

Stuck on Intergroup Attitudes: The Need to Shift Gears to Change Intergroup Behaviors

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Abstract

Decades of research on how to improve intergroup relations have primarily examined ways to change prejudiced attitudes. However, this focus on negative intergroup attitudes has yielded few effective solutions. Because intergroup relations are shaped by behavior during intergroup interactions, it is necessary to identify constructs that have a strong causal impact on intergroup behavior change. In this article, I will discuss evidence showing that intergroup attitude change is neither a sufficient nor necessary cause for intergroup behavior change. Empirical research suggests that intergroup attitudes are difficult to change and have a limited effect on intergroup behavior. I also distinguish between constructs that primarily affect intergroup attitude change (e.g., counterstereotypical exemplars, evaluative conditioning) and constructs that primarily affect intergroup behavior change (e.g., social norms, self-efficacy). Further, suggestions for future research will also be provided to advance understanding of the various psychological constructs that influence intergroup behavior change, which will help us develop effective methods of improving intergroup relations.

Keywords

intergroup relations, attitudes, behavior change, attitude-behavior gap, diversity and inclusion

Many empirical studies have shown that members of marginalized groups—such as marginalized racial groups, women in science and technology fields, members of the LGBTQ+ community, marginalized religious groups, individuals with disabilities, and immigrants—are treated less positively than their nonmarginalized peers. They are less likely to receive offers of employment, to get the same pay as their peers for the same work, to be chosen as renters or romantic partners, to receive adequate care from physicians, or to get a salesperson's attention. They are also more likely to be mistreated by the police and judged more harshly for crimes they commit. In educational settings, members of marginalized groups get less attention and less encouragement from their teachers, are more likely to be expelled from school, and are told in a myriad of direct and indirect ways that people like them do not belong to the institution (for reviews, see Ayhan et al., 2020; Ghumman et al., 2013; D. L. Lee & Ahn, 2012; Ozeren, 2014; Reskin, 2012).

The examples in the previous paragraph are quite different from each other, but they share one common characteristic: Members of marginalized groups have

negative experiences, and these experiences are created by other individuals who treat them in a discriminatory manner. Although the perpetrators of this discrimination are likely to hold negative attitudes toward the marginalized group in question, the proximal cause of the negative experience is not the attitude (i.e., prejudice) but the behavior (i.e., discrimination). The implication is straightforward: If we want members of marginalized groups to have more positive experiences, we need to change people's intergroup behaviors. As Paluck and Clark (2020) put it, "One could argue that between attitudes and behaviors, it is better to change behavior because prejudicial action is worse than harboring prejudicial attitudes" (p. 769).

How can we get people to engage in fewer discriminatory and more inclusive behaviors? For decades, many social scientists and practitioners have held the belief that the most effective method to change people's

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intergroup behaviors is to change their intergroup attitudes, which is one of the reasons why many studies on racism, sexism, homophobia, and other forms of bigotry do not include behavioral outcomes (Paluck et al., 2021). In this article, I will suggest that this belief is incorrect for two reasons. First, the influence of intergroup attitudes on intergroup behaviors is very limited. Second, intergroup attitudes are difficult to change in the real world. I will further suggest that there are other psychological processes and phenomena that, compared with intergroup attitudes, not only have a stronger causal impact on intergroup behavior change but can also be leveraged more easily in the real world. Put more simply, suppose we devote more attention to the psychological constructs that causally affect intergroup behavior change? These are the constructs that require greater focus in order to advance theorizing in the social sciences and to create more positive experiences for members of marginalized groups.

This article will briefly review the role that behavior has played in social psychological research and how insights from studies on attitude-behavior discrepancy apply to research on intergroup relations. After a description of recent interventions—many of which changed intergroup behaviors without a concurrent change in intergroup attitudes—I describe the factors that primarily affect intergroup attitude change and the factors that primarily affect intergroup behavior change. It will be demonstrated that these factors are quite different from each other. In the final section of the article, I will present recommendations for future directions in the field of intergroup relations.

The Value of Behavior in Social Psychology

The field of psychology not only attempts to understand cognitions, emotions, and motivations but also behaviors. Social psychology is founded on phenomenology and personal experience, and social psychologists have largely aimed to understand why certain behaviors happen and the conditions under which these behaviors occur. One example that motivated this focus was bystander behavior during the rape and murder of Kitty Genovese (Darley & Latané, 1968). However, the field's emphasis shifted from behavior to cognition in the later decades of the last century.

Doliński (2018) explained that the decline in measurement of behavior in psychology occurred in the 1970s alongside the “cognitive revolution”; although researchers have always been interested in attitudes and cognition, their interest in these mental processes grew exponentially, sometimes with the goal of identifying the psychological mechanisms behind behavior.

Ironically, behavior was infrequently measured after 1980. In Cialdini's (2009) article “We Have to Break Up,” he discussed concerns about the cognitive revolution in psychology, claiming that priority placed on cognition lessens the applicability of findings to real-world contexts. Likewise, Baumeister et al. (2007) heavily criticized the state of social psychology for its lack of interest in directly studying behavior and instead becoming the “study of reaction times and questionnaire responses” (p. 396). They explained that previously psychologists had used behavioral studies to test competing theories and show what happened internally in a person to produce a certain behavior; then psychologists switched to studying the inner cognitive processes that lead up to behavior without observing behavior. A consequence of this revolution has been that most articles on prejudice or bias no longer contain measures of observed behaviors.

It is of primary importance to study the causes of behavior and the methods that can be used to change behavior because the quality of intergroup relations and the experience of members of marginalized groups depend on behaviors (Carr et al., 2012). Our goal should thus be to induce behavior change on a variety of levels, from actions that signal respect and kindness to the implementation of policies and practices that eliminate systemic barriers to equality.

Attitude-Behavior Consistency (or Lack Thereof)

The term *intergroup attitudes* refers to feelings, opinions, expectations, and beliefs about traits that members of a given group possess. Attitudes are shaped by exposure to an attitude object and forming an opinion about it on the basis of several factors—an interaction (e.g., whether it was good or bad); beliefs about the traits or characteristics that an attitude object possesses (i.e., stereotypes, if the attitude object is a social group); culture; values; social categorization and identity; information from others; emotional reactions; and previous behaviors (Olson & Kendrick, 2008). The term *intergroup behaviors* includes judgments (e.g., recruitment decisions), verbal behaviors (e.g., using offensive terms), and nonverbal behaviors (e.g., smiles) that are demonstrated on the basis of an individual's group membership, and they vary from relatively harmless yet hurtful behaviors (e.g., not remembering a person's name) to highly consequential behaviors (e.g., shooting someone who may or may not be holding a weapon; Kite et al., 2022).

The history behind the attitude-behavior consistency question is extensive. In 1981, Fazio and Zanna described how the assumption that attitudes directly influence

behavior has been present since the early definitions of “attitude” (e.g., Allport, 1935), but that over time, social scientists became increasingly skeptical of the role of attitudes in behavior. Wicker (1969) reviewed the literature on attitude–behavior consistency and concluded that attitudes are likely to be only weakly related to behavior. Despite this history, psychologists have continued to push attitude change as the primary method of improving intergroup behavior.

The paradox of attitude–behavior inconsistency, also known as the “attitude–behavior gap” and the “value–action gap” (Kollmuss & Agyeman, 2002), has been demonstrated with numerous behaviors (e.g., organ donation, charity donation, workplace-safety behaviors), but recently it has primarily been studied in the field of environmental conservation and sustainability (Chai et al., 2015). Scientists have been concerned about why people’s attitudes related to climate change rarely led to behaviors that are consistent with these attitudes. Findings from this body of research demonstrate that attitudes, values, and knowledge do not necessarily result in proenvironmental behavior but that many other factors do (e.g., culture, environment, norms, demographics; Barr, 2006).

Empirical evidence shows that people often do not do what they say they will do (e.g., Grzyb & Doliński, 2017). Many theoretical models attribute behavior to multiple predictors, only one of which is explicit attitudes. For example, in the *theory of planned behavior*, Ajzen (1991) theorized that in addition to attitudes, subjective norms and perceived behavioral control also cause behavioral intentions, which in turn have a causal effect on behaviors.

There are other factors that contribute to the attitude–behavior gap. Intentions to behave a certain way account for only about a quarter of the variance in behavior (Sheeran, 2002). Other factors include changing one’s mind, forgetting one’s intentions, low control over behavior, social desirability bias, missing an opportunity to behave, distractions, competing goals, habits, disruptive thoughts and feelings, time between intentions and behavior, low motivation, and low willpower (Ajzen, 2020; Hulland & Houston, 2021; Sheeran & Webb, 2016).

