

Receptiveness to Opposing Views: Conceptualization and Integrative Review

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In the current manuscript, we describe a growing body of research on receptiveness to opposing views – a mindset that captures the intrapsychic as well as behavioral elements of seeking out and thoughtfully engaging with disagreeing others. We first define the underlying construct and situate it in the prior literature examining related phenomena. We then provide an overview of recent findings regarding the measurement of receptiveness and its effects on cognitive processing at the level of the individual. We theorize and provide evidence for receptiveness being composed of four distinguishable components and review prior interventions in terms of which of the four components each intervention primarily targets. Finally, we extend our theorizing to the interpersonal level, arguing that receptiveness to opposing views is mutually constituted by both individual characteristics and the social environment.

“I don’t like that man.
I must get to know him better.”

-- Abraham Lincoln

A pernicious problem confronting virtually all human societies is people’s unwillingness to engage with views and opinions that they do not share, particularly ones that they find antithetical to their most dearly held and identity-relevant beliefs. Lack of such willingness is particularly insidious because it prevents groups from effectively solving entire classes of *other* social coordination problems that rely on thoughtful and respectful interaction with disagreeing others. For example, the COVID-19 pandemic led to heated clashes over government attempts to combat the spread of the virus that some perceived as impinging on individual freedoms, and to widespread debates over trade-offs between health risks versus economic harms. Partisan rifts led individuals to make consequential decisions about their health and wellbeing and the health and wellbeing of those around them along ideological lines (Ballew et al., 2020; Tyson, 2020).

Although problems that could benefit from improved collaboration among holders of divergent views are most salient in the public policy sphere, they also permeate organizational and even domestic relationships (Gordon & Chen, 2016). For example, an extensive literature in organizational behavior addresses the manner in which teams handle disagreement because a team’s approach to task conflict predicts team productivity (De Dreu & Weingart, 2003). Relatedly, research on close relationships has focused on the manner in which significant others express and engage with disagreement (Gottman, 1994), because the quality of such engagement predicts relationship satisfaction and even divorce.

In the current manuscript, we describe a growing body of research on receptiveness to opposing views (Minson et al., 2019) – a mindset that captures the intrapsychic as well as behavioral elements of seeking out and thoughtfully engaging with disagreeing others. We first define the underlying receptiveness construct and situate it in the prior literature. In so doing, we integrate prior research literatures that have examined related phenomena and offer both a precise conceptual definition of receptiveness and a method for assessing it.¹ We then provide an overview of recent findings regarding the effects of receptiveness on cognitive processing at the level of the individual. We theorize and provide evidence for receptiveness being composed of four distinguishable components. Next, we review prior interventions to increase receptiveness in terms of which of the four components each intervention primarily targets and identify promising areas for future intervention design research.

An important aspect of our theorizing distinguishes it from prior work on related constructs that focused on cognitive, emotional, and behavioral processes at the level of individual actors. Namely, we conceptualize receptiveness as a phenomenon that is mutually constituted by individual behavior and the social interactions and relationships within which it emerges. In other words, one’s receptiveness to opposing views both shapes and is shaped by the social environment. Thus, although we can measure receptiveness as it exists in the mind of individuals (and indeed, measuring it this way is helpful for predicting what those individuals will bring to an interaction), we argue that it is essential to conceptualize and measure receptiveness at multiple levels of analysis.

¹ Throughout the manuscript we use the term “receptiveness” to refer to a latent construct that can be measured continuously, and whose two extremes along the continuum can be thought of as being in a “receptive mindset” or an “unreceptive mindset.” When referring to “receptiveness,” the term “receptivity” would also be appropriate.

Finally, we discuss how viewing receptiveness as an emergent property of social interactions has important implications for the design of interventions that we believe are likely to be most effective—at levels from the individual to the societal.

A large body of work on attitude change has identified various personality and contextual factors that contribute to the likelihood that someone will change their beliefs when presented with new evidence supporting a view they do not share. However, there has been less attention to what factors predict whether or not someone is willing to open-mindedly and impartially engage with someone expressing opposing views in the first place. We argue that contact with and attention to holders of opposing views is a necessary precondition to building civil relationships across ideological lines and may promote conflict resolution over the long term—even in the absence of immediate attitude change. Thus, it is important to understand what factors predict these processes.

What is Receptiveness?

We define receptiveness as one’s willingness to access, consider, and evaluate opposing views in a relatively impartial manner (Minson et al., 2019) in the midst of attitude conflict. Thus, being high on receptiveness constitutes being in a “receptive mindset.” Attitude conflict (Judd, 1978) arises when two individuals hold different views on deeply held, identity-relevant issues. It differs from mere disagreement in that it often features opposing claims about facts and priorities that put into question opponents’ morality, intelligence, and even basic grasp on reality. Though attitude conflict is frequently observed against the backdrop of armed conflict (Maoz et al., 2002), it is also possible for it to exist in absence of violence or conflict over specific resources. This may

be the case, for example, when two citizens of one country vehemently disagree about the human rights abuses being perpetrated by the government of another country or when parents of grown children relitigate their past parenting choices. Attitude conflict plays a prominent role in current American political polarization with recent research demonstrating that partisan animus is only loosely related to corresponding policy positions (Iyengar et al., 2012).

A voluminous prior literature has examined the pitfalls in communication that arise when individuals interact with disagreeing others. For example, research on the phenomenon of selective exposure (Frey et al., 1986; for a review see Hart et al., 2009) has repeatedly demonstrated that people avoid consuming content that contradicts their beliefs, even when such avoidance carries immediate and tangible costs (Frimer et al., 2017). Research on confirmation bias, has shown that people are more likely to seek out, attend to, and recall belief-confirming evidence (see Nickerson, 1998 for an extensive review). And research on the phenomena of “naïve realism” (Robinson et al., 1995; Ross & Ward, 1995, 1996) and dehumanization (Bar-Tal, 2000) has shown that people readily derogate the views and even the basic humanity of disagreeing others. Relatedly, a large literature invokes the phenomenon of “motivated reasoning” to describe flawed inferential processes and thus flawed conclusions driven by individuals’ desire to maintain cherished beliefs (Ditto & Lopez, 1992; Taber & Lodge, 2006).

These biases, previously examined individually, can be roughly arranged along an information processing sequence which begins with individuals being exposed to a communication, continues with attentive processing of that communication, and results in an evaluation of the quality or veracity of the proffered information. Such sequential

accounts have frequently appeared in the classic literature on attitude formation and change (e.g. Eagly & Chaiken, 1998; McGuire, 1968; Petty & Cacioppo, 1996). When we apply this sequential information processing framework to communication in attitude conflict, it becomes clear from the existing literature that people exhibit bias at every stage when communicating with disagreeing others. Specifically, parties treat evidence and arguments by and for their side of the issue differently than evidence by and for the opposing side when deciding which information to be exposed to, how much attention to devote to it, and the evaluation to ultimately render.

