorse our values is different than understanding what that moral outgroup actually does endorse. In fact, individuals commonly conflate moral difference with the absence of morality (e.g., Pew Research Center, 2016). In other words, they believe that since the outgroup does not endorse their ingroup's morality, then that outgroup must have no morality at all, and it makes perfect sense to fear and avoid those who have no morality at all. But, what if individuals were more aware of the outgroup's

values? For one, they would likely recognize how many moral concerns the two groups actually have in common (see the above sections on the desire for common humanity and similarity), but in addition, they would also begin to understand what underlies many of the beliefs, attitudes, and policies the other side endorses. Then, instead, of viewing the outgroup as immoral, irrational, or crazy, individuals could begin to understand the other side and its perspective, and that should amount to less threat and better interactions between members of the two sides.

Recent research highlights how useful such moral perspective-taking can be. Feinberg and Willer (2015) found that if individuals grasp the moral values the other side strongly endorses, then it becomes possible to speak in terms of those moral values when discussing issues with those on the other side, and as a result, be more convincing to them. For instance, these researchers presented moral arguments in favor of same-sex marriage to participants. In one condition, the moral argument highlighted social justice and egalitarian moral concerns—values that more strongly appeal to liberals. In a second condition, they presented moral arguments appealing to notions of loyalty and patriotism (e.g., "same-sex couples are proud and patriotic Americans")—values that more strongly appeal to conservatives. They found that the arguments framed in terms of loyalty and patriotism were much more persuasive to conservatives than were the arguments framed in terms of social justice and egalitarianism.

In another study, these researchers presented participants with arguments in favor of high levels of military spending. In one condition, the argument appealed to notions of America's world dominance and highlighted how the military engenders a strong sense of patriotism. In a second condition, the argument appealed instead to notions of social justice and leveling the playing field for those most disadvantaged, emphasizing how opportunities the military provides to America's poor and minorities serve as a stepping stone for these individuals to rise up through the ranks of society. In this case, the argument grounded in social justice concerns was much more convincing to liberal participants, resulting in them being more supportive of military spending (see also Feinberg & Willer, 2013; Völkel & Feinberg, 2017).

Although not directly measured in this research, one could imagine that the conservatives in that first study, and the liberals in the second, were able to let down their guard and were less threatened when presented with arguments that resonated with their moral values. But, possibly even more importantly, in order to even begin to make such arguments requires that the messenger recognizes and understands the moral values of the other side. The messenger needs to put himself or herself into the other side's shoes, and doing so is foundational to breeding empathy and respect. Thus, what this research indicates is that a greater recognition and understanding of what morally divides groups can serve as an avenue for shrinking these differences and overcoming many of the intergroup problems that having moral differences often perpetuates.

Of course, it is also important to note that getting individuals to attend to information about the underlying morality of the moral outgroup may be a difficult task. It is far easier and potentially more satisfying to dehumanize the outgroup and portray them as immoral than it is to delve deeply into what makes them tick and empathize with them. For instance, when it comes to the moral-political divide in the United States, many of the most extreme liberals and conservatives would likely prefer to know nothing about those existing on the other side of the divide (see Rokeach, 1960 for similar reasoning). Even so, if knowledge about the underlying moral roots that divide the nation were to reach popular culture, then it would become harder for even the most extreme to ignore this potentially humanizing information—that the other side does have moral values and many of these values are not so different from one's own. As such, it behooves purveyors of popular culture, such as media outlets and politicians interested in overcoming polarization, to spread this knowledge.

Changing Language

Another important way of resolving morality-based intergroup problems is to change the language we use to speak about the other side. As described above, denigrating language helps in the process of delegitimizing and dehumanizing, and can even promote violence. As first described by Lakoff and Johnson (1980), metaphors help us perceive and understand situations and the world around us by connecting abstract notions with more tangible concrete experience. Along these lines, when we call others "barbaric" or "pigs," though we are speaking in metaphor, this language still leads us to psychologically morph these others into a different, lesser category of existence. Such name calling helps ensure that we keep those in the moral outgroup outside our "scope of justice" (Opotow, 1990), giving us permission to not respect them or afford them the decency we would typically afford all human beings.

Similarly, when we use words like "battle" and "war" to describe the dispute between our ingroup and the moral outgroup, though we are not in an actual "battle" or "war," we are still triggering concepts directly related to these metaphors (e.g., danger, death, and killing). This language serves to elicit concepts that help shape and perpetuate conflict (Lakoff & Johnson, 1980). Yet, as harmful as this metaphorical language can be, it has become extremely common. For instance, as mentioned above, politicians readily use violent metaphors in their speeches (Kalmoe, 2012). And, it is not just those directly involved who use such language. Anyone watching the evening news or reading a newspaper article describing the day's events in Washington D.C. will almost assuredly encounter descriptions of Democrats and Republicans "battling" over legislation and "fighting" over who wins control of government. Although commonplace, such language is not necessary. People can just as easily convey information without resorting to violent

metaphors, and if research finds that the use of such metaphors can cause violence (Kalmoe, 2014), there is every reason to think that the absence of this language could tone down a conflict, and that the use of more peaceful language could even foster reconciliation.