Research on attitude–behavior consistency (or the lack thereof) has historically focused on planned, or thoughtful, behavior and the explicit attitudes that predict this type of behavior. A considerable amount of research has also been done to examine the relationship between implicit attitudes (i.e., automatic associations that are difficult to control and theoretically affect information processing) and behavior (De Houwer, 2019). Relevant theoretical models predict a limited application, however. Fazio’s (1990) *motivation and*

opportunity as determinants model posited that implicit attitudes will influence behavior under very specific conditions: (a) when motivation is low and (b) when people do not have the opportunity to engage in more deliberative (i.e., less spontaneous) thought and action. Similarly, Gawronski (2019) argued that the conditions under which implicit attitudes can be expected to affect behavior are (a) when the behavior is spontaneous and unintentional, (b) when the individual is experiencing conditions that impair cognitive deliberation, and (c) when the individual has a disposition linked to low deliberation (e.g., low working memory capacity, intuitive thinking style).

Recently, scientists have questioned the influence that implicit attitudes have on behavior (Brownstein et al., 2019; Gawronski & Hahn, 2019). Although implicit attitude scores at an aggregate level (e.g., county, state) are strongly predictive of discriminatory behavior and group-based outcomes, individual-level differences are only weakly related to discriminatory behavior (Payne & Hannay, 2021). Despite numerous attempts there is a lack of experimental evidence demonstrating a causal effect of implicit attitudes on behavior in the intergroup domain (Moors & Köster, 2022). People also tend to be more knowledgeable about their biases than previously predicted (Gawronski et al., 2006; Hahn et al., 2014). Taken together, the literature described in this section suggests that the causal impact of intergroup attitudes on intergroup behaviors is limited.

Effectiveness of Current Prejudice-Reduction Interventions

Many interventions for reducing prejudice and discrimination have been proposed. These include intergroup contact (i.e., having members of two or more groups interact with each other under certain conditions; Allport, 1954), recategorization of out-groups to a superordinate group (i.e., creating a shared goal between two or more groups; Gaertner & Dovidio, 2000), bias- consciousness raising (i.e., educating individuals about biases they may or may not know they have; Lai & Lisnek, 2023), jigsaw classrooms (i.e., splitting classmates into smaller groups in which each student has to uniquely contribute to successfully complete an assignment; Aronson, 2004), and many more. Paluck and Green (2009) reviewed the prejudice-reduction literature and found that the field was lacking in many areas: (a) The research had generally weak internal and external validity and consequently produced few conclusions about what really works to reduce discrimination in real-world settings; (b) many methods had not been examined using randomized experiments; and (c) many methods studied in lab experiments had not been

tested in the field. A recent meta-analysis by Paluck et al. (2021) came to similar conclusions. Today, there is still insufficient evidence to make confident claims about how to reduce prejudice and discrimination in real-world contexts.

Another finding from the meta-analysis by Paluck et al. (2021) was a lack of measured behavioral outcomes in a large majority of the studies. For the most part, authors were not able to draw any conclusions about whether their intervention affected behavior. The few studies that did include behavioral outcomes showed that the changes in behavior, if there were any, were not due to reductions in prejudice (e.g., Scacco & Warren, 2018). In other words, an increase in positive intergroup behaviors toward the out-group after the intervention were often not caused (or accompanied) by more positive attitudes. Recent lab studies have also demonstrated that even when intergroup behavior is concurrent with intergroup attitude change, the changes in attitudes do not fully explain changes in behavior, providing further support for the idea that other factors are at play in intergroup behavior change (e.g., Hackel et al., 2022).

Many social psychologists have advocated placing priority on studies that measure behavior, particularly field studies that measure behavior in real-world contexts, in response to a concerning increase in online self-report studies (e.g., Baumeister et al., 2007; Paluck et al., 2021). Only a handful of recent field studies conducted in the intergroup domain examined intergroup behavior as an outcome. One of the field experiments that stood out is the one by Mousa (2020), who tested an intergroup contact intervention in a conflict setting. Iraqi Christians who were displaced by the Islamic State of Iraq and Syria were randomly assigned to be either on an all-Christian soccer team or on a team with Muslim teammates. They all participated in a 2-month soccer league, and the conditions of their participation met the conditions under which intergroup contact is theorized to reduce prejudice most strongly (cooperation toward a shared goal, equal status, and support from leaders; Allport, 1954; Pettigrew & Tropp, 2006). The intervention resulted in Christians with Muslim teammates being more likely to vote for a Muslim not on their team to win a sportsmanship award, more likely to register for another mixed team the following season, and more likely to train with Muslims 6 months postintervention. There was no effect on participants' intergroup attitudes.

Another notable field experiment by Scacco and Warren (2018) also tested an intergroup contact intervention with Christians and Muslims in a conflict environment, but this time in Nigeria. Participants were randomly assigned to either a homogenous classroom

(either Christian or Muslim) or a heterogenous classroom (both Christian and Muslim) where they received computer training. Results showed that those in the heterogenous classrooms engaged in fewer discriminatory behaviors 16 weeks later compared with those in the homogenous classrooms. As observed in Mousa's (2020) study, intergroup attitudes were not affected by classroom composition.

Findings from these field experiments suggest that intergroup attitude change is influenced by fundamentally different psychological constructs than intergroup behavior change (for other findings supporting this claim, see Chang et al., 2019, and Lowe, 2021). Intergroup attitudes and intergroup behaviors do not appear to share many common causes, which in part explains the weak relationship between them. In the following two sections, I will first present the factors that have been shown to primarily influence intergroup attitude change and then the factors that primarily exert a causal impact on intergroup behavior change. This presentation is necessarily a simplification of reality because ultimately most factors discussed below probably have at least a weak impact on both intergroup attitudes and behaviors. I focus on factors that have been predominantly discussed either in the literature on intergroup attitude change or in the literature on intergroup behavior change. Let us immediately anticipate one conclusion: If intergroup behaviors are only weakly influenced by intergroup attitudes, then it is futile to think that studying the causes of these attitudes will help to improve intergroup behaviors. Said differently, studies examining the causes of intergroup attitudes are only of marginal relevance when the goal is to identify methods to promote more positive intergroup behaviors.

Factors That Causally Affect Intergroup Attitude Change

Social scientists have accumulated many empirical findings and theoretical models about how to change attitudes. An exhaustive presentation of this literature would exceed the scope of this article, which instead focuses on some of the key, primary factors of intergroup attitude change. In the intergroup domain, certain strategies have been shown to influence intergroup attitudes (see Fig. 1): Examples include perspective-taking to alter category-based knowledge of out-groups (Kawakami et al., 2017) and counterstereotyping (i.e., presenting individuals with out-group members who defy stereotypes associated with their group; Burns et al., 2017). Another strategy that is often used to change intergroup attitudes is education—raising awareness of biases, persistent discrimination, systemic racism, stereotypes, microaggressions, and so on (see,

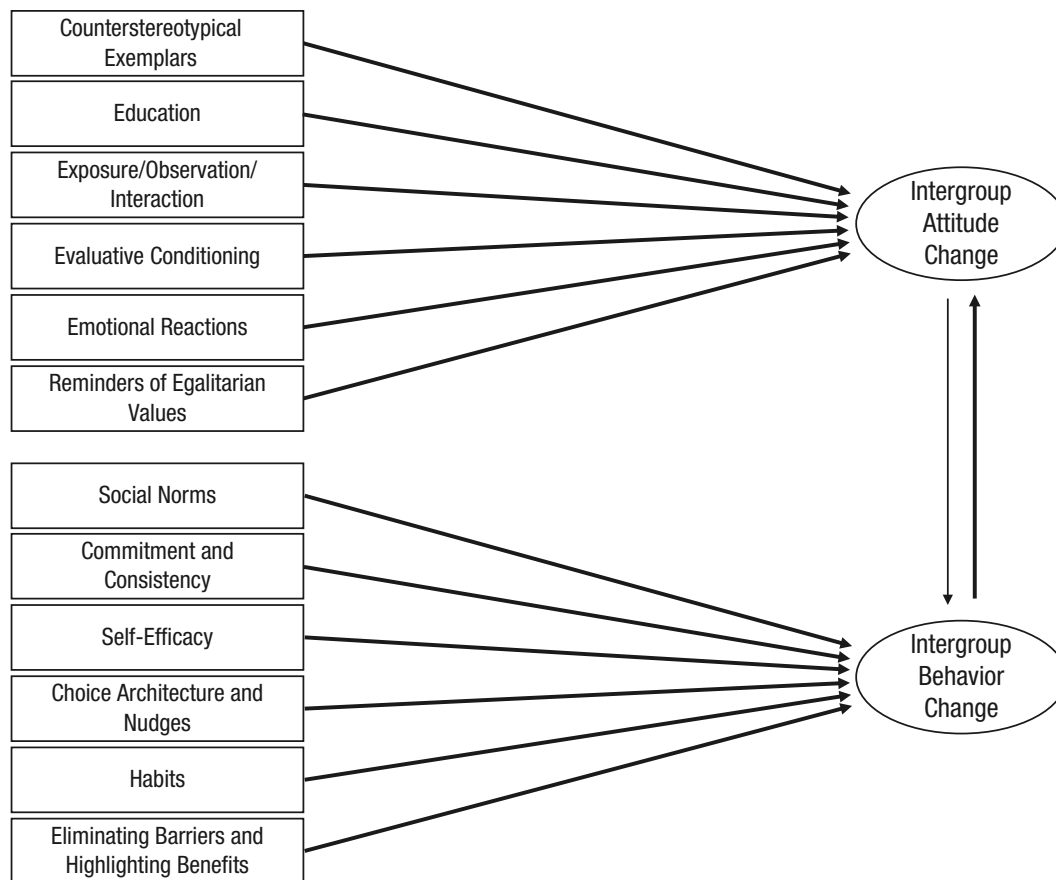


Fig. 1. Psychological factors that affect intergroup attitude and behavior change.

e.g., Jackson et al., 2014). Research shows that education on these topics leads to greater awareness (see, e.g., Forscher et al., 2019).