In the current manuscript, we integrate this prior research and report ongoing work examining a construct that serves to unify much of this prior work – receptiveness to opposing views (Minson et al., 2019). Specifically, we expect higher receptiveness (i.e. being in a receptive mindset) to attenuate biased processing at three stages of information consumption outlined above: (1) information seeking, (2) information attention, and (3) information evaluation. Behaviorally, this means that people higher in receptiveness are more willing to expose themselves to balanced information on both sides of an issue, give more equal attention to information supporting both perspectives, and evaluate relevant arguments more equitably.

We consider high receptiveness to be a “mindset” – a habitual, directed approach to encounters with opposing views that brings online a suite of correlated affective, cognitive, and behavioral reactions. The opening quote by Abraham Lincoln is an apt illustration of this pattern of responding. We use the term “mindset” in a manner similar to Gollwitzer’s work on implemental or deliberative mindsets (Gollwitzer, 1990; Gollwitzer & Bayer, 1999), and Dweck’s work on growth versus fixed mindsets (Dweck,

2003). This conceptualization has two implications. First, like any habitual response, while largely stable from one situation to another, one's receptiveness can also be affected by contextual factors and can shift over time. For example, a person might be receptive to a message or a speaker, reflecting a temporary adoption of the receptive mindset. However, the frequency and the ease with which an individual adopts a receptive mindset represents an individual difference in one's habitual level of receptiveness. Second, because receptiveness involves affective, cognitive, and behavioral reactions to attitude conflict we have taken a variety of approaches to measuring the construct and its manifestations. Thus, in our research, we have measured receptiveness via self-report, laboratory measures of individual cognitive processing, and in interpersonal behavior.

In the following sections we begin by describing an individual-difference measure of receptiveness that shows test-retest reliability over the span of months and suggests that, to some extent, frequently being in a receptive mindset is a trait. We also, however, consider various strategies that can be used to manipulate receptiveness. Our conceptual analysis and various empirical attempts suggest that increasing receptiveness is a non-trivial challenge. However, related findings in the prior literature offer some promising possibilities. Thus, we see receptiveness as both stable and malleable, depending on the balance of forces acting on an individual at any given time.

We then go on to discuss receptiveness in interpersonal interactions. Because one's receptiveness always exists in reaction to a point of view offered by another, any attempts to understand or increase receptiveness should be deeply informed by the social context. Therefore, our key claim (and a departure from much prior research), is that

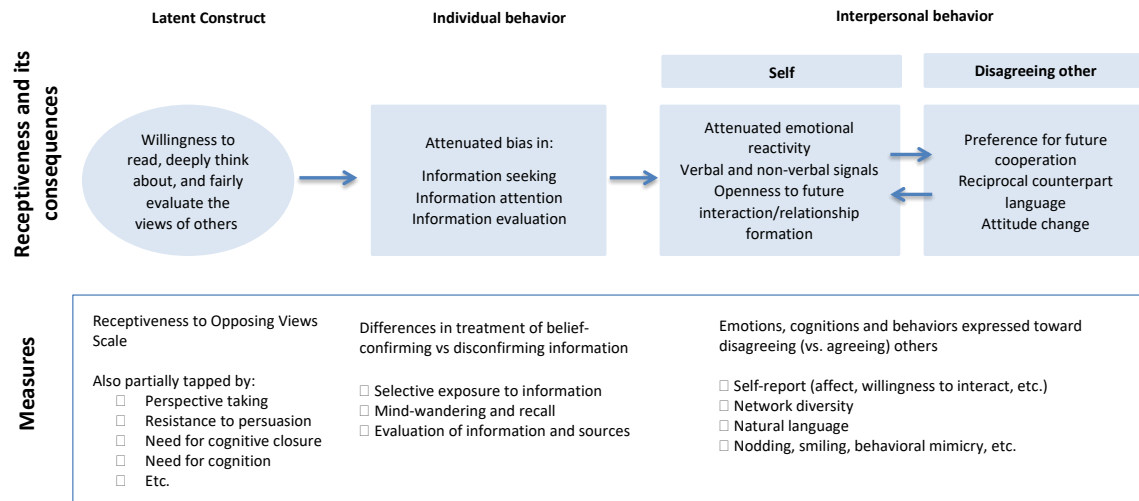
receptiveness should be studied at both the individual and at the interpersonal (dyadic, small group, and societal) levels.

Figure 1 presents receptiveness—the latent construct represented by the oval—and its various downstream consequences. Although we cannot directly measure the latent construct, we have developed a questionnaire measure that allows individuals to self-report on it. Because responses on the Receptiveness to Opposing Views scale correlate with several other conceptually related scales, we view those measures as also partially tapping into receptiveness.

We theorize that one's level of receptiveness impacts individual-level behavior with regard to how people seek out, attend to, and evaluate belief-confirming versus -opposing information. Individual level behavior, in turn, impacts the behavior of other individuals, particularly that of disagreeing others. The relationship between one's own behavior with regard to opposing views and the behavior of others toward the self is bi-directional, with each impacting the other. In our work, we have used a variety of measures to capture these tendencies (listed in Figure 1).

In the sections below, we unpack these ideas by first presenting research that examines receptiveness at the individual level, focusing on self-report and cognitive processing measures, before moving on to how receptiveness impacts encounters between disagreeing counterparts. Throughout, we discuss prior interventions for increasing receptiveness and promising future directions. We conclude the paper with a consideration of open empirical and theoretical questions.

Figure 1: Receptiveness to opposing views, its consequences for individual and interpersonal behavior, and relevant measures



Receptiveness in Individuals

To directly measure self-reported receptiveness, we have developed a “paper and pencil” scale which we have found to be a robust predictor of related behavior (Minson et al., 2019). Our measure consists of 18 Likert-style items, which require individuals to agree or disagree with statements such as “Listening to people with views that strongly oppose mine tends to make me angry” or “I like reading well thought-out information and arguments supporting viewpoints opposite to mine.” The scale overall possesses strong internal, convergent, and divergent validity (Minson et al., 2019).

The items on the scale cluster into four subscales, each of which describes a component of receptiveness. The first of these factors (“negative emotions”) conceptually corresponds to emotional reactions to attitude-incongruent views including anger, frustration, and disgust. The second factor (“curiosity about opposing views”) consists of items which reflect a desire for greater insight and information about the beliefs of others.

