Routledge
Taylor & Francis Group

ARTICLE

Check for updates

Changing prejudiced attitudes, promoting egalitarianism, and enhancing diversity through fundamental processes of persuasion

Pablo Briñol[a] and Richard E. Petty[b]

[a]Facultad de Psicología, Universidad Autónoma de Madrid, Campus de Cantoblanco, Madrid, Spain; [b]Distinguished University Professor, Department of Psychology, The Ohio State University, Columbus, OH, USA

ABSTRACT

We review work from persuasion science relevant to reducing prejudiced attitudes. We begin by introducing the idea that the thoughts people generate – their number and valence – are critical for understanding when responding to persuasive attempts will result in egalitarian attitudes. A focus on thinking highlights the importance of understanding short and long-term attitude change in promoting diversity. How much people think is also consequential for spreading of initial change to more distal attitudes and generalization of change to other judgments. The second section describes a process of thought validation that emphasizes the importance of considering what people think and feel about their own thoughts. This meta-cognitive process is shown to make a difference in producing consequential changes in reducing prejudiced attitudes toward African Americans, immigrants, refugees, individuals with disabilities, and beyond. The conditions under which variables such as minority status and stigmatized sources affect elaboration and validation are also specified. The fourth section explores how these two processes are relevant for understanding explicit and implicit ambivalence and change in the domain of prejudiced attitudes. We highlight the utility of a process-oriented approach for designing future research and promoting more inclusive attitudes and actions.

The public policy of many governments as well as that of private institutions and businesses typically has a goal of encouraging the inclusion of members of under-represented groups into all levels of society and the organisation. Addressing this challenge depends in part on the extent to which messages, campaigns, and interventions are effective in changing people's prejudiced attitudes. Developments in the science of persuasion over the past few

CONTACT Pablo Briñol ✉ pablo.brinol@uam.es; www.pablobrinol.com 🖥 Facultad de Psicología, Universidad Autónoma de Madrid, Campus de Cantoblanco, Carretera Colmenar, Km. 15, Madrid, 28049, Spain

decades have provided guidance on this matter by focusing on the fundamental processes underlying attitude change (e.g. G. R. Maio et al., 2019). Although prejudice reduction is a complex phenomenon shaped by multiple factors (Dixon et al., 2012; Pettigrew & Tropp, 2006), changing prejudiced attitudes plays a critical role in undermining discrimination (J. E. Dovidio et al., 2019; Paluck & Green, 2009). The present review contributes to this domain by focusing on the basic processes of persuasion as a foundation so that researchers and practitioners can understand and improve the efficacy of their influence attempts.

This article focuses mostly on two of the fundamental processes of persuasion that have proven to be particularly useful in producing consequential attitude changes in the domain of prejudiced attitudes: *elaboration* and *validation*. We review work on reducing prejudiced attitudes and increasing diversity which allows us to introduce a series of discoveries in regard to the fundamental processes underlying these phenomena, therefore advancing both basic and applied research.

Overview, Goal, and Scope

We begin our review by introducing the role of *elaboration* processes in changing prejudiced attitudes. A focus on elaboration highlights the importance of considering the amount and valence of people's thoughts in response to persuasive attempts (e.g. advocating the hiring of South American immigrants), the importance of understanding the short and long-term consequences of those changes, and also the consequences for the spreading and generalisation of change. The second section describes the role of thought *validation* processes in reducing prejudiced attitudes towards individuals with disabilities, African Americans, and others. The process of validation highlights the distinction between primary and secondary cognition, and emphasises the importance of considering what people think and feel about their own thoughts, and the thoughts and meta-cognitions that others are perceived to have.

In the third section, we specify the conditions under which elaboration and validation processes are more likely to operate using examples from research on prejudice-relevant variables such as minority status sources and stigmatised sources. The fourth section describes how elaboration and validation processes are also relevant for understanding changes on both explicit and implicit measures of attitudes as well as the implications for both explicit and implicit ambivalence regarding prejudiced attitudes. The firth section focuses on practical tips that researchers, practitioners, and institutions can take in making more effective diversity interventions. The closing section describes how our process approach can be useful for designing future research.