Attitudes are relatively stable yet still malleable (Schwarz & Bohnet, 2001), and attitude change occurs through many different processes. For example, attitudes can change via cognitive processes, such as information processing, and evaluative or affective conditioning in which the attitude toward a conditioned stimulus shifts after changing the valence of an unconditioned stimulus associated with it (Eagly & Chaiken, 1993; Greenwald, 1968; Walther & Langer, 2008).

Examples of practical strategies to change attitudes using cognitive processing and evaluative conditioning include presenting individuals with new information or experiences that are different from what the individual knew or had before; educating individuals about their attitudes, where the attitudes come from, and why their attitudes might be wrong; having individuals think about a particular out-group from a different perspective; and exposing individuals to persuasive messages that result in targeted reasoning or emotions (Dibbets et al., 2012; Petty & Cacioppo, 1986; Vescio et al., 2003;

Wood, 2000). The strategies that have been developed to reduce prejudiced attitudes typically align with one of the following attitude-change methods—people are made aware of their biases toward out-groups; they are presented with counterstereotypical information about out-groups; they are encouraged to recategorize out-groups to a superordinate group that they are also a member of; they interact with out-group members; and so on. The purpose of these strategies is to change how people think or change the associations people have developed to reduce stereotypical thoughts, negative perceptions, and hostile intergroup feelings.

It is important to note that explicit and implicit attitudes are different from each other despite the fact that they are grouped together in this section. A person can have a positive explicit attitude toward an attitude object but also have unconscious negative associations with it. In the case of intergroup attitudes, some people may have positive attitudes toward diversity and out-groups, but the stereotypes they have unknowingly associated with out-group members might be negative.

Explicit and implicit attitudes are formed through different processes and experiences. Explicit attitudes

consist of a conscious evaluation of an attitude object, and implicit attitudes consist of affective (or valenced) associations with the attitude object (Gawronski & Bodenhausen, 2006). Additionally, explicit attitudes are formed through cognitively controlled reactions to the attitude object as well as through recent experiences with it, but implicit attitudes are formed through developmental events and early experiences, affective reactions to attitude objects, and an inherent need for cognitive consistency (Rudman, 2004).

Explicit and implicit attitudes also differ in how they are changed. Changing explicit attitudes involves using more cognitive and motivational methods (i.e., deliberate change), such as presenting counterattitudinal information and inducing dissonance by highlighting how one's values are inconsistent with an attitude (Dasgupta, 2013; Rudman, 2004; Rydell et al., 2007). Changing implicit attitudes is typically done through retraining of associations (e.g., evaluative conditioning, intergroup contact), adjustments in social and emotional contexts (e.g., counterstereotypical exemplars, emotional reconditioning), and suppression of access to implicit attitudes (e.g., faking implicit measures of attitudes, creating behavioral plans to inhibit expression of biases; Lai et al., 2013, 2016).

Accomplishing attitude change is difficult regardless of strategy used. People tend to resist attitude change because of a desire to maintain consistency with their attitudes (i.e., avoid cognitive dissonance) and uphold an independent view of themselves (i.e., sustain personal freedom; Tormala, 2008). Given that intergroup attitudes are resistant to change (Murrar & Brauer, 2019) and have at best a small effect on intergroup behavior, one may wonder why researchers whose goal it is to reduce discrimination and lack of inclusion continue to focus mainly on intergroup attitudes.

Moreover, changing intergroup behaviors is one of several pathways to changing intergroup attitudes. There are two psychological phenomena that often create attitude change via behavior. The first is *cognitive dissonance*, a negative psychological state that occurs when attitude and behavior are inconsistent with each other. It motivates a change in attitude to make it consistent with the behavior (Festinger, 1962). The second is *self-perception*, when people draw conclusions about themselves (e.g., attitudes, beliefs, emotions) from their behavior and the situations in which their behavior occurs (Bem, 1972; Fazio, 1986). Behaviors and their context can act as indicators of attitudes toward the objects in question, especially when internal cues are weak or ambiguous (Bem, 1972). We can expect that when people are influenced to behave in certain ways because of social influence and situational factors (as described in the next section), changes in attitudes are

likely to follow. Said differently, whereas improving intergroup attitudes may lead to only marginal changes in intergroup behavior, getting people to behave in a less discriminatory manner is likely to have a substantial impact on their intergroup attitudes. The research on the jigsaw classroom is a typical example of a situational manipulation that affects intergroup attitudes via a change in intergroup behavior (Dovidio, 2017; Walker & Crogan, 1998).

It is, however, not necessary to cast aside research on attitude change in the intergroup domain even if one agrees that the ultimate goal is to change intergroup behaviors. We simply need to be clearer about the goals and desired outcomes of our research: If the goal is to change intergroup behaviors, we need to study the factors that change intergroup behaviors and accept that changing intergroup attitudes is not the most impactful of these factors. Studying how to change intergroup attitudes for the sake of understanding intergroup attitude change is still a valuable line of research, and the promotion of positive intergroup attitudes continues to be an important goal for many reasons, particularly moral ones.¹

Factors That Causally Affect Intergroup Behavior Change

Numerous studies have examined the factors that influence behavior change. The literature shows that individuals make decisions on how to behave on the basis of information provided in their environments, on those around them, and on how they want to be perceived by others (see Fig. 1; Dijksterhuis et al., 2005; Neal et al., 2012; Steinel et al., 2010). According to Bicchieri (2017), "a host of studies show that the main variable affecting behavior is not what one personally likes or thinks one should do, but rather one's belief about what 'society' (i.e., most other people, people who matter to us, and the like) approves of" (p. 10). In the following paragraphs, I will discuss various factors that have been shown to, or have the potential to, affect intergroup behavior change. Intergroup attitudes, one of these causes, are not discussed here because their role is extensively covered above. Although some of the causes of behavior change have been studied in the context of intergroup relations, most have not. I will briefly mention the type of research that needs to be conducted to elucidate this aspect of changing intergroup behaviors.

Social norms

The focus theory of normative conduct (Cialdini et al., 1990) posits that salient social norms will result in

norm-conforming behavior. There are two predominant types of norms—*injunctive* norms (i.e., what is perceived to be appropriate or inappropriate behavior by one's peers) and *descriptive* norms (i.e., perceptions of how most of one's peers behave in certain situations), which have both been shown to cause norm-consistent behavior in a variety of domains (e.g., risky behavior, energy conservation; Miller & Prentice, 2016). Social norms influence behavior because individuals tend to make decisions on the basis of the thoughts and actions of others around them (Cialdini & Goldstein, 2004; Tankard & Paluck, 2016). Because of an inherent need to belong and fear of rejection, conforming to norms allows people to “fit in” with their peers. Further, norms provide guidance on what to do in ambiguous social situations, which is when norms are most effective (Rhodes et al., 2020).

Relevant to the intergroup domain, Schuster et al. (2023) examined the effects of egalitarian norm messaging on salary offers made to women. They found that communicating how human resource professionals attend to the equal treatment of men and women in hiring or are increasingly doing so resulted in increased salary offers made to women. Murrar et al. (2020) used social-norms messaging to increase inclusion in college classrooms. The results revealed that students belonging to marginalized groups in the intervention classrooms had a greater sense of belonging, reported they were treated more inclusively by their peers, and earned better grades compared with those in the control condition. An important direction for this area of research will be to explore how to highlight widespread pro-diversity norms without giving the impression that discrimination and lack of inclusion have ceased to be societal problems.

Social referents

People have a general tendency to defer to social referents such as experts, authority figures, and respected or well-liked individuals in a community (Cialdini, 2001; Paluck & Shepherd, 2012). The reason for deference to referents is that they are perceived to know more than the average person, they are representatives of their group, and therefore they are expected to make good or correct decisions. In a field experiment spanning 56 middle schools, Paluck et al. (2016) found that utilizing social networks and utilizing social referents who endorsed an antibullying campaign resulted in reduced peer-related disciplinary reports, increased anticonflict discussions, and increased wearing of anticonflict wristbands. It would be interesting to determine the role of social referents in inclusive behavior to better understand the unique influence they have on intergroup relations.