The third factor (“derogation of opponents”) consists of items capturing a set of negative beliefs regarding holders of opposing views, their intelligence, and their motives. Finally, the fourth factor (“taboo issues”) corresponds to a set of beliefs that some topics are off limits and are not subject to debate.

Consistent with our theorizing, we find that individuals who report greater receptiveness on our scale, do indeed process belief-supporting and opposing information in a more impartial manner than less receptive individuals. First, when faced with a choice of which information to consume, receptive individuals are more willing to expose themselves to the opposing views of others. In one of our studies, more receptive participants were more willing to read the websites of senators from the opposing party relative to their less receptive counterparts. After the 2016 U.S. Presidential election, voters who reported being more receptive but voted against President Trump, were relatively more willing to watch his inaugural address than their less receptive counterparts (Minson et al., 2019).

Secondly, more receptive individuals demonstrate a more equitable attentional focus on both attitude-confirming and attitude-disconfirming information, showing a lesser tendency to disengage with information incongruent with their position. For example, using a mind-wandering paradigm, we find that although in general people tend to mind-wander more when watching political content that they disagree with rather than agree with, greater receptiveness attenuates this gap.

Finally, even after having been exposed to and having considered opposing views, individuals typically still find ways to denigrate undesirable evidence. However, we find that more receptive individuals evaluate argument quality and argument sources in a

manner that is less affected by whether the argument supports or opposes their prior positions, even in the context of heated debates such as U.S. immigration policy.

In sum, our data suggest that receptiveness toward opposing views operates at the three distinct stages of information consumption we outlined above. At each stage, higher receptiveness is characterized by smaller differences in an individual's treatment of attitude-confirming versus attitude-disconfirming information. Interestingly, although the self-report scale we developed consists of four conceptually and empirically distinguishable subscales, we do not find that specific subscales are more or less predictive of behavior at different stages of information processing. Instead, it appears that engagement with opposing views is driven by all four subscales in concert. Together, these results suggest that rather than being entirely separate phenomena, many of the cognitive biases that have been documented in communication among disagreeing parties, in fact stem from a common source – a lack of receptiveness.

Receptiveness and Attitude Change

Given the voluminous literature on attitude formation and change in social psychology, it is important to articulate the relationship between receptiveness and these constructs. Specifically, does being more receptive also mean being more open to persuasion?

Both our theorizing and our empirical results suggest that high levels of receptiveness are neither necessary nor sufficient for attitude change. Persuasion through a peripheral route (Petty & Cacioppo, 1986a; 1986b) can lead to attitude change in absence of thoughtful exposure to, consideration, or recall of relevant arguments (e.g.

Fitzsimons et al., 2002), suggesting that receptiveness is not a necessary condition for persuasion. More importantly, perhaps, receptiveness is also not sufficient because a highly receptive listener may still find the evidence supporting their own views to be more substantial, more relevant, or more credible. After thoughtful and unbiased consideration that characterizes high levels of receptiveness, individuals can still decide to retain their prior attitudes and “agree to disagree.” Indeed, in our studies we do not find that people who report being more receptive change their minds more frequently than people who report being less receptive (Yeomans et al., 2020).

Yet, it also seems likely that over time, receptive individuals who more frequently and thoughtfully expose themselves to opposing ideas ought to come to embrace more moderate positions. Even if receptiveness does not obligate one to change one’s mind during a given interaction, a lifetime of receptiveness should lead to the discovery of some good arguments for “the other side.” In support of this conjecture, we do find that greater receptiveness is correlated with holding more moderate attitudes with regard to several hot-button policy debates (Minson et al., 2019).

Receptiveness and Other Related Constructs

Receptiveness to opposing views is both related to and conceptually distinct from several well-established individual difference constructs including Openness to Experience (John & Srivastava, 1999), Need for Cognition (Cacioppo et al., 1984), and Need for Cognitive Closure (Webster & Kruglanski, 1994). In developing our scale, we have observed high levels of divergent validity relative to these potentially related traits (Minson et al., 2019). An important feature that distinguishes receptiveness from the

scales cited above as well as several others we have tested, is that whereas other scales have typically focused on how people respond to novel information and experiences in general, receptiveness specifically compares how people approach information that supports versus contradicts their own deeply-held views. In other words, receptiveness predicts the *difference* in how effortfully and thoroughly supporting versus opposing views are considered, as opposed to overall depth of processing, engagement, curiosity, etc.

In addition to other self-report measures, it is important to consider how receptiveness relates to well-researched constructs that do not have associated scales. Perhaps most relevantly, the literature on motivated reasoning (see Kunda, 1990 for a review), suggests that, in some situations, individuals' behavior is driven by their desire to believe in a certain state of the world (e.g. Dawson, Gilovich, & Regan, 2002). Work on motivated reasoning has been done both in contexts of disagreement when individuals fail to give weight to information that contradicts their beliefs and in asocial domains where individuals avoid information that may challenge a desired conclusion (e.g. objective facts about the state of one's physical or financial health).

An important distinction between motivated reasoning and receptiveness is that research on motivated reasoning primarily concerns itself with the state of a person's *beliefs*. Research in this area has generated evidence for the idea that people are protective of certain beliefs and behave in ways intended to preserve them (e.g. Ditto & Lopez, 1992). By contrast, receptiveness captures the amount of engagement with opposing views, irrespective of the final conclusion that is reached. As noted above, an individual can behave in a highly receptive manner and not change their mind. Similarly,

an individual may avoid contact with holders of opposing views not because they are seeking to protect a set of beliefs, but because they feel a powerful emotional aversion to such contact. Thus, motivated reasoning and the desire to defend specific beliefs that is hypothesized to cause it, can be considered as one, but not the only, cause of low receptiveness.

Receptiveness to opposing political views also calls to mind work on the construct of political tolerance (Sullivan et al., 1993), which examines the extent to which individuals are willing to afford political rights to maligned groups. As in the case of motivated reasoning research, political tolerance research focuses on a specific outcome: whether or not a particular group should have political rights. We consider receptiveness to be a broader construct that encompasses several additional affective, cognitive, and social outcomes beyond affordance of political freedoms. Furthermore, receptiveness deals with disagreement across a broad range of topics (child-rearing, professional ethics, etc.) rather than focusing on disagreement arising from one's membership in a particular group.

Increasing Receptiveness

As described above, our self-report scale is made up of four subscales that initially emerged from our prior theorizing (Chen et al., 2010), as well as open-ended participant reflections. Beyond shaping the psychometric structure of the self-report scale, the four subscales can be thought of as capturing the psychological and social forces that advance versus impede one's ability and willingness to maintain a receptive mindset. Considering the subscales as tapping into specific forces that affect an

individual's level of receptiveness also allows us to theorize about the effectiveness of various interventions.