Before beginning our analysis of these two core persuasion processes, it should be noted that the studies reviewed were systematically selected based on whether (1) the attitude object, or any of the elements of the persuasive context were relevant to the domains of stereotyping, group identity, or prejudice, (2) a persuasive attempt or treatment was attempted, (3) the process underlying observed changes in prejudiced attitudes was related to the two mechanism highlighted, elaboration and validation, and (4) whether there were any consequences associated with those psychological processes in terms of attitude change or attitude strength.

Definitions and Conceptual Framework

Attitudes refer to general evaluations (e.g. good-bad, like-dislike) people have regarding people, groups, and issues. Attitudes serve a number of important functions such as guiding choices (e.g. being more likely to hire people from positively evaluated minority groups) and actions (e.g. discrimination, keeping social distance from members of disliked minority groups). In addition to their function in guiding behaviour, attitudes can also serve the functions of giving people a sense of identity, belonging, and self-esteem (e.g. Katz, 1960; Allport, 1954). For example, a person might develop a prejudiced attitude towards a minority group because this negative evaluation of the out-group makes the person feel better about the in-group and about the self.

Attitudes can differ in their strength, with some attitudes being more impactful and predictive of behaviour than others (R. E. Petty & Krosnick, 1995). As will be illustrated in this article, some indicators of holding a strong attitude have been viewed as relatively objective in nature (e.g. their stability, resistance, spreading) whereas others are more subjective in nature (e.g. their perceived stability, subjective knowledge about them, felt ambivalence). Attitudes can also differ in the extent to which they are based on affect, cognition, and behaviour. Thus, prejudiced attitudes can stem from emotional feelings (e.g. how much fear or disgust a group makes people feel), cognitions (e.g. stereotypical beliefs about the work habits of an out-group), or a combination of the two (e.g. Crites et al., 1994; Ashton-James et al; 2012). Beyond affect and cognition, prejudiced attitudes can also be influenced by a person's behaviours, as illustrated by work on self-perception theory (Bem, 1972) and embodied evaluation (P. Briñol et al., 2009).

The accumulated work on prejudice reduction has suggested that a variety of low deliberation processes can produce attitude change towards minority groups, such as mere exposure (Pettigrew & Tropp, 2006), classical conditioning (J. F. Dovidio et al., 2003; Phills et al., 2011), and simple inferences and heuristics (e.g. "*if I am sitting next to her, I must like her,*" Bem, 1972; Chaiken, 1987; Pinel & Long, 2012). Although relevant, low-thinking processes are not the only means of attitude change towards stigmatised others.

According to dual-process models such as the Elaboration Likelihood Model (ELM, R. E. Petty & Briñol, 2012; R. E. Petty & Cacioppo, 1986), attitude formation and change can also be produced by thoughtful processes.

Persuasion research demonstrates that an individual's idiosyncratic reactions to a proposal (or to a seminar, or to a contact-based initiative) are more important than learning the specific campaign content. That is, in contrast to the traditional learning model of persuasion (e.g. Hovland et al., 1953) in which the efficacy of educational campaigns was presumed to depend upon learning and remembering the message content, the cognitive response approach maintains that individuals play an active role in the persuasion process by relating the proposal to the recipients' own knowledge (Greenwald, 1968; Petty, Ostrom et al, 1981). According to this paradigm, the extent of persuasion is determined by the person's thoughts in response to this information rather than learning the information per se. In general, more favourable thoughts towards a message lead to more persuasion. More unfavourable thoughts leads to less persuasion, or can even change the recipient's attitude in a direction opposite to the advocacy.[1]