Commitment and consistency

Commitment and consistency are psychological factors that causally affect behavior change. A commitment is the act of binding oneself to a behavior, and consistency is behavior in accordance with a commitment or previous behavior (for a review, see Isenberg & Brauer, 2022). Commitment and consistency have been adopted in a variety of ways, particularly in the form of sales, marketing, and fundraising techniques (e.g., Cialdini & Schroeder, 1976; Garnefeld et al., 2013). Common strategies include the “foot-in-the-door” technique, pledges, and reminding people of prior commitments and values (Isenberg & Brauer, 2022). If examined in the context of intergroup behavior, making commitments to behave inclusively should increase subsequent engagement in inclusion. For example, Uhlmann and Cohen (2005) found that making a commitment to adhering to hiring criteria prior to the disclosure of an applicant's gender prevented discrimination toward female candidates. The role of commitment and consistency in the intergroup domain has not yet been extensively explored. Getting people to do small acts of kindness (e.g., signing a petition to expand educational resources for students from marginalized groups) should pave the way for more costly inclusive behaviors (e.g., joining multicultural student organizations). Inducing employees to commit to making sure that everyone feels welcome and included (and possibly making these commitments public) should create a more inclusive workplace climate. Exploring the effectiveness of these strategies, as well as their boundary conditions, is a promising avenue for future research.

Self-efficacy

For individuals to perform desired behaviors, it is important that they perceive themselves as capable of performing the behavior. This concept is known as *self-efficacy* and is an important factor in multiple prominent theories of behavior, most notably the theory of planned behavior (Ajzen, 2020), social cognitive theory (Bandura, 1977), and situated expectancy-value theory (formerly called *expectancy-value theory*; Eccles & Wigfield, 2020). Self-efficacy is also related to the competence component of self-determination theory (Ryan & Deci, 2000). A lack of self-efficacy is one potential cause for the attitude-behavior gap (Kollmuss & Agyeman, 2002). The belief that people cannot really change how prejudiced they are—that they have a fixed mindset of prejudice—can lead to low self-efficacy, even for individuals who score low on explicit and implicit measures of prejudice (Carr et al., 2012).

Bandura (2012) stated that self-efficacy is developed in one of four ways: (a) mastery experiences, in which

individuals learn resilience; (b) social modeling, in which seeing another person succeed and persevere inspires belief in oneself; (c) social persuasion, in which someone persuades individuals into believing in themselves; and (d) changed perceptions of physical and emotional states, such as reduced anxiety and depression or increased strength and stamina. These strategies of developing self-efficacy can be applied in the intergroup domain. Increasing one's self-efficacy in intergroup contexts is likely to motivate engagement in inclusive behavior. For example, teaching people terms that are perceived as offensive and those that signal respect to members of marginalized groups likely reduces intergroup anxiety and increases self-efficacy to engage in inclusive behaviors. The same is the case for narratives that model inclusive, nondiscriminatory behavior (Mallett & Wilson, 2010; Murrar & Brauer, 2019).

Choice architecture and nudges

The concept of “nudges” is derived from behavioral economics and is defined as features in a decision-making context (i.e., choice architecture) that influence decisions without altering objective payoffs or incentives (Thaler, 2018). Nudges help people make decisions they would make if they were fully informed without forcing them to do so (Thaler, 2018). By altering decision information (e.g., simplifying information), decision structure (e.g., providing fewer or more options), or decision assistance (e.g., encouraging commitments) in specific ways, nudges guide behavior in predictable ways (Münscher et al., 2016). A classic example of a nudge is the default option to be an organ donor; individuals must explicitly opt out if they do not want to be a donor (Goldstein et al., 2008).

Nudges and choice architecture have been somewhat neglected in the study of intergroup behavior. Can we nudge individuals in intergroup contexts to engage in inclusive behavior by designing their environments in ways that either make this behavior the default or remind people at the right time and place to behave inclusively? For example, using round tables in classrooms instead of individual desks may promote more collaboration and positive intergroup interactions between students (Cornell, 2002). It is important to consider and study how changes to the physical environments in which social interactions take place either promote or discourage positive intergroup interactions.

Habits

One of the strongest predictors of behavior is habits. Habits are psychological dispositions to repeat past

behavior (Neal et al., 2012). People tend to engage in behavior that they have always engaged in (e.g., washing hands after using the restroom, putting on a seat belt after entering a car). Habits are thought to originate from the pursuit of goals (e.g., changing one's diet to lose weight) but are also strongly influenced by context cues, and habits can continue in the absence of a goal or in the presence of an opposing goal. Wood (2017) argues that habits have strong potential for reducing intergroup discrimination and for making sure this outcome persists, because intergroup settings provide a rich environment for habits to form and change.

Rothman et al. (2015) provide suggestions for how to disrupt existing habits and create routines that spark new ones in the health domain. They suggest capitalizing on context changes that occur in people's lives (e.g., starting college) and altering existing contexts by making it difficult to follow bad habits (e.g., moving the alarm clock to the opposite side of the room to prevent hitting the snooze button). Additionally, they suggest facilitating desirable behavior in stable contexts and adding on a new behavior to an existing habit. Habit-forming processes as they relate to intergroup behavior have not been adequately studied. Further research should examine habit-forming processes in intergroup contexts and explore ways to promote inclusive habits in new contexts, as well as explore how to structure environments in ways that promote habitual positive intergroup interaction.

Eliminating barriers and highlighting benefits

People often make judgments about the benefits of engaging in a behavior (i.e., reasons for why they should do something) and barriers of engaging in a behavior (i.e., reasons for why they should not do something) when deciding whether to engage in that behavior (McKenzie-Mohr & Schultz, 2014). When the barriers exceed the benefits, the person is not likely to act. Perceptions of benefits and barriers are an essential component of the *health belief model* (Rosenstock, 1966), which describes how individuals determine when to participate in a recommended preventive health action. Individuals assess the perceived benefits of participating in the recommended action (e.g., perhaps it is highly effective at preventing a negative health outcome) as well as the perceived monetary and psychological costs (e.g., perhaps it is expensive, painful, or inconvenient; Carpenter, 2010).

If we were to apply the model to intergroup behaviors, the recommendation would be to assess the barriers and benefits to various intergroup behaviors (Campbell & Brauer, 2020). Some of the perceived benefits of

engaging in inclusive behaviors with out-group members are making new friends, learning about another culture, and “doing the right thing” by creating a welcoming and inclusive climate for others. Some of the perceived barriers to engaging in inclusive behaviors are lack of opportunities to engage with out-group members, intergroup anxiety, concern over offending out-group members, and fear of negative judgment from peers. Strategies that affect intergroup behavior must highlight the benefits of inclusive behavior and eliminate as many barriers as possible.

Summary

The previous paragraphs demonstrate that numerous factors change human behavior, including intergroup behavior. Most importantly, these factors are largely different from the ones that influence attitude change (see Fig. 1). Not only do the factors described in the previous section have a stronger impact on intergroup behavior change than do intergroup attitudes, but they are also easier to manipulate. For example, it is easier to change people’s perceptions of diversity-related social norms, to increase their self-efficacy to be inclusive, or to remove logistic barriers to intergroup contact than to change their explicit or implicit attitudes toward a particular social group. Many simple strategies can influence people to behave in desired ways, yet none of them require a prior change in attitudes. They can be utilized to change intergroup behavior directly.

Despite the relative ease with which factors affecting intergroup behavior change can be manipulated, research on intergroup behavior is not easy to conduct and involves certain challenges. It is imperative, for example, that researchers identify *a priori* specific intergroup behaviors of interest to change. One way of identifying these behaviors is by surveying members of marginalized groups and asking them to describe the behaviors that they perceive as the most problematic and impactful, as well as the most promising behaviors for improving intergroup relations and alleviating disparities. These behaviors will likely vary from one setting and situation to the next, so it is important that context is considered when designing interventions that target intergroup behavior change.

Okonofua et al.’s (2022) work on *sidelining bias* is consistent with my proposal to study the psychological processes and factors that have a causal impact on intergroup behavior change. Sidelining bias involves altering situations in ways that make salient the alternative selves and goals that individuals endorse and that prevent negative biases from having influence on behavior. Sidelining bias capitalizes on situationism (i.e., the powerful influence of small environmental

changes on behavior; Ross & Nisbett, 2011). My proposal also builds on efforts by researchers in other areas, such as vaccination promotion and climate change, who have advocated for an increased focus on the social and psychological factors that affect behavior and behavior change (Brewer et al., 2017; Mazar et al., 2021).