Related to this is the question of what language is normative and what language has become socially inappropriate. Over the past century, saying derogatory things about certain groups has become taboo. For instance, making discriminatory or prejudicial statements about minorities or women is so severely looked down upon that most would be shocked to hear such statements (e.g., the "N-word" is not acceptable to use anymore), even though a generation or two ago they were perfectly acceptable. Unfortunately, verbal discrimination of those in the moral outgroup is often still acceptable. For instance, politically prejudiced statements are completely accepted, even lauded. According to Iyengar & Westwood (2015) this is because there are no social norms against such behavior. Yet, taking into consideration, how quickly certain forms of verbal discrimination can be expelled from a society's vernacular via social pressures (e.g., use of "gay" as an adjective of negative evaluation), there is reason to think that if using politically prejudiced language likewise began to be held as taboo, then it would quickly disappear from our vernacular. For instance, if society were to denounce those making politically prejudiced statements and give them a stigmatizing label in the same way individuals using "gay" as an adjective of negative evaluation are now labeled "homophobic," then people would quickly learn to bite their tongue when the urge to demean those on the other side presented itself.

Suggestions for Implementation

The problems with morality are difficult to solve. Impactful solutions require effort from all aspects of society, with an overarching goal of civility and respect for those who hold opposing moral values. Yet, given the nature of morality, it is highly unlikely that the public will spontaneously change the way it thinks and acts with regards to moral divisions. Thus, overcoming the problems of morality falls into the hands of the nation's elites, who ideally care more about a well-functioning society than they care about their moral tribe winning at all costs. It is their responsibility to serve as role models for the average citizen, and it is their responsibility to implement policies that inspire bottom-up cultural shifts toward more civility in society. However, while a shift in the behavior and policies of leaders would be ideal for addressing the negative implications of morality, it is in many ways unlikely given that elites themselves are poised to benefit from perpetuating divides by amplifying the views that their constituents hold. As a result, problems are most likely to be solved by making social psychological research more accessible to policy makers so that they understand the negative aspects implications of morality, and can use this knowledge to implement tailored policies. Ideally,

such policies would be implemented at a large national scale, but truly the policy implications would work at the community level. In line with this, below we discuss different top-down and bottom-up focused strategies that, through educational and governmental institutions, policy makers might incorporate as part of their efforts for overcoming the problems of morality we have reviewed in this article.

Based on the psychological literature reviewed above, policy makers aiming to minimize morality's ability to impede progress could focus on setting guidelines for themselves and the media for how best (for the sake of the nation) to discuss science and political issues. In particular, they could deem certain divisive language inappropriate, and minimize the use of language that invokes outgroup immorality. Presently, many politicians and media outlets exploit morally based differences as a tool for recruiting followers and garnering support. However, such morally divisive language increases the likelihood of impasses not only among elites, but also among the general public since viewers and political supporters learn to incorporate such divisive language into their own vernacular. Thus, it should be a goal of policy makers to either formally or informally remove morally divisive rhetoric and replace it with civil debate, and they should do this for the good of the country—for the sake of upholding the nation's founding principles of civil debate and discourse. One possibility for achieving this might involve forming a bipartisan commission that rates media outlets and politicians based on their level of exacerbating polarization and bending scientific facts. If there are reputational repercussions associated with receiving low ratings, such as reduced advertising demand or negative public opinions, such a rating system might compel politicians and media elites to minimize morally polarizing and antifact-based rhetoric.

Further, when trying to implement policies that are necessary for societal progress, policy makers could be well advised to frame the policy as addressing a common goal to all of society, while eliciting a shared identity. In creating a superordinate goal and highlighting shared humanity, people are more likely to put aside or forget their differences in the pursuit of bettering humankind. For example, in the United States health care policy is a contentious subject. Both sides do not agree on how health care should be provided, however, it is not unreasonable to presume that they would both prefer a society with reduced sickness and death. Or, in relation to accepting innovative technologies, rather than focus on specific aspects of the technologies that give rise to moral opposition, policy makers could emphasize how they improve the functioning of society. In other words, it is important to highlight the shared *ends* that everyone wants to achieve before delving into the different, at times contentious, *means* individuals endorse for achieving these ends.