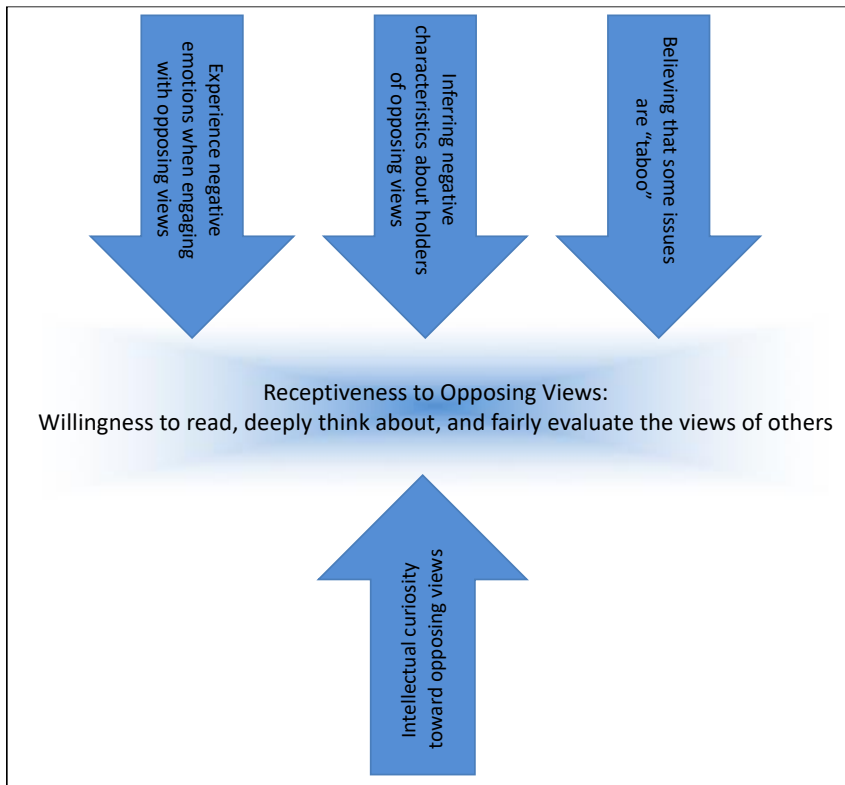
To recap, receptive people report being curious about the beliefs of disagreeing others and are interested in understanding the bases for opposing views. This is captured in our "curiosity about opposing views" subscale. By contrast, people low on receptiveness report higher levels of negative emotions including anger, disgust, and frustration when considering disagreeing others and their views, captured in the "negative emotions" subscale. They also report a greater willingness to derogate disagreeing others, believing that opposing beliefs are driven by nefarious motives and that arguments in support of those beliefs lack merit ("derogation of opponents"). Finally, low receptiveness is characterized by considering specific issues to be "taboo" and beyond the pale of public discourse ("taboo issues").

Figure 1 presents the four subscales using a Lewinian "force field" style of visualization (Lewin, 1943), with the factor that is positively associated with receptiveness (curiosity) represented with an upward arrow, and the other three factors that are negatively associated with receptiveness represented with downward arrows. A few insights emerge as a result of visualizing the construct in this manner.

First and most obviously, more psychological forces oppose receptiveness (three) than support it (one). Although we have no way of knowing the relative strength of any given force within any one individual, it seems likely that the combined power of culturally-driven beliefs about which issues are "taboo," biased beliefs regarding disagreeing others, and affective reactions to conflict will, in most cases, outweigh the intensity of one's curiosity about opposing views. The simply greater number of

psychological processes that reduce receptiveness rather than enhance it may explain why the overwhelming majority of studies show that individuals avoid, ignore, and disparage opposing views to a greater extent than belief-confirming views.

Figure 1: Psychological processes affecting receptiveness levels.



Identifying the forces that enhance versus impede receptiveness allows for a more systematic consideration of past and future interventions. Specifically, we propose that receptiveness can be increased by boosting intellectual curiosity, or by reducing the three impeding forces, either individually or in combination. Indeed, most prior work on inducing more balanced engagement with belief-supporting versus -opposing information can be organized in terms of which force or forces the intervention primarily targeted. In the sections below, we provide examples of prior interventions that targeted each of the

forces. We begin with the forces that have been addressed more frequently in prior research, followed by those that have received less attention and thus present interesting opportunities for future research.

Interventions to decrease derogation of opponents: Several studies in the “cognitive biases” tradition have examined interventions that lead individuals to make more charitable attributions for disagreeing others and their beliefs. Many of these studies achieve this outcome by teaching partisans about particular biases or providing them with favorable information about disagreeing others. For example, in one study, simply raising awareness of naïve realism (the tendency to see one’s own views as fundamentally objective and reasonable) led to greater openness to an adversary’s narrative (Nasie et al., 2014).

Relatedly, some interventions have focused directly on reducing the tendency to see all outgroup members as alike or to hold overly positive views towards in-group members. Increasing perceived variability of out-group members and providing individuating information reduced prejudice and discrimination (Brauer et al., 2012; Bruneau et al., 2015). Similarly, increasing perceptions of in- vs out-group similarity and inducing people to extend their belief in a “good true self” to out-group members, decreased bias and reduced aggression (De Freitas & Cikara, 2018; Kimel et al., 2016). Fostering perceptions of group malleability (i.e., teaching people that groups are capable of change and improvement) led to more positive attitudes towards the out-group and willingness to compromise (Halperin et al., 2011). This result is particularly striking, as it was documented over a 6-month period of intense intergroup conflict between Israelis and Palestinians (Goldenberg et al., 2018).

Other studies in this tradition have attempted to improve attributions about disagreeing others by restructuring how partisans interact or imagine interacting with each other. A classic study in this tradition encouraged individuals to “consider the opposite” (Lord et al., 1984), thus leading people to see more merit in arguments and evidence for an opposing point of view. Similarly, asking people to take an opponent’s perspective (i.e., to actively consider their mental states and experiences) leads them to express more favorable evaluations of the opponent’s group, increases approach-oriented action tendencies, and heightens recognition of intergroup disparities (Todd & Galinsky, 2014). A related technique practiced by conflict resolution professionals requires parties in conflict to re-state each other’s views in a way that would be endorsed by the opposing party (Coltri, 2010). Indeed, simply being asked to imagine talking to an out-group member has been found to reduce implicit prejudice for that out-group (Turner & Crisp, 2010).