It is important to note that many of the factors that influence intergroup behavior change are systemic in nature, as they involve structural and environmental changes. This is yet another reason why we need to devote more attention to behavior change. My proposal is consistent with a recent analysis by Chater and Loewenstein (2022), who argued that we should be focusing more on ways to change the system in which individuals operate rather than trying to change individuals. Proponents of “systems social marketing” also insist on the necessity of targeting individuals and communities to affect behavior change (Flaherty et al., 2020). In the intergroup domain, numerous scholars have written about how a near-exclusive focus on individual biases has prevented researchers from implementing the institutional and cultural change that higher-education institutions need so badly (Applebaum, 2019). Creating an environment that promotes inclusion via positive norms, policies, choice architecture, habits, and commitments and creating systems that remove barriers to inclusive behavior often involve structural change (Lewis, 2023).

Future Directions

Although psychologists have accumulated a lot of knowledge about how to change behavior in general, many unknowns remain. There are still many open theoretical questions regarding the observed causes of intergroup behavior change, the mediating mechanisms, and the circumstances under which these causes have a particularly strong impact. Several of the factors listed in the previous section have never been tested with intergroup behaviors. There are also many practical questions that are relevant for practitioners whose goal it is to promote inclusive and nondiscriminatory behaviors. For example, we do not know which of the causes of intergroup behavior change lend themselves to interventions in real-world settings and what can be done to increase behavioral persistence (i.e., lasting behavior change). I will discuss some of the open questions in the following paragraphs. I suggest that the field of intergroup behavior will make significant advances if future research provides answers to these questions.

Regarding prejudice-reduction strategies, a common approach is to communicate negative descriptive norms

about the inevitability of implicit bias and the ubiquity of discrimination. The intention behind this approach is to develop people's awareness of their biases and behaviors. However, communicating negative norms may result in decreased accountability for, and thus an increase in, discriminatory behaviors (Daumeyer et al., 2019). A better strategy is to communicate positive norms about most people valuing diversity and inclusion. As mentioned above, future research should examine how positive norms can be communicated without undermining the reality of persistent discrimination. Important insights can be gained by studying empirically what information needs to be included in a social-norms message so that, on the one hand, it communicates a positive descriptive norm related to diversity and inclusion and, on the other hand, acknowledges the negative experiences of members of marginalized groups.

Another question concerns the role of self-efficacy for behaving inclusively and in non-discriminatory ways. What is the optimal method for building self-efficacy and in what settings can this method be implemented? As described above, Bandura (2012) suggested four ways to develop self-efficacy, but can all four of these methods improve self-efficacy when it comes to intergroup behaviors? For example, would it be effective to have people experience a series of successful and unsuccessful intergroup interactions to build resilience in unsuccessful ones? Is it ethical to build this type of resilience? Would experiencing unsuccessful intergroup interactions result in increased intergroup anxiety instead of resilience? Self-efficacy can also be built by social referents. Getting social referents, such as managers or popular kids in school, to model inclusive behavior is likely to help others develop a sense of self-efficacy in performing the same behaviors.

Because behaviors are context dependent, an important question is, how can interventions take into consideration the variety of contexts in which intergroup behaviors occur? Should interventions be context dependent every time, or is it possible to develop an approach to intergroup behavior change that generalizes across contexts? *Social marketing* can inform the process for developing an intervention that aims to change behaviors (Campbell & Brauer, 2020). It is a systematic, context-specific approach to behavior change that has proven to be highly effective in a variety of domains, such as water conservation, risky behavior, and health and fitness (N. R. Lee & Kotler, 2019). Social marketers usually conduct substantial background research to determine what behavior to target, who the target audience should be, and what the perceived benefits and barriers are for the target audience in performing the desired behavior. The social-marketing approach can easily be applied to intergroup behaviors. It would involve sys-

tematically examining what type of behavior has the biggest impact on positive intergroup relations (e.g., inviting others to social events), which population segments are most susceptible to change (e.g., White adults with ambivalent intergroup attitudes), and what barriers (e.g., lack of diversity in community) and benefits (e.g., cross-group friendships) exist to behaving in the targeted way. Researchers and practitioners can adopt the social-marketing approach to develop interventions that prioritize context to effectively change intergroup behaviors.

An increasing number of social interactions now take place online (e.g., virtual meetings, social media). One may wonder, then, what do online inclusive behaviors look like, and how can online platforms be utilized to change intergroup behavior? Are choice architecture and nudges particularly important in these kinds of settings? Research on diversity and inclusion can benefit immensely from examining how online intergroup behavior differs from in-person intergroup behavior and particularly whether the factors that have a causal influence on in-person intergroup behavior have the same effect on online intergroup behavior.

Further research on the causes of intergroup behavior change requires identifying the psychological processes that play a role in behavior-change persistence. Little is known about behavioral persistence, but four key theoretical constructs have been identified as relevant for long-term behavior change in other areas: Habits, social norms, intrinsic (vs. extrinsic) motivation, and recursive processes (Winkler-Schor & Brauer, 2023). Although habits and social norms were described previously as factors that causally influence intergroup behavior change, they also seem to play a crucial role in promoting behavioral persistence. Once new habits are established, they require less self-regulation and intention, and to change them would require intervention or change in environment. Similarly, salient social norms influence behavior, so changes to perceptions of social norms will result in behavior consistent with the new norm, and this behavior will persist unless perceptions of these norms change again.

There is a caveat to keep in mind when studying methods of intergroup behavior change. Behaviors should feel like a choice, not like something that is forced. When people feel forced to perform certain behaviors, such as participating in mandatory diversity training, there is often a boomerang effect (i.e., the occurrence of the desired behavior decreases rather than increases; Dobbin & Kalev, 2018). It is thus important to examine how the factors that influence behavior change need to be implemented to minimize negative effects. Knowledge about when and why behavior-change strategies are counterproductive can then be applied to the

development of interventions. One suggestion for reducing reactance is to place a different, more intrinsically interesting topic at the foreground of a pro-diversity intervention (Murrar & Brauer, 2018).

There is ample space for research to be conducted on how to change intergroup behaviors using the factors that are already known to causally affect behaviors in other areas. The questions outlined above are only starting points for potential future avenues. The more we learn about how to change intergroup behaviors and which methods of behavior change are best received, the better equipped we are to build theoretical models of human behavior and the more successful we will be at providing concrete suggestions for how to improve intergroup outcomes in the real world.

Conclusion

Despite a long history of research on prejudice, social scientists have little to show when it comes to effective methods for reducing discrimination and promoting inclusive behaviors in real-world contexts. The field has largely focused on changing intergroup attitudes as the primary means of improving intergroup behaviors, but attitudes are shown to have a weak impact on behavior. Further, it is possible to influence intergroup behavior without accompanying changes in intergroup attitudes (Paluck et al., 2021). Intergroup attitude change is thus neither a sufficient nor a necessary cause for intergroup behavior change. Intergroup attitudes and intergroup behaviors are influenced by different factors, and changing them requires understanding what these factors are. Given the lack of consistency between attitudes and behaviors in the intergroup domain, I propose that the research on diversity and inclusion should shift its focus from intergroup attitudes to intergroup behaviors. The next frontier is to identify the factors that influence intergroup behavior change and to determine which of these factors can be leveraged to produce a change in intergroup behaviors in real-world settings. With this knowledge in hand, social scientists will be able to give concrete advice to diversity practitioners and thus contribute to a more inclusive and equal society.

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Note

1. Readers may wonder why certain factors have not been presented in this section. For example, there is some literature suggesting that social norms and social referents play a role in intergroup attitude formation and change (e.g., Crandall & Stangor, 2005; McDonald & Crandall, 2015). However, my reading of the literature is that social norms and social referents have been mentioned much more often in the context of intergroup behavior change (e.g., Murrar et al., 2020; Paluck & Shepherd, 2012), which is why they are discussed in the next section. Another important factor is consistency with one's identity or values (e.g., Oyserman, 2015). There is no doubt that the concern about whether holding a certain attitude is consistent with one's view of oneself plays a role in attitude formation and change (e.g., the *hypocrisy paradigm*; Fried & Aronson, 1995). However, there is also strong evidence that making salient the consistency between one's identity and values and a certain behavior can lead to behavior change. Many strategies related to commitment and consistency, discussed above, consist of highlighting preexisting values and beliefs and reminding people of prior behaviors. As with social norms and social referents, making salient the consistency with one's identity and values is more often mentioned in the literature on intergroup behavior change than in the literature on intergroup attitude change.