In addition to important top-down changes in rhetoric by politicians and the media alike, bottom-up processes to combat the problems with morality are also necessary. At the community level, educational and governmental institutions can help facilitate these changes, by helping everyday citizens to adopt these tactics

themselves. In order for a policy intervention at this level to succeed, two things need to occur: (1) citizens need to be made aware that the problem exists and (2) citizens need to educated regarding the proper tactics that should be employed to address the problem. In line with this, people first need to be educated that moral differences exist and that the nature of morality makes these differences more difficult to understand and overcome. A greater awareness of the impact that morality has on society can be fostered through publicly funded media campaigns, education in schools and universities, and intergroup contact programs. These programs can also teach individuals how to deal with these differences and begin to perpetuate a norm against the derogation of others due to moral differences. However, it is also important to note that when developing these programs, it would be of central importance to increase awareness of moral differences in ways that will not exacerbate the problem. Such programs could easily backfire and increase moral divides by making moral differences even more salient. Thus, it is important for these programs to celebrate differences as a positive while also highlighting common humanity and superordinate identity all individuals share.

Policy makers would be further well-advised to increase contact and superordinate goals at the community level to facilitate community building and superordinate identities across ideological divides. By providing opportunities for deliberative dialogue surrounding a community-based problem (e.g., facilitating inclusive community meetings and projects attended by diverse constituents), citizens would have opportunities to get to know each other while working toward a shared goal. Thus, such situations could provide an opportunity to work across moral divides and heal rifts. If such tactics were applied widely by smaller level community groups and municipal governmental institutions, they could help mitigate the problems with morality that exist on the larger national scale.

Final Remarks

Throughout this review, we have argued that morality can cause significant problems that interfere with societal functioning and progress. As a result, Asimov's quote about how our morality can often impede us from doing what is right should now seem much less paradoxical. It *is* possible, even common, for our moral values to lead us to engage in behaviors that we would in most other contexts not consider correct or appropriate. Thus, while morality is often lauded as the pinnacle of goodness, it can also have a dark side.

These insights are key to understanding the problems that morality can cause and then use this knowledge to devise and apply solutions. We hope that this review helps facilitate the development and implementation of solutions that overcome the many problems with morality. Both top-down and bottom-up processes, in combination, can help alleviate the social ills that result from moral convictions and moral differences. Promising solutions based on the literature include facilitating

the perception of shared humanity and increasing empathy, encouraging contact and the common pursuit of goals, aiding moral perspective-taking, and changing the language so that derogating groups with different moral values is considered socially unacceptable.

In conclusion, although these solutions may be challenging to achieve, they are of utmost importance. The problems stemming from morality, especially the rejection of science and technology and politically polarized impasses, reduce our ability to address imminent social ills such as climate change, widespread poverty and hunger. The problems with morality are self-perpetuating, and thus it is important to acknowledge, understand, and address them before they can further impede societal progress.

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CHLOE KOVACHEFF is a PhD student studying Organizational Behaviour and Human Resource Management in the Rotman School of Management at the University of Toronto. Chloe is interested in studying how to motivate individuals and organizations to make meaningful change to address societal ills. To that end, her research examines the interplay between morality, prosociality, and motivation and how these are related to positive organizational outcomes, collective action and individual behavior change. In a related line of research, she also examines the impacts of economic inequality on individual-level prosocial and political behavior. Currently, her research is focused on exploring how an organization's prosocial, moral and socially responsible practices are related to employee perceptions, motivation and performance.

STEPHANIE SCHWARTZ is a PhD student in the Social Psychology department at the University of Toronto. Steph is from St. Paul, Minnesota and completed her undergraduate degree at Lewis & Clark College in Portland, Oregon. Broadly, she is interested in the role of the emotion of disgust in moral judgements and decision-making, the effects of psychological threat on financial decision-making,

and perceptions of technological innovations. Her current research focuses include exploring processes of moral judgment and decision-making surrounding emerging and risky or controversial technologies, as well as developing new, scalable methods to experimentally induce feelings of disgust. Her newest work aims to use technologically mediated forms of payment to reduce immoral spending habits and behaviors.

YOEL INBAR is an assistant professor of social psychology at the University of Toronto Scarborough. He received his PhD in Social and Personality Psychology in 2008 from Cornell University. Since then, Dr. Inbar has worked at Harvard University and at Tilburg University in the Netherlands. Dr. Inbar studies how intuitions and emotions—particularly disgust—affect our social, political, and moral beliefs. His earliest work was on how differences in the experience of disgust relate to social and political attitudes. Since then, he has studied the varied ways in which moral intuitions guide beliefs and judgments, especially in social and political domains. Most recently, he has been interested in understanding the acceptance or rejection of new technologies, such as genetic engineering.

MATTHEW FEINBERG is an Assistant Professor of Organizational Behaviour and Human Resource Management at the Rotman School of Management at the University of Toronto. He earned is PhD in Social and Personality Psychology in 2012 from the University of California, Berkeley. His research explores the interpersonal and psychological processes that unite people together to form cohesive and productive groups, organizations, and societies, as well as the underlying processes that divide people into opposing and polarized groups. His focus is particularly on the role morality, emotions, and status concerns play in these processes.