Interventions to decrease negative emotions: Another substantial body of work has focused on the emotional barriers to receptiveness, recognizing that engagement with opposing perspectives is often avoided because people experience, or expect to experience, negative affect as a result (Dorison & Minson, 2020; Festinger & Carlsmith, 1959; Hart, et al. 2009). For example, work on cognitive reappraisal (Gutentag et al., 2017; Tamir et al., 2019) has targeted the affective component of receptiveness by leading individuals to re-interpret disagreement in a way that generates a different, less aversive, suite of affective responses. Relatedly, recent work on de-biasing affective forecasts in conflict (Dorison et al., 2019), has induced individuals to engage with holders of opposing views by leading them to recognize that exposure to opposing views will not

be as negative as they expect it to be. In a study focused on past rather than future negative affect, Hameiri and Nadler (2017) found that having one's past negative emotions (victimhood and suffering) acknowledged by the other side, resulted in increased trust and conciliatory attitudes in the acknowledged party.

Interventions to boost curiosity toward opposing views: Although research in this area has been limited, our theorizing suggests that interventions that lead individuals to recognize the gaps in their own understanding of a hotly contested topic (cultivate “intellectual humility” (Bowes et al., 2020; Krumrei-Mancuso & Rouse, 2015; McElroy et al., 2014) may increase receptiveness. For example, research on the “illusion of explanatory depth” (Fernbach et al., 2013) has shown that instructing participants to explain complex policy issues in detail leads them to appreciate the limits of their knowledge and adopt less extreme policy views. To the extent that receptiveness is correlated with holding less extreme positions, this may be a promising area for future research.

Indeed, Loewenstein's information gap theory (1994) suggests that exposure to new, inconsistent, or ambiguous information can heighten curiosity. Thus, presenting alternative viewpoints in a novel, unexpected, or incomplete way (for example, as a partial or “cliff-hanger” narrative that requires the recipient to seek information), may be effective in increasing receptiveness especially for people who initially express little or no curiosity about opposing perspectives.

Increasing engagement with “taboo” issues: Even more limited research has examined interventions to change individuals' beliefs about which issues are “taboo,” such that discussion of them is no longer seen as inappropriate or dangerous. Some

relevant interventions have involved framing a position that a person or group might normally find offensive in a way that more closely aligns with that specific person's or group's core moral values (e.g., care, fairness, loyalty, authority, sanctity; Graham et al., 2009). These "moral reframing" interventions have been found to increase the persuasiveness of an argument directed at specific audiences (Feinberg & Willer, 2019).

It is perhaps unsurprising that only limited attempts to intervene on taboo issues have been published, since such beliefs are likely to have deep cultural roots that are continually reinforced by one's social environment. Indeed, offering material incentives to encourage people to compromise over a sacred value can backfire, leading to heightened opposition to such compromise (Ginges & Atran, 2013). Despite the relative paucity of research on this topic, interventions that can address the extent to which individuals believe certain key issues are taboo, may be a particularly powerful way to increase receptiveness. Indeed, the taboo issues force may be to some extent "foundational" in fostering biases that lead to a lack of receptiveness. For example, if an individual believes that a certain set of topics is beyond the pale of discussion (perhaps because the "truth" had been divinely revealed, or because a certain set of behaviors is so fundamental to common sense and morality as to be unquestionable), this individual is unlikely to look with curiosity and emotional equanimity upon those who disagree with this basic "truth." Instead, it would be natural for them to derogate disagreeing others who, in their view, hold opinions that are either immoral or at the very least grossly inaccurate. Thus, it appears that interventions that expand the universe of topics that individuals consider appropriate to debate and re-evaluate may play a particularly important role in increasing receptiveness.

Receptiveness in Interpersonal Behavior

The above presentation of our own and related research findings on receptiveness has focused exclusively on the measurement and consequences of the construct at the individual level, relying primarily on measures of cognitive processing, and individual attitudes. However, a key feature of receptiveness is that it is fundamentally an interpersonal construct. One cannot be receptive in a social vacuum. Instead, receptiveness (or lack thereof) emerges in reaction to encountering an opposing view that originated with some other individual or group. Previous work on related constructs has largely bypassed examining how they are expressed and perceived in social contexts and how they affect long-term relationships. In this section, we review our recent research on the effect of receptiveness on interaction between partisans. We begin by reviewing findings on the effect of self-reported receptiveness on social interaction. We then move on to examining expressions and perceptions of receptiveness in conversation. We conclude with highlighting important areas for future research into the interpersonal dynamics of receptiveness.

In line with our earlier results regarding differences in willingness to read or listen to recorded information supporting opposing perspectives, we find that individuals who report higher levels of receptiveness are also more willing to engage socially and professionally with disagreeing others. In a study conducted with a group of senior executives in state and local government, we found that more receptive participants were more willing to be paired with a disagreeing partner for an upcoming decision-making exercise, believed their partner to have better judgment, and were more likely to

nominate their partner to represent them to others (Yeomans et al., 2020). Relatedly, we also find that more receptive individuals who are provided with a personality profile of a potential relationship partner report more willingness to form close relationships with the target than less receptive individuals (Reschke et al., 2020).

The above findings suggest that receptiveness has effects beyond the controlled confines of a laboratory experiment and may be a powerful enough tendency to direct interpersonal behavior “in the wild.” This is important because engaging with opponents in an academic or professional setting has real risks ranging from mere annoyance to severe conflict. The fact that individuals are willing to think about or read opposing views in the laboratory, does not necessarily mean that they would want to collaborate or befriend those on the other side of the conflict. Yet, people’s receptiveness appears to predict their willingness to embrace and navigate such risks, above and beyond other existing measures.

Expressing and Evaluating Receptiveness

In order for receptiveness to influence behavior in interpersonal interaction, parties in conflict must be able to communicate their own level of receptiveness and also accurately evaluate the receptiveness of others. But can a person’s receptiveness be detected by others? And if so, does expressing receptiveness actually lead to better, more productive discussions around divisive issues? To examine these questions, we asked participants in one of our studies to engage in an online chat regarding a controversial policy issue and then to rate their own and their partner’s receptiveness (Yeomans et al., 2020) using a modified version of our scale. Several interesting results emerged.

As reported above, participants were much more willing to engage in future interaction with partners who they saw as more receptive, even controlling for their objective level of disagreement. Interestingly, however, there appeared to be a gap between individuals' evaluations of their own receptiveness in the course of the conversation and how receptive their partners evaluated them as being. Although our prior research has demonstrated that self-reported receptiveness is a reliable predictor of an individual's approach to opposing views, it appears that individuals in conflict struggle to express this tendency.