References

- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179–211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2, 314–324. <https://doi.org/10.1002/hbe2.195>
- Allport, G. W. (1935). Attitudes. In C. Murchison (Ed.), *Handbook of social psychology* (pp. 798–844). Clark University Press.
- Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.
- Applebaum, B. (2019). Remediating campus climate: Implicit bias training is not enough. *Studies in Philosophy and Education*, 38, 129–141. <https://doi.org/10.1007/s11217-018-9644-1>
- Aronson, E. (2004). Reducing hostility and building compassion: Lessons from the jigsaw classroom. In A. G. Miller (Ed.), *The social psychology of good and evil* (pp. 469–488). Guilford Press.
- Ayhan, C. H. B., Bilgin, H., Uluman, O. T., Sukut, O., Yilmaz, S., & Buzlu, S. (2020). A systematic review of the discrimination against sexual and gender minority in health care settings. *International Journal of Health*, 50(1), 44–61. <https://doi.org/10.1177/0020731419885093>
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84(2), 191–215. <https://doi.org/10.1037/0033-295X.84.2.191>
- Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Management*, 38(1), 9–44. <https://doi.org/10.1177/0149206311410606>

- Barr, S. (2006). Environmental action in the home: Investigating the 'value-action' gap. *Geography*, 91(1), 43–54. <https://doi.org/10.1080/00167487.2006.12094149>
- Baumeister, R. F., Vohs, K. D., & Funder, D. C. (2007). Psychology as the science of self-reports and finger movements: Whatever happened to actual behavior? *Perspectives on Psychological Science*, 2(4), 396–403. <https://doi.org/10.1111/j.1745-6916.2007.00051.x>
- Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1–62). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60024-6](https://doi.org/10.1016/S0065-2601(08)60024-6)
- Bicchieri, C. (2017). *Norms in the wild: How to diagnose, measure, and change social norms*. Oxford Academic. <https://doi.org/10.1093/acprof:oso/9780190622046.001.0001>
- Brewer, N. T., Chapman, G. B., Rothman, A. J., Leask, J., & Kempe, A. (2017). Increasing vaccination: Putting psychological science into action. *Psychological Science in the Public Interest*, 18(3), 149–207. <https://doi.org/10.1177/1529100618760521>
- Brownstein, M., Madva, A., & Gawronski, B. (2019). What do implicit measures measure? *Wiley Interdisciplinary Reviews: Cognitive Science*, 10(5), Article e1501. <https://doi.org/10.1002/wcs.1501>
- Burns, M. D., Monteith, M. J., & Parker, L. R. (2017). Training away bias: The differential effects of counterstereotype training and self-regulation on stereotype activation and application. *Journal of Experimental Social Psychology*, 73, 97–110. <https://doi.org/10.1016/j.jesp.2017.06.003>
- Campbell, M. R., & Brauer, M. (2020). Incorporating social marketing insights into prejudice research: Advancing theory and demonstrating real-world applications. *Perspectives on Psychological Science*, 15(3), 608–629. <https://doi.org/10.1177/1745691619896622>
- Carpenter, C. J. (2010). A meta-analysis of the effectiveness of health belief model variables in predicting behavior. *Health Communication*, 25(8), 661–669. <https://doi.org/10.1080/10410236.2010.521906>
- Carr, P. B., Dweck, C. S., & Pauker, K. (2012). "Prejudiced" behavior without prejudice? Beliefs about the malleability of prejudice affect interracial interactions. *Journal of Personality and Social Psychology*, 103(3), 452–471. <https://doi.org/10.1037/a0028849>
- Chai, A., Bradley, G., Lo, A., & Reser, J. (2015). What time to adapt? The role of discretionary time in sustaining the climate change value-action gap. *Ecological Economics*, 116, 95–107. <https://doi.org/10.1016/j.ecolecon.2015.04.013>
- Chang, E. H., Milkman, K. L., Gromet, D. M., Rebele, R. W., Massey, C., Duckworth, A. L., & Grant, A. M. (2019). The mixed effects of online diversity training. *Proceedings of the National Academy of Sciences, USA*, 116(16), 7778–7783. <https://doi.org/10.1073/pnas.1816076116>
- Chater, N., & Loewenstein, G. (2022). The i-frame and the s-frame: How focusing on individual-level solutions has led behavioral public policy astray. *Behavioral and Brain Sciences*. (in press). <https://doi.org/10.1017/S0140525X22002023>
- Cialdini, R. B. (2001). The science of persuasion. *Scientific American*, 284, 76–81. <https://doi.org/10.1038/scientificamerican0201-76>
- Cialdini, R. B. (2009). We have to break up. *Perspectives on Psychological Science*, 4(1), 5–6. <https://doi.org/10.1111/j.1745-6924.2009.01091.x>
- Cialdini, R. B., & Goldstein, N. J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55, 591–621. <https://doi.org/10.1146/annurev.psych.55.090902.142015>
- Cialdini, R. B., Reno, R. R., & Kallgren, C. A. (1990). A focus theory of normative conduct: Recycling the concept of norms to reduce littering in public places. *Journal of Personality and Social Psychology*, 58(6), 1015–1026. <https://doi.org/10.1037/0022-3514.58.6.1015>
- Cialdini, R. B., & Schroeder, D. A. (1976). Increasing compliance by legitimizing paltry contributions: When even a penny helps. *Journal of Personality and Social Psychology*, 34(4), 599–604. <https://doi.org/10.1037/0022-3514.34.4.599>
- Cornell, P. (2002). The impact of changes in teaching and learning on furniture and the learning environment. *New Directions for Teaching and Learning*, 2002(92), 33–42. <https://doi.org/10.1002/tl.77>
- Crandall, C. S., & Stangor, C. (2005). Conformity and prejudice. In J. F. Dovidio, P. Glick, & L. A. Rudman (Eds.), *On the nature of prejudice: Fifty years after Allport* (pp. 295–309). Blackwell Science. <https://doi.org/10.1002/9780470773963.ch18>
- Darley, J. M., & Latané, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology*, 8(4), 377–383. <https://doi.org/10.1037/h0025589>
- Dasgupta, N. (2013). Implicit attitudes and beliefs adapt to situations: A decade of research on the malleability of implicit prejudice, stereotypes, and the self-concept. In P. G. Devine & E. A. Plant (Eds.), *Advances in experimental social psychology*, (Vol. 43, pp. 233–279). Academic Press. <https://doi.org/10.1016/B978-0-12-407236-7.00005-X>
- Daumeier, N. M., Onyeador, I. N., Brown, X., & Richeson, J. A. (2019). Consequences of attributing discrimination to implicit vs. explicit bias. *Journal of Experimental Social Psychology*, 84, Article 103812. <https://doi.org/10.1016/j.jesp.2019.04.010>
- De Houwer, J. (2019). Implicit bias is a behavior: A functional-cognitive perspective on implicit bias. *Perspectives on Psychological Science*, 14(5), 835–840. <https://doi.org/10.1177/1745691619855638>
- Dibbets, P., Adolphs, L., Close, I., Herings, A., Kiggen, M., Kinneging, M., Löffler, L., Nijssen, Y., Van Schaaijk, P., & Ostermann, M. S. (2012). Reversal of attitude: The influence of counter-attitudinal information. *Journal of Social Sciences*, 8(3), 390–396. <https://doi.org/10.3844/jssp.2012.390.396>
- Dijksterhuis, A., Smith, P. K., Van Baaren, R. B., & Wigboldus, D. H. (2005). The unconscious consumer: Effects of environment on consumer behavior. *Journal of Consumer Psychology*, 15(3), 193–202. https://doi.org/10.1207/s15327663jcp1503_3
- Dobbin, F., & Kalev, A. (2018). Why doesn't diversity training work? The challenge for industry and academia. *Anthropology Now*, 10(2), 48–55. <https://doi.org/10.1080/19428200.2018.1493182>