Following the cognitive response approach, the ELM proposed that to understand attitude change, it was important to consider not only the valence of thoughts but also the amount of thinking done by the message recipient. The ELM is an early example of what became an explosion of dual process and system theories that distinguished thoughtful (deliberative) from non-thoughtful (gut, experiential, snap) judgements (R. E. Petty & Briñol, 2008; Forscher & Devine, 2014; see Sherman et al., 2012, for reviews). As will be illustrated shortly, the extent of thinking is important not only because it determines the process by which a variable affects attitudes, but also because in the ELM, more thoughtful persuasion is postulated to be more consequential than is persuasion produced by lower thought processes (R. E. Petty et al., 1995).

The variables relevant to persuasion settings are traditionally categorised into those that are part of the communication *source* (e.g. majority status, race of the source), the *message* itself (e.g. complexity), the *recipient* of influence (e.g. one's group identity, stereotypes) or the *context* in which persuasion occurs (e.g. noisy auditorium or at home). The ELM specifies five fundamental processes by which these variables can affect attitudes. That is, these variables can affect: (1) the amount of thinking that takes place, (2) the valence (favourable or unfavourable) of the thinking, (3) the structural properties of the thoughts generated such as the confidence one has in them, or variables can serve as (4) persuasive arguments for the merits of a proposal, or (5) as simple cues to the desirability of the proposal. Although the ELM identifies these five core psychological processes by which variables such as minority sources, one's

---

[1]Learning about others can reduce prejudice not only by changing cognitions about out-group members, but also by changing emotions (Brown & Hewstone, 2005; Turner & Crisp, 2010).

group identity, and so forth can influence evaluation, and proposes that these processes operate in different circumstances (e.g. variables are more likely to serve as simple cues when the likelihood of thinking is low), here the focus here is primarily on two of the relatively high elaboration processes that have proven particularly useful in producing consequential judgements relevant to prejudice.

Changing Prejudiced Attitudes with Elaboration

One of the most important ways in which variables can influence attitudes is by affecting the amount of thinking in which people engage when making an evaluation. A variable is most likely to have this effect when thinking is not already constrained to be high or low by other variables. As noted earlier, persuasion variables are often classified as whether they belong to the source, the message, the recipient or the context. They also can be classified as to whether they affect motivation (e.g. personal relevance) or ability (e.g. distraction) to think.[2] In this section we chose personal responsibility (e.g. Petty et al., 1980), as an illustrative example of a variable that affects a person's motivation to process a message (R. E. Petty & Cacioppo, 1990). However, the same predictions apply to other variables capable of affecting motivation and ability to think.

Specifically, Gandarillas et al. (2014) examined the effect of organisational responsibility on the extent to which eighty employees within a variety of professional organisations processed persuasive messages in favour of incorporating more people with disabilities into their companies. Attitudes towards hiring people with disabilities are becoming critical for promoting diversity and egalitarianism within organisations (Rohmer & Louvet, 2018; Vornholt et al., 2013).[3] The messages contained either strong or weak arguments advocating in favour of hiring people with disabilities. As illustrated in Figure 1, the results indicated that having responsibility over other employees led to more information processing as indicated by greater argument quality effects. That is, individuals having (vs. not having) responsibility over other employees were better able to discriminate between persuasive messages that contained strong arguments vs. weak arguments. Therefore, having responsibility increased persuasion for strong arguments but reduced persuasion for weak arguments.[4]

---

[2]For some variables, a combination of motivational and ability factors could be at work. For example, being in a positive mood might make it easier for positive thoughts to come to mind (an ability bias), but might also motivate people to want to stay in that positive state by generating positive thoughts (motivational bias).