To understand this gap, we developed a natural language processing (NLP) algorithm that identifies features of language (words, phrases, and syntax) that predicted how receptive a particular individual was *perceived* as being by their partner (Yeomans et al., 2019). After being tested on multiple datasets covering a range of topics, our algorithm can reliably predict the extent to which a particular piece of text will be seen as expressing receptiveness. The ratings generated by the algorithm are highly correlated with independent human assessments. Importantly, the algorithm can be used to identify the differences between features of text that are credited as being receptive by perceivers versus actors.

We refer to language that recipients experience as being particularly receptive as “conversational receptiveness” and find that it consists of an interpretable set of linguistic cues. For example, text that is rated as being high on conversational receptiveness (by both humans and our NLP algorithm), contains frequent examples of acknowledgement such as “I understand that...” or “You are saying...” Receptive text also contains expressions of positive affect and hedging “Sometimes...” “Perhaps...” Conversely,

receptive text is low on negation (e.g. “does not,” “will not”) and explanatory language (e.g. “because,” “therefore”). More broadly, conversational receptiveness seems to involve donating some of your own airtime in an argument, that could otherwise be spent promoting your own views, on acknowledging your counterpart’s position and pointing out common ground.

Defining and measuring conversational receptiveness using natural language processing has allowed us to identify how this behavior is enacted, perceived, and evolves in “real time” (without requiring pauses in a conversation for participants to answer questionnaires). Using this method, we find that conversational receptiveness is trainable, persuasive, and “contagious.” Individuals who received brief instructions to respond to opposing views based on the linguistic cues identified by our algorithm were not only perceived to be more receptive by their counterparts, they also elicited more attitude change in those counterparts. Thus, conversational receptiveness appears to both increase one’s chances of future contact with opponents and one’s chances of actually impacting their beliefs.

Importantly, the development of the algorithm also allows us to understand the errors that individuals make in evaluating and communicating their own receptiveness. Unlike language that recipients perceive to be receptive, language that speakers believe to communicate receptiveness is characterized by politeness and formality instead of active engagement. For example, individuals who reported being receptive themselves used formal greetings (e.g. “Sir”), avoided curse words, and expressed gratitude, but failed to use most of the other linguistic signals that recipients actually valued. More broadly, the distinction between having a receptive *cognitive* approach to opposing views and being

able to *express* that tendency suggests that generating more receptive interactions and building a more receptive society requires not only generating more cognitive receptiveness (as prior interventions have sought to do), but also training individuals how to communicate their receptiveness through their behavior.

Thus far, our work on expressing receptiveness has focused on verbal cues. However, it seems very likely non-verbal signals augment these verbal signals to paint a more accurate picture of one's underlying mental state. For example, non-verbal signals of conversational involvement (e.g., nodding, smiling and relaxed laughter, facial animation, forward lean; Burgoon & Koper, 1984; Coker & Burgoon, 1987), may also serve to communicate a listener's receptiveness. Mimicking the postures, mannerisms, and facial expressions of a conversational partner (either consciously or non-consciously, as in the "chameleon effect", Lakin et al., 2003) may similarly signal a less combative mindset. Careful empirical work in this space is important, as results are often surprising. For example, in our own work we found that eye contact, broadly considered to be an affiliative signal, decreases receptiveness when it is deployed in the context of attitude conflict (Chen et al., 2013). What comes across as a signal of warmth in one context, can be seen as a challenge in another.

Receptiveness may also be signaled by additional conversational features that are difficult to capture in short, structured exchanges between strangers. For example, our earlier work has shown that people who ask questions requiring the speaker to elaborate on their perspective are viewed as more receptive (Chen et al., 2010). Lack of receptiveness may also be marked by changing the topic, or even physically exiting the conversation. Furthermore, long-term relationship partners may grow to recognize each

other's idiosyncratic "tells" of being or not being in a receptive mindset, even if those signals are not informative between strangers. Future research should explore the nuances of conversational receptiveness across a range of situations and relationships and identify which conversational cues most reliably correlate with the relevant cognitive state.

The fact that an individual may be in a receptive mindset but fail to express it, combined with the idea that individuals who do not feel particularly receptive can be trained to sound as if they do, raises a set of interesting questions. It may be the case for example, that trained conversational receptiveness is effortful and will easily dissipate in a live interaction with a disagreeing counterpart. By contrast, it may be the case that trained receptiveness generates a virtuous cycle in which counterparts reciprocate each other's apparent engagement, leading to more productive conversations, and ultimately to genuinely adopting a receptive mindset. Understanding the dynamics of expressed versus cognitive receptiveness over time, and particularly in the midst of conflict, is an important area for future research.

Receptiveness as a Multi-level Construct

The above discussion makes it clear that although receptiveness can be measured in the mind of a single individual, it also affects social outcomes by shaping the behavior of the parties involved. In this sense, receptiveness can already be thought of as an interpersonal construct because the behaviors that are affected by receptiveness are inherently interpersonal behaviors. (We can contrast this for example, with conscientiousness (John & Srivastava, 1999) – a construct that exists in the mind, and affects behavior, but not necessarily interpersonal behavior). In this section, we go

beyond the implications of individual level behavior for social interaction and suggest that receptiveness can also be measured at the group level (dyadic or larger). We theorize that measuring and manipulating receptiveness at the group level can lead to unique insights about the dynamics of the construct as well as intervention opportunities.

For example, our analyses of several datasets consisting of conversations between disagreeing counterparts have led us to believe that conversational receptiveness affects both individual and conversation-level characteristics. In one such study, we analyzed a dataset of online discussions by Wikipedia editors regarding proposed edits on the platform. We found that conversational receptiveness expressed during the first round of the discussion predicts not only the conversational receptiveness at the end of the discussion, but also the probability that the discussion will lead to a personal attack launched by one party against the other (Yeomans et al., 2020). Relatedly, in a large dataset of forum discussions in an online course, we see that the conversational receptiveness of an initial post predicts the conversational receptiveness of the replies, even controlling for the average level of receptiveness exhibited by the same students in other online conversations. These findings suggest that in addition to being detectable in text that is produced by a single individual, conversational receptiveness can emerge as a property of the conversation itself, as discussants coordinate and shape their mutual approach to the situation and each other.

In another recent paper, we examined the effect of receptiveness on the formation of social networks (Reschke et al., 2020). For this study, we collected measures of receptiveness, extraversion (John & Srivastava, 1999) and self-monitoring orientation (Lennox & Wolfe, 1984) from incoming Master's students at three different universities

when they had first arrived to their respective campuses. These students then reported their friend networks several weeks later.