- Doliński, D. (2018). Is psychology still a science of behaviour? *Social Psychological Bulletin*, 13(2), 1–14. <https://doi.org/10.5964/spb.v13i2.25025>
- Dovidio, J. F. (2017). Promoting positive intergroup relations: Revisiting Aronson et al.'s jigsaw classroom. In J. R. Smith & S. A. Haslam (Eds.), *Social psychology: Revisiting the classic studies* (2nd ed., pp. 217–230). Sage.
- Eagly, A. H., & Chaiken, S. (1993). *The psychology of attitudes*. Harcourt Brace Jovanovich.
- Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary Educational Psychology*, 61, Article 101859. <https://doi.org/10.1016/j.cedpsych.2020.101859>
- Fazio, R. H. (1986). How do attitudes guide behavior? In R. M. Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 204–243). Guilford Press.
- Fazio, R. H. (1990). Multiple processes by which attitudes guide behavior: The MODE model as an integrative framework. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (Vol. 23, pp. 75–109). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60318-4](https://doi.org/10.1016/S0065-2601(08)60318-4)
- Fazio, R. H., & Zanna, M. P. (1981). Direct experience and attitude-behavior consistency. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 14, pp. 161–202). Academic Press. [https://doi.org/10.1016/S0065-2601\(08\)60372-X](https://doi.org/10.1016/S0065-2601(08)60372-X)
- Festinger, L. (1962). Cognitive dissonance. *Scientific American*, 207, 93–106. <https://doi.org/10.1038/scientificamerican1062-93>
- Flaherty, T., Domegan, C., Duane, S., Brychkov, D., & Anand, M. (2020). Systems social marketing and macro-social marketing: A systematic review. *Social Marketing Quarterly*, 26(2), 146–166. <https://doi.org/10.1177/1524500420925188>
- Forscher, P. S., Lai, C. K., Axt, J. R., Ebersole, C. R., Herman, M., Devine, P. G., & Nosek, B. A. (2019). A meta-analysis of procedures to change implicit measures. *Journal of Personality and Social Psychology*, 117(3), 522–559. <https://doi.org/10.1037/pspa0000160>
- Fried, C. B., & Aronson, E. (1995). Hypocrisy, misattribution, and dissonance reduction. *Personality and Social Psychology Bulletin*, 21(9), 925–933. <https://psycnet.apa.org/doi/10.1177/0146167295219007>
- Gaertner, S. L., & Dovidio, J. F. (2000). *Reducing intergroup bias: The common ingroup identity model*. Psychology Press.
- Garnefeld, I., Eggert, A., Helm, S. V., & Tax, S. S. (2013). Growing existing customers' revenue streams through customer referral programs. *Journal of Marketing*, 77(4), 17–32. <https://doi.org/10.1509/jm.11.0423>
- Gawronski, B. (2019). Six lessons for a cogent science of implicit bias and its criticism. *Perspectives on Psychological Science*, 14(4), 574–595. <https://doi.org/10.1177/1745691619826015>
- Gawronski, B., & Bodenhausen, G. V. (2006). Associative and propositional processes in evaluation: An integrative review of implicit and explicit attitude change. *Psychological Bulletin*, 132(5), 692–731. <https://doi.org/10.1037/0033-2909.132.5.692>
- Gawronski, B., Hofmann, W., & Wilbur, C. J. (2006). Are “implicit” attitudes unconscious? *Consciousness and Cognition*, 15(3), 485–499. <https://doi.org/10.1016/j.concog.2005.11.007>
- Gawronski, B., & Hahn, A. (2019). Implicit measures: Procedures, use, and interpretation. In H. Blanton, J. M. LaCroix, & G. D. Webster (Eds.), *Measurement in social psychology* (pp. 29–55). Routledge/Taylor & Francis Group. <https://doi.org/10.4324/9780429452925-2>
- Ghumman, S., Ryan, A. M., Barclay, L. A., & Markel, K. S. (2013). Religious discrimination in the workplace: A review and examination of current and future trends. *Journal of Business Psychology*, 28, 439–454. <https://doi.org/10.1007/s10869-013-9290-0>
- Goldstein, D. G., Johnson, E. J., Herrmann, A., & Heitmann, M. (2008). Nudge your customers toward better choices. *Harvard Business Review*, 86, 99–105.
- Greenwald, A. G. (1968). On defining attitude and attitude theory. In A. G. Greenwald, T. C. Brock, & T. M. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 361–388).
- Grzyb, T., & Doliński, D. (2017). Beliefs about obedience levels in studies conducted within the Milgram paradigm: Better than average effect and comparisons of typical behaviors by residents of different countries. *Frontiers in Psychology*, 8, Article 1632. <https://doi.org/10.3389/fpsyg.2017.01632>
- Hackel, L. M., Kogon, D., Amodio, D. M., & Wood, W. (2022). Group value learned through interactions with members: A reinforcement learning account. *Journal of Experimental Social Psychology*, 99, Article 104267. <https://doi.org/10.1016/j.jesp.2021.104267>
- Hahn, A., Judd, C. M., Hirsh, H. K., & Blair, I. V. (2014). Awareness of implicit attitudes. *Journal of Experimental Psychology: General*, 143(3), 1369–1392. <https://doi.org/10.1037/a0035028>
- Hulland, J., & Houston, M. (2021). The importance of behavioral outcomes. *Journal of the Academy of Marketing Sciences*, 49(3), 437–440. <https://doi.org/10.1007/s11747-020-00764-w>
- Isenberg, N., & Brauer, M. (2022). Commitment and consistency. In R. A. R. Gurung (Ed.), *The Routledge research encyclopedia of psychology applied to everyday life*. Routledge. <https://doi.org/10.4324/9780367198459-REPRW126-1>
- Jackson, S. M., Hillard, A. L., & Schneider, T. R. (2014). Using implicit bias training to improve attitudes toward women in STEM. *Social Psychology of Education*, 17, 419–438. <https://doi.org/10.1007/s11218-014-9259-5>
- Kawakami, K., Amodio, D. M., & Hugenberg, K. (2017). Intergroup perception and cognition: An integrative framework for understanding the causes and consequences of social categorization. In J. M. Olson (Ed.), *Advances in experimental social psychology* (Vol. 55, pp. 1–80). Academic Press. <https://doi.org/10.1016/bs.aesp.2016.10.001>
- Kite, M. E., Whitley, B. E., Jr., & Wagner, L. S. (2022). *Psychology of prejudice and discrimination* (4th ed.). Routledge.
- Kollmuss, A., & Agyeman, J. (2002). Mind the gap: Why do people act environmentally and what are the barriers to

- pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. <https://doi.org/10.1080/13504620220145401>
- Lai, C. K., Hoffman, K. M., & Nosek, B. A. (2013). Reducing implicit prejudice. *Social and Personality Psychology Compass*, 7(5), 315–330. <https://doi.org/10.1111/spc3.12023>
- Lai, C. K., & Lisnek, J. A. (2023). The impact of implicit-bias-oriented diversity training on police officers' beliefs, motivations, and actions. *Psychological Science*, 34(4), 424–434. <https://doi.org/10.1177/09567976221150617>
- Lai, C. K., Skinner, A. L., Cooley, E., Murrar, S., Brauer, M., Devos, T., Calanchini, J., Xiao, Y. J., Pedram, C., Marshburn, C. K., Simon, S., Blanchar, J. C., Joy-Gaba, J. A., Conway, J., Redford, L., Klein, R. A., Roussos, G., Schellhaas, F. M. H., Burns, M., . . . Nosek, B. A. (2016). Reducing implicit racial preferences: II. Intervention effectiveness across time. *Journal of Experimental Psychology: General*, 145(8), 1001–1016. <https://doi.org/10.1037/xge0000179>
- Lee, D. L., & Ahn, S. (2012). Discrimination against Latinas/os: A meta-analysis of individual-level resources and outcomes. *The Counseling Psychologist*, 40(1), 28–65. <https://doi.org/10.1177/0011000011403326>
- Lee, N. R., & Kotler, P. (2019). *Social marketing: Behavior change for social good* (6th ed.). Sage.
- Lewis, N. A., Jr. (2023). Cultivating equal minds: Laws and policies as (de)biasing social interventions. *Annual Review of Law and Social Science*, 19, 2.1–2.16. <https://doi.org/10.1146/annurev-lawsocsci-111622-063213>
- Lowe, M. (2021). Types of contact: A field experiment on collaborative and adversarial caste integration. *American Economic Review*, 111(6), 1807–1844. <https://doi.org/10.1257/aer.20191780>
- Mallett, R. K., & Wilson, T. D. (2010). Increasing positive intergroup contact. *Journal of Experimental Social Psychology*, 46(2), 382–387. <https://doi.org/10.1016/j.jesp.2009.11.006>
- Mazar, A., Tomaino, G., Carmon, Z., & Wood, W. (2021). Habits to save our habitat: Using the psychology of habits to promote sustainability. *Behavioral Science and Policy*, 7(2), 75–89. <https://doi.org/10.31234/osf.io/kwdh9>
- McDonald, R. I., & Crandall, C. S. (2015). Social norms and social influence. *Current Opinion in Behavioral Sciences*, 3, 147–151. <https://doi.org/10.1016/j.cobeha.2015.04.006>
- McKenzie-Mohr, D., & Schultz, P. W. (2014). Choosing effective behavior change tools. *Social Marketing Quarterly*, 20(1), 35–46. <https://doi.org/10.1177/1524500413519257>
- Miller, D. T., & Prentice, D. A. (2016). Changing norms to change behavior. *Annual Review of Psychology*, 67, 339–361. <https://doi.org/10.1146/annurev-psych-010814-015013>
- Moors, A., & Köster, M. (2022). Behavior prediction requires implicit measures of stimulus-goal discrepancies and expected utilities of behavior options rather than of attitudes toward objects. *WIREs Cognitive Science*, 13(5), Article e1611. <https://doi.org/10.1002/wcs.1611>
- Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, 369(6505), 866–870. <https://doi.org/10.1126/science.abb3153>
- Münscher, R., Vetter, M., & Scheuerly, T. (2016). A review and taxonomy of choice architecture techniques. *Journal of Behavioral Decision Making*, 29(5), 511–524. <https://doi.org/10.1002/bdm.1897>
- Murrar, S., & Brauer, M. (2018). Entertainment-education effectively reduces prejudice. *Group Processes & Intergroup Relations*, 21(7), 1053–1077. <https://doi.org/10.1177/1368430216682350>
- Murrar, S., & Brauer, M. (2019). Overcoming resistance to change: Using narratives to create more positive intergroup attitudes. *Current Directions in Psychological Science*, 28(2), 164–169. <https://doi.org/10.1177/0963721418818552>
- Murrar, S., Campbell, M. R., & Brauer, M. (2020). Exposure to peers' pro-diversity attitudes increases inclusion and reduces the achievement gap. *Nature Human Behaviour*, 4, 889–897. <https://doi.org/10.1038/s41562-020-0899-5>
- Neal, D. T., Wood, W., Labrecque, J. S., & Lally, P. (2012). How do habits guide behavior? Perceived and actual triggers of habits in daily life. *Journal of Experimental Social Psychology*, 48(2), 492–498. <https://doi.org/10.1016/j.jesp.2011.10.011>
- Okonofua, J. A., Harris, L. T., & Walton, G. M. (2022). Sidelining bias: A situationist approach to reduce the consequences of bias in real-world contexts. *Current Directions in Psychological Science*, 31(5), 395–404. <https://doi.org/10.1177/09637214221102422>
- Olson, M. A., & Kendrick, R. V. (2008). Origins of attitudes. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (Vol. 17, pp. 419–438). Taylor & Francis Group.
- Oyserman, D. (2015). Identity-based motivation. In R. S. Scott & S. Kosslyn (Eds.), *Emerging trends in the social and behavioral sciences: An interdisciplinary, searchable, and linkable resource* (pp. 1–11). <https://doi.org/10.1002/9781118900772.etrds0171>
- Ozeren, E. (2014). Sexual orientation discrimination in the workplace: A systematic review of literature. *Procedia – Social and Behavioral Sciences*, 109, 1203–1215. <https://doi.org/10.1016/j.sbspro.2013.12.613>
- Paluck, E. L., & Clark, C. S. (2020). Can playing together help us live together? *Science*, 369(6505), 769–770. <https://doi.org/10.1126/science.abb9990>
- Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual Review of Psychology*, 60, 339–367. <https://doi.org/10.1146/annurev.psych.60.110707.163607>
- Paluck, E. L., Porat, R., Clark, C. S., & Green, D. P. (2021). Prejudice reduction: Progress and challenges. *Annual Review of Psychology*, 72, 533–560. <https://doi.org/10.1146/annurev-psych-071620-030619>
- Paluck, E. L., & Shepherd, H. (2012). The salience of social referents: A field experiment on collective norms and harassment behavior in a school social network. *Journal of Personality and Social Psychology*, 103(6), 899–915. <https://doi.org/10.1037/a0030015>
- Paluck, E. L., Shepherd, H., & Aronow, M. (2016). Changing climates of conflict: A social network experiment in 56 schools. *Proceedings of the National Academy of Sciences, USA*, 113(3), 566–571. <https://doi.org/10.1073/pnas.1514483113>