[3]In the ELM, the same persuasion processes that are relevant for changing a relatively specific attitude that might have been biased by prejudice (e.g. attitudes towards hiring individuals with mental challenges in organisations) are useful for changing more general prejudiced attitudes (e.g. attitudes towards out-groups) and for changing the level of agreement with statements that promote equality (e.g. being in favour of incorporating people from more diverse backgrounds within institutions).
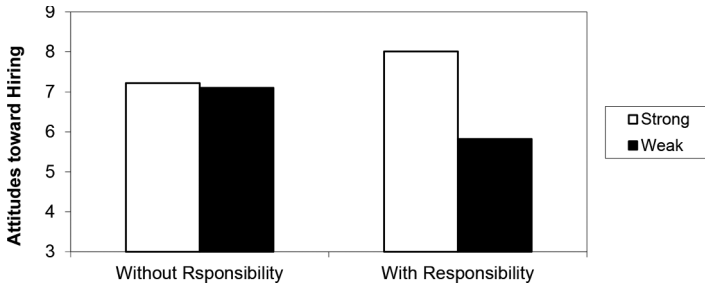
Figure 1. Attitudes towards hiring people with disabilities as a function of organisational responsibility and argument quality. Adopted from.Gandarillas et al. (2014)

This initial example illustrates that by focusing on the process underlying attitude change (i.e. extent of elaboration), the very same variable (responsibility) can either be good for persuasion (e.g. when arguments are strong) or bad (e.g. when arguments are weak). Although this is just a single example, this research tentatively suggests that both the valence and the extent of thinking are important factors in determining the extent and direction of attitude change towards proposals that promote the hiring of people with disabilities in organisations. Importantly, other research provides convergent evidence showing that messages promoting egalitarian attitudes can backfire when the content and valence of the thoughts are different than intended by the persuasive attempt (Dixon et al., 2010; Kim et al., 2018; Major et al., 2014; Saguy et al., 2009). Similarly, anti-prejudice messages have been found to produce ironic effects (increasing rather than decreasing prejudice) depending on the thoughts generated by recipients (Legault et al., 2011; Schultz & Maddox, 2013). In sum, an initial conclusion is that the thoughts people generate in response to persuasive attempts can play a role in producing change in the desired direction or not.

Long Term Consequences of Changes in Prejudiced Attitudes

How much recipients think about information and experiences promoting egalitarianism plays a critical role in determining not only the discrimination between strong and weak arguments and thus the direction of influence, but also whether the resulting attitudes are consequential. Specifically, in accord with the ELM, we argue that there are important benefits associated with high thinking change. First, when thinking is high, people tend to access their

---

[4]People generally find arguments to be more compelling the more they point to desirable and likely consequences of adopting the position advocated (R. E. Petty & Wegener, 1991). Manipulating argument quality and measuring the differential impact of strong vs. weak messages on subsequent attitudes towards the proposal is a methodological tool to assess how different variables affect the extent of thinking (see R. E. Petty et al., 1976; see Carpenter, 2015, for a review of studies using argument quality as a tool to gauge message processing).

attitudes as they update them with each new argument processed. This updating leads high thought attitudes to be more readily accessible when the attitude object is encountered (Tormala & Petty, 2001). The more likely attitudes are to come to mind quickly and spontaneously, the more people can use them to guide their behaviour (Fazio, 1990). Second, attitudes based on high thought are held with more confidence than those based on little thought (Barden & Petty, 2008). When people are deciding what to do, they are more likely to act on an attitude if they are sure it is correct than if they are not (Rucker et al., 2014).

One illustration that provides evidence that differential consequences are associated with attitudes changed by different degrees of elaboration comes from work on prejudice reduction. In one study, Cárdaba et al. (2013) presented seventy- six undergraduates with a persuasive message composed of compelling arguments in favour of a minority group or with a control message. Participants received a message composed of strong arguments and positive cues in favour of South American immigrants in Spain.[5] The extent of thinking was studied by examining people who differed in their chronic motivation to think as assessed with the need for cognition scale (Cacioppo & Petty, 1982). As shown in Figure 2, although both high and low thinkers showed reduced prejudice following the message, the newly changed attitudes were more predictive of participants' attitudes two days later when motivation to think about the initial message was relatively high rather than low. The degree of attitude stability is an important feature to consider since the goal of most prejudice-reduction interventions is to create attitudes that will last over time (Lick et al., 2017).