In line with our predictions, individuals who were more receptive formed networks that were more politically diverse, but only when they encountered interaction partners who were also highly receptive. In other words, it was the joint receptiveness of the dyad that predicted the formation of a network tie between holders of opposing political views, not the individual receptiveness of either dyad partner. In the same study, we also found that receptiveness moderated the tendency of political majority members to form social networks primarily comprised of other majority members. When members of the political majority were more receptive, they were more likely to reach out and form a network tie with a similarly receptive member of the political minority. Thus, mutual dyadic receptiveness and the structural features of the network (presence of majority and minority factions) interacted to affect the formation of close relationships in a field setting.

These findings suggest a multi-level model of receptiveness, that while somewhat speculative at the moment, points to fascinating directions for future research. Specifically, we propose that when holders of opposing views encounter each other, their interaction is shaped by the individual levels of receptiveness of the actors. Throughout the course of the interaction the receptiveness of individuals shapes their behavior and is communicated (albeit imperfectly) between group members. Such communication can take the form of conversational receptiveness expressed through the linguistic cues identified in our research, but also other behavioral indicators such as simple willingness to stay on the topic of disagreement, or warm, affirming body language. Prior research

has repeatedly demonstrated that interacting groups establish social norms (Bettenhausen & Murnighan, 1985; Sherif, 1936) wherein group members adapt and conform to each other's behavior and manner of interaction. We predict that over a period of extended interactions, groups will form a set of social norms with regard to behaviors signaling receptiveness as well. These norms will then determine the level of receptiveness typical of the group or dyad, and may be different than the levels of receptiveness exhibited by the same individual members when interacting with others outside of the target group. Our theorizing is supported by research on other complex behaviors that originate with an individual and spread throughout social networks (e.g. Christakis & Fowler, 2009).

Conceptualizing receptiveness as being mutually constituted by the individual and the social context raises important questions for future research. For example, when one's primary social group (such as a work team, a family, or a romantic partnership) establishes a set of receptiveness norms, do those norms, after a sufficiently long period of interaction, affect the cognitive receptiveness of the group members? Does practicing conversational receptiveness extensively in the context of a particular relationship (let's say a marriage) change the cognitive habits of those group members with regard to opposing views expressed by their relationship counterpart (their spouse)? Do those cognitive habits then "spill over" to other relationships (e.g. with other relatives)? Having grown into the behavioral and cognitive habits of engaging with opposing views in a receptive or unreceptive manner, do individuals import those habits into other social spheres such as their interactions with co-workers, neighbors, and fellow citizens?

These questions require examining receptiveness at multiple levels of analysis and over time – a task which is both analytically and logistically daunting. But they also have

potential for enabling us to understand how receptiveness shapes and is shaped by the myriad interactions individuals engage in, and how receptive mindsets can be fostered within individuals, among group members, and across societal factions.

Open Questions and Future Directions

All collaborative human endeavors, from raising children to building nations, are eventually challenged by the need for communication and collaboration among individuals with diametrically opposing perspectives. In the present manuscript we reviewed ongoing research on receptiveness to opposing views – a construct we believe to be key to understanding behavior in attitude conflict. Although extensive prior work across disciplines has examined various facets of this phenomenon, we are reminded of the parable of the elephant that appears to be a different creature depending on whether one is touching an ivory tusk, an enormous leg, or the swishing tail. In our work, we have attempted to take a comprehensive approach, gradually illuminating the size, shape, and behavior of the entire beast.

We find that receptiveness manifests and can be measured in several ways. First and foremost, individuals can report their own receptiveness using a questionnaire, and these self-reports are predictive of cognitive processing that in turn guides individual behavior. Specifically, more receptive individuals are more willing to expose themselves to opposing views, pay greater attention to them conditional on exposure, and give more even-handed evaluations to content they agree versus disagree with.

We also find that receptiveness impacts interpersonal interactions. Partners in attitude conflict are more willing to interact with those they judge to be receptive and

evaluate them more positively. Indeed, people seem to agree that a set of specific words and phrases used by speakers can reliably indicate their receptiveness. Natural language processing reveals “conversational receptiveness” – the linguistic markers that individuals can use to communicate willingness to thoughtfully engage with opponents. Across both laboratory experiments and naturally occurring conversations, we find that communicating with greater conversational receptiveness improves interpersonal outcomes. Importantly, communication style seems to spread through a conversation, with participants’ initial linguistic choices impacting ultimate outcomes.

In sum, our program of research suggests that receptiveness has cognitive, behavioral, and interpersonal consequences, and is ripe for extensive further study. In the final sections below, we summarize several empirical and theoretical questions that we believe should be prioritized in future research.

Empirical Questions

To the extent that receptiveness is a crucial construct in conflict, it is imperative to study the extent to which it varies with culture, with the characteristics of individual conflict partners, and within different types of relationships. All of our studies to date have been conducted on predominantly English-speaking respondents, who study or work in the United States. Our participant samples have skewed young, liberal, and Western. This limitation restricts our current understanding of receptiveness and its consequences (Henrich et al., 2010). For example, our “taboo issues” subscale may enjoy greater predictive power in populations where more individuals are politically Conservative, or hold stronger religious beliefs, or are older. Furthermore, it is likely that communication

that is perceived as receptive possesses a similar but distinct set of markers in other languages, or in other cultures.

Similarly, although we have gone to great lengths to study receptiveness by engaging participants in interactions with real counterparts on issues that they genuinely hold dear, we have not gone beyond relatively brief interactions between strangers. The links among intrapsychic, expressed, and perceived receptiveness may be much stronger in ongoing relationships or in longer conversations. Expressions of receptiveness may lead to different outcomes depending on power and status differences between parties in conflict, the presence of third-party observers, or other situational factors. For example, it remains unclear whether positive assessments of receptive peers generalize to situations to leaders who are receptive during conflict.

Notably, our research thus far has examined receptiveness primarily in the context of hot-button issues featured in current U.S. political debate. Future work should expand the topics and contexts in which receptiveness is measured. For example, one study provides some initial evidence that receptiveness is indeed predictive of behavior in non-political domains. We found that baseball fans who report being highly receptive on our scale are more willing to talk to fans of an opposing team than their less receptive counterparts. Furthermore, in the research conducted in the context of the Wikipedia Talk pages, we found that debates among editors across a range of topics were less likely to devolve into personal attacks when participants demonstrated high conversational receptiveness early in the course of the exchange (Yeomans et al., 2020). These results suggest that receptiveness has implications across domains and presents an important area for future study.