- Payne, B. K., & Hannay, J. W. (2021). Implicit bias reflects systemic racism. *Trends in Cognitive Science*, 25(11), 927–936. <https://doi.org/10.1016/j.tics.2021.08.001>
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Interpersonal Relations and Group Processes*, 90(5), 751–783. <https://doi.org/10.1037/0022-3514.90.5.751>
- Petty, R. E., & Cacioppo, J. T. (Eds.). (1986). The elaboration likelihood model of persuasion. In *Communication and persuasion* (pp. 1–24). Springer.
- Reskin, B. (2012). The race discrimination system. *Annual Review of Sociology*, 38, 17–25. <https://doi.org/10.1146/annurev-soc-071811-145508>
- Rhodes, N., Schulman, H. C., & McClaran, N. (2020). Changing norms: A meta-analytic integration of research on social norms appeals. *Human Communication Research*, 46(2–3), 161–191. <https://doi.org/10.1093/hcr/hqz023>
- Rosenstock, I. M. (1966). Why people use health services. *The Milbank Quarterly*, 44(3), 94–124. <https://doi.org/10.1111%2Fj.1468-0009.2005.00425.x>
- Ross, L., & Nisbett, R. E. (2011). *The person and the situation: Perspectives of social psychology*. Pinter & Martin Publishers.
- Rothman, A. J., Gollwitzer, P. M., Grant, A. M., Neal, D. T., Sheeran, P., & Wood, W. (2015). Hale and hearty policies: How psychological science can create and maintain healthy habits. *Perspectives on Psychological Science*, 10(6), 701–705. <https://doi.org/10.1177/1745691615598515>
- Rudman, L. A. (2004). Sources of implicit attitudes. *Current Directions in Psychological Science*, 13(2), 79–82. <https://doi.org/10.1111/j.0963-7214.2004.00279.x>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Rydell, R. J., McConnell, A. R., Strain, L. M., Claypool, H. M., & Hugenberg, K. (2007). Implicit and explicit attitudes respond differently to increasing amounts of counterattitudinal information. *European Journal of Social Psychology*, 37(5), 867–878. <https://doi.org/10.1002/ejsp.393>
- Scacco, A., & Warren, S. S. (2018). Can social contact reduce prejudice and discrimination? Evidence from a field experiment in Nigeria. *American Political Science Review*, 112(3), 654–677. <https://doi.org/10.1017/S0003055418000151>
- Schuster, C., Sparkman, G., Walton, G. M., Alles, A., & Loschelder, D. D. (2023). Egalitarian norm messaging increases human resources professionals' salary offers to women. *Journal of Applied Psychology*, 108(4), 541–552. <https://doi.org/10.1037/apl0001033>
- Schwarz, N., & Bohner, G. (2001). The construction of attitudes. In A. Tesser & N. Schwarz (Eds.), *Blackwell handbook of social psychology: Intraindividual processes* (Vol. 1, pp. 436–457). Blackwell.
- Sheeran, P. (2002). Intention-behavior relations: A conceptual and empirical review. *European Review of Social Psychology*, 12(1), 1–36. <https://doi.org/10.1080/14792772143000003>
- Sheeran, P., & Webb, T. L. (2016). The intention-behavior gap. *Social and Personality Psychology Compass*, 10(9), 503–518. <https://doi.org/10.1111/spc3.12265>
- Steinel, W., Van Kleef, G. A., Van Knippenberg, D., Hogg, M. A., Homan, A. C., & Moffitt, G. (2010). How intragroup dynamics affect behavior in intergroup conflict: The role of group norms, prototypicality, and need to belong. *Group Processes & Intergroup Relations*, 13(6), 779–794. <https://doi.org/10.1177/1368430210375702>
- Tankard, M. E., & Paluck, E. L. (2016). Norm perception as a vehicle for social change. *Social Issues and Policy Review*, 10(1), 181–211. <https://doi.org/10.1111/sipr.12022>
- Thaler, R. H. (2018). From cashews to nudges: The evolution of behavioral economics. *American Economic Review*, 108(6), 1265–1287. <https://doi.org/10.1257/aer.108.6.1265>
- Tormala, Z. L. (2008). A new framework for resistance to persuasion: The resistance appraisals hypothesis. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 213–234). Taylor & Francis Group.
- Uhlmann, E. L., & Cohen, G. L. (2005). Constructed criteria: Redefining merit to justify discrimination. *Psychological Science*, 16(6), 474–480. <https://doi.org/10.1111/j.0956-7976.2005.01559.x>
- Vescio, T. K., Sechrist, G. B., & Paolucci, M. P. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology*, 33(4), 455–472. <https://doi.org/10.1002/ejsp.163>
- Walker, I., & Cropan, M. (1998). Academic performance, prejudice, and the jigsaw classroom: New pieces to the puzzle. *Journal of Community & Applied Social Psychology*, 8(6), 381–393. [https://doi.org/10.1002/\(SICI\)1099-1298\(199811/12\)8:6%3C381::AID-CASP457%3E3.0.CO;2-6](https://doi.org/10.1002/(SICI)1099-1298(199811/12)8:6%3C381::AID-CASP457%3E3.0.CO;2-6)
- Walther, E., & Langer, T. (2008). Attitude formation and change through association: An evaluative conditioning account. In W. D. Crano & R. Prislin (Eds.), *Attitudes and attitude change* (pp. 87–109). Psychology Press.
- Wicker, A. W. (1969). Attitudes versus actions: The relationship of verbal and overt behavioral responses to attitude objects. *Journal of Social Issues*, 25(4), 41–78. <https://doi.org/10.1111/j.1540-4560.1969.tb00619.x>
- Winkler-Schor, S., & Brauer, M. (2023). *What happens when payments end? Fostering long-term behavior change when financial incentives are initially unavoidable*. [Unpublished manuscript].
- Wood, W. (2000). Attitude change: Persuasion and social influence. *Annual Review of Psychology*, 51, 539–570. <https://doi.org/10.1146/annurev.psych.51.1.539>
- Wood, W. (2017). Habit in personality and social psychology. *Personality and Social Psychology Review*, 21(4), 389–403. <https://doi.org/10.1177/1088868317720362>