In a second study, Cárdaba et al. (2014) presented one hundred and three undergraduates with a message in favour of South American immigrants in
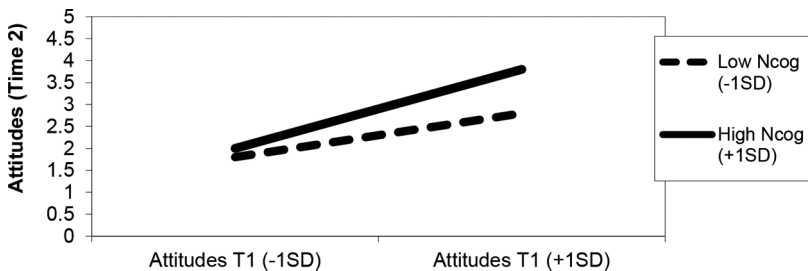

Figure 2. Attitudes (time 1 and time 2) towards South American immigrants in Spain as a function of elaboration (measured by need for cognition). Adopted from.Cárdaba et al. (2013)

---

[5]An attitude towards a stigmatised or minority group (e.g. South American immigrants in Spain) is considered prejudiced when it is less favourable than the attitude towards another non-stigmatised or majority group (e.g. Spaniards in Spain), although it can be positive in absolute terms.

Spain. This time, the amount of thinking about the proposal was manipulated by varying the targets' ability (via different levels of distraction) and motivation (via differences in activation of the self-concept) to think about the message. The results showed that even when the obtained attitude change in favour of the minority group was equivalent under low and high thinking conditions, the reductions in prejudice produced by high thinking processes were more resistant to subsequent attacks than equivalent changes produced by less thoughtful mechanisms (see also, Haugtvedt & Petty, 1992). As these studies demonstrate, understanding the nature of the processes by which attitudes change is essential because the future persistence and resistance of the induced change.

In sum, whether attitude change occurs as the result of relatively high or low amounts of thinking matters not only for determining what attitude is formed but also how consequential or strong that attitude is over time. The more a judgement is based on thinking, the more persist over time, resist attempts at change, and as described in the next section, even to have consequences for other judgements and behaviour.

Elaboration: Spreading Change

An important matter is whether attitudes might show some additional properties associated with strength beyond stability and resistance when changed through high elaboration processes. This section shows that high elaboration attitude change is also associated with spreading to other relevant attitude objects, producing indirect change.

The mental activities characterising elaboration involve people adding something of their own to the information available and are likely to lead to the integration of information into the underlying structure for the attitude object. For example, attitude change processes which require thinking deeply about the attitude object are likely to result in attitude representations that are well integrated and connected with other material in memory (McGuire, 1981; Tesser, 1978). Because of the strong linkage among constructs associated with high thinking, activating one mental representation should activate related ones relatively easily (R. E. Petty et al., 2008).

Recent research examined the extent to which this argument holds for attitudes regarding stigmatised groups. Specifically, in a series of studies, the effect of elaboration on attitude spreading was tested (Moreno et al., 2020). For example, one study examined whether changing attitudes towards a healthy (or unhealthy) diet through high elaboration processes would increase (or reduce) prejudiced attitudes towards overweight people. In this study, three hundred thirty eight undergraduates were first asked to generate positive thoughts either about a healthy or an unhealthy diet (see also, Rudolph & Hilbert, 2017). After listing their thoughts, participants

reported their attitudes towards the assigned diet as the focal attitude measure. Elaboration was assessed in this study merely by counting the number of thoughts listed by each participant. In addition to manipulating attitudes towards diets and measuring elaboration, participants were also asked to rate a number of social groups as part of an unrelated study. The key group of interest embedded in this list was people who were overweight. Thus, attitudes towards obese people were the distal (indirect) attitudes.