Theoretical Questions

Beyond questions that can be directly answered using currently existing paradigms, several important theoretical questions merit attention and are fundamental to better understanding the construct itself. For example, thoughtfully engaging with opposing views, while simultaneously downregulating negative emotions and suppressing the urge to derogate opponents, during a discussion of a potentially dangerous or taboo topic, implies that being receptive requires considerable effort. What if anything would motivate individuals to put forth such effort? To the extent that receptiveness requires self-control, is it receptiveness like a muscle that becomes tired from use, but also grows strong over time? These and related questions are fundamental to understanding the situations that would enable individuals to take on a receptive mindset or prevent them from doing so.

Beyond the exertion of self-control, receptiveness may come with other costs. Documenting such costs may go a long way toward explaining why receptiveness seems rare. For example, it may be the case that individuals expect to pay a social cost for appearing too willing to engage with the other side (Hart et al., 2009; Kahan, 2013). If this is the case, then they may be less willing to become better informed or have better relationships with opponents, believing that those benefits may come at a social cost imposed by their own friends, colleagues and compatriots. Relatedly, people may believe that the fundamental purpose of contact with disagreeing others is persuasion or at least attaining a shared understanding of reality. Knowing from experience that the other side is not about to change their mind, people may reasonably avoid situations where they see

the only two possible outcomes as being frustrated by one's failure to persuade the other, or being persuaded oneself. Thus, an important set of questions surrounds the lay theories that individuals embrace with regard to the purpose and consequences of engaging with ideological opponents.

In considering the beliefs and convictions that prevent receptiveness, we must also consider ones that would induce it. It may be the case that individuals would be more likely to adopt a receptive mindset by recognizing that it is necessary for cooperation on an important issue, or to preserve an important relationship. Similarly, individuals may believe that their ethical beliefs or the norms of rational thought require them to thoughtfully consider both sides of any question (Baron, 2019; Stanovich & West, 1997). How people ultimately strike the balance, whether this process is conscious or implicit, and how much outcomes vary from one situation to the next, are important research questions.

Is Greater Receptiveness Always Desirable?

Although we have defined receptiveness in opposition to a suite of classic cognitive biases that have been repeatedly shown to decrease decision quality, and have suggested that expressing receptiveness carries interpersonal benefits, it is worth considering whether greater receptiveness is *always* beneficial. This question, however, requires clarity about whom would receptiveness benefit and to what end.

As in most social situations, individuals who encounter holders of opposing views are likely to hold multiple goals. For example, people may want to learn why others hold opposing beliefs, either out of genuine curiosity or because they realize that decision-

making is improved with more diverse information (Surowiecki, 2005). They may be eager to express their own perspective and “feel heard” and validated (Davis & Perkowski, 1979; Laurenceau et al., 1998; Reis & Patrick, 1996; Reis & Shaver, 1988) be willing to help their counterpart do the same. Perhaps, they may be engaging in “opposition research” in order to learn the weaknesses in the other person’s argument. Alternatively, they may hold a longer-term perspective and realize that engaging with an opponent on one issue may allow them to cooperate more successfully on other issues in the future. Greater receptiveness is consistent with many of these goals.

However, we also readily acknowledge that receptiveness may have costs. There may be instances when simply allowing extreme views to be aired (for example, justifying child pornography or white supremacy) could give these perspectives an undeserved legitimacy or traction. Furthermore, being visibly receptive to opposing perspectives may incur the wrath of one’s own ingroup (Hart et al., 2009; Kahan, 2013), which may be particularly costly to those in leadership positions. Yet, although these concerns are legitimate, we believe that such instances are much less common than situations wherein receptiveness might be socially constructive.

Most broadly, we argue that in evaluating the potential costs or benefits of receptiveness, future research should consider the specific goals of the parties in question. Greater receptiveness is desirable when having a balanced awareness of and appreciation for arguments on both sides of an issue would help the parties achieve their goals. Especially in situations of mutual dependence between individuals or groups—situations that often arise within the context of polarized social and political issues—more

thoughtful and respectful interactions in the present are likely to promote conditions for a more productive interaction in the future.

Developing Interventions by Integrating Research and Practice

Although much has been learned from “light touch” experimental treatments that use brief instructions or exercises to show effects on receptiveness and related behaviors, it can be difficult for such interventions to withstand the forces of habit and culture that will re-emerge as dominant drivers of behavior after the experiment is concluded. Because the forces that impact receptiveness are interdependent and reinforcing of each other, we propose that interventions that simultaneously address several if not all are more likely to have substantial impact. Especially in cases involving long-standing mistrust, such interventions are likely to require lengthy, in-depth, facilitated contact between opposing partisans, with the hope of generating positive affect, while leading to changed beliefs and decreased stereotyping of the “other side.”

Some interventions of this type have been developed using tools of family and marital therapy, whereby trained facilitators work with participants to break down false beliefs about holders of opposing views and ineffective patterns of interaction. Examples of such programs include the Seeds of Peace Initiative (Seeds of Peace, 2020), and Braver Angels (Braver Angels, 2020), non-profit organizations dedicated to improving contact and decreasing stereotyping among youths from the Middle East (Seeds of Peace), and American liberals and conservatives (Braver Angels), respectively. Although there is substantial variance in their structure and approaches, what these programs have in common is an approach that engages participants in extensive intergroup contact that

lasts for several hours, days, or weeks. Furthermore, contact is carefully facilitated such that interactions do not devolve into battles that perpetuate existing stereotypes. As a result, participants are provided with a body of evidence which may contradict their prior stereotypes, lead them to shift their predictions about future interactions, and potentially lead to the formation of new attributional habits, much as it does in the context of family cognitive-behavioral therapy (Hofmann & Asmundson, 2017). When effectively combined, we believe these elements enable interventions to impact all four forces driving receptiveness and create long-lasting impact on behavior.

In-depth interventions are—by definition—time-consuming, intensive, and often costly. Furthermore, they often feature a “kitchen sink” approach that aims to maximize effectiveness by combining several structural elements, exercises, and procedural rules. We believe that a fruitful approach for advancing both theory and practice would be for researchers to observe existing in-depth interventions and conduct controlled experiments to evaluate the relative efficacy of individual components of the intervention on influencing receptiveness.

Conclusion

Our work to date has touched on many of the key questions related to receptiveness, its consequences, and its antecedents. However, for each question answered, another several readily emerge. One fact that we are certain of, however, is that the manner in which people engage with others with whom they passionately disagree is a vitally important topic for research in the experimental social sciences. The set of intrapsychic and behavioral processes involved in interactions between disagreeing

others permeate every facet of social life and are crucial for everything from maintaining a happy to marriage to maintaining the very fabric of democracy. We hope that future researchers continue to build and innovate in this important area.

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