First, it was predicted and found that the manipulation of attitudes towards diets was successful. That is, participants asked to generate positive thoughts towards healthy diets reported higher liking for eating healthier than those assigned to generate positive thoughts towards unhealthy diets. Most importantly, those focal attitudes (towards diets) were more related to distal attitudes (towards overweight people) for individuals who were higher in the number of thoughts they generated. Higher thinking participants with positive attitudes towards healthy eating reported significantly more negative attitudes towards obese people than those with lower thinking. Also, higher thinking participants induced to like unhealthy foods reported more favourable attitudes towards obese people than those with lower thinking. These findings were replicated in other studies in which elaboration was measured differently (e.g. by assessing reading time) and when elaboration was manipulated rather than measured.

In another study, Moreno et al. (2020) examined whether focal attitudes (thinking about the legalisation of doping in sports) would be more predictive of distal attitudes (towards drug addicts) under relatively high (vs. low) thinking conditions. This study began by randomly assigning undergraduates to read a message either in favour of or against doping legalisation and then attitudes towards this topic (i.e. doping legalisation) were assessed. These messages were pretested in previous research designed to change doping attitudes (J. Horcajo et al., 2019). As in some previous research (Cárdaba et al., 2013; R. E. Petty et al., 2008), in this study participant's need for cognition (NC) was measured to classify participants based on their reported enjoyment of thinking. Finally, as part of an unrelated study, participants were asked to rate a number of social groups, including attitudes towards drug addicts (distal attitudes). As predicted, NC moderated the relationship between attitudes towards doping legalisation (i.e. focal attitudes) and prejudiced attitudes towards drug addicts (i.e. distal attitudes), such that greater correspondence between focal and distal attitudes emerged in higher (vs. lower) thinking participants.

In sum, this research revealed that attitudes unrelated to prejudice (e.g. healthy eating, doping) can spread and generalise leading to changes in prejudiced attitudes towards stigmatised others (e.g. towards obese people, drug addicts). As demonstrated, this indirect change depends, at least in part, on high thinking processes with respect to the focal message. Of course, there are other

factors that can contribute to spreading beyond elaboration (e.g. Blankenship et al., 2015; Brannon et al., 2019; Cvencek et al., 2020; Glaser et al., 2015; Leippe & Eisenstadt, 1994; G. R. Maio et al., 2009; Walther, 2002). However, the research we reviewed focused on elaboration because it has received relatively less attention with regard to this particular consequence.

In accord with previous research on secondary transfer effects (Pettigrew, 2009; Tausch et al., 2010), one of the key implications of this idea might be that programmes requiring high thinking for reducing prejudice towards one particular stigmatised group might also be helpful in making people more egalitarian with regard to other groups (Bergh et al., 2016; Ehrke et al., 2014; Meleady et al., 2019; Scroggins et al., 2016). Furthermore, generalising change from a single individual or exemplar to the whole social category is more likely to occur when elaboration is high rather than low (Strark et al., 2013). Indeed, consistent with this elaboration-spreading notion, other research has shown that variables associated with elaboration such as accountability moderate member-to-group generalisation (Paolini et al., 2009).

Summary and Implications for Stereotypes

The first part of our review illustrated how changing prejudiced attitudes towards diverse groups such as people with disabilities in organisations, South American immigrants, and people with obesity can vary in the extent of thought on which the new attitudes are based. Furthermore, the extent of thought relates to how consequential the resulting attitudes are. That is, prejudiced attitudes that came about through relatively thoughtful processes were shown to be more stable and resistant as well as being particularly likely to generalise to other distally related attitudes compared to those induced through less thoughtful means. After showing how elaboration determines both the extent of attitude change and attitude strength, this section closes by outlining some key implications of our process approach for understanding the use of stereotypes.

As noted, stereotypes are important in this domain because they can be considered the cognitive component at the base of many prejudiced attitudes. Each of the components of prejudiced attitudes (beliefs, stereotypes, and emotions) can play multiple roles in persuasion, and therefore elaboration processes can be applied to stereotypes as they apply to attitudes. The studies covered so far demonstrated that the elaboration-strength link is important for changing prejudiced attitudes. The elaboration-strength link is also important when considering the use of stereotypes.

In one illustration Wegener et al. (2006) demonstrated that group stereotypes can influence judgements about individual people in both thoughtful and non-thoughtful ways. Although all the participants in these studies relied upon stereotypes in making explicit judgements about target individuals, and

the judgements appeared to be the same (i.e. they were equally extreme) across high and low elaboration conditions, the consequences of the stereotype-based judgements differed depending on the amount of processing of the target information presented. Judgements about the target individual that were based on thoughtful use of the stereotype were less likely to change in reaction to a challenge than were judgements based on less thoughtful use of the stereotype (i.e. using the stereotype as a simple cue). Thus, when the activation of stereotypes influenced judgement by biasing the valence of the thoughts that came to mind, prejudiced responses were more resistant to change than when that same stereotype influenced the judgement through low thinking processes.

Changing Prejudiced Attitudes by Meta-Cognitive Processes of Validation

The previous section described that one way in which researchers and practitioners can reduce prejudiced attitudes is by creating strong attitudes through high elaboration of compelling messages. This section introduces another way of creating strong attitudes based on producing confident thoughts via validation.

Unlike elaboration, which focuses on first-order or primary cognition (e.g. Men are good at maths), validation emphasises secondary or meta-cognition which refers to people's thoughts about their thoughts (e.g. I am sure that men are good at maths; It feels good to believe that men are good at maths). Given its meta-cognitive nature, validation requires relatively high thinking conditions. In an initial study, R. E. Petty et al. (2002) demonstrated that self-validation is more likely to operate when people have the motivation and ability to think about their thoughts (e.g. if participants are high in need for cognition, Cacioppo & Petty, 1982; when there is high personal relevance of the persuasion topic; R. E. Petty & Cacioppo, 1979). Thus, for validation processes to matter, people need to have some thoughts to validate, and also to be motivated and able to consider whether their thoughts are correct (cognitive validation) and/or whether they feel good about them (affective validation). As outlined in this section, another boundary condition on the operation of validation processes is that confidence from the validating variable should be salient during or following thought generation rather than prior to it.

Recent research used this meta-cognitive approach to change prejudiced attitudes towards a group for which thoughtful processes are often overlooked or denied. Specifically, this work evaluated the role that thought confidence can play in attitude change towards a proposal that advocates hiring individuals with mental challenges in organisations. Among other reasons, attitudes towards people with disabilities were studied because this
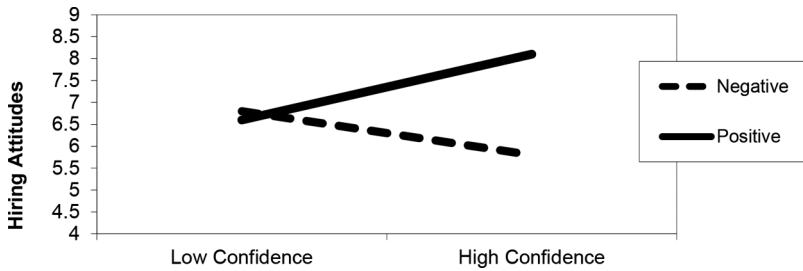
Figure 3. Attitudes towards the hiring proposal as a function of thought valence and thought confidence measured. Adopted Requero, Santos et al., 2020b.

group is often subject to a dehumanisation process through which individual members are perceived as less competent and unable to have sophisticated mental processes (Bogdan & Taylor, 1989; O'Brien, 2003).

In an initial study (Requero, Santos et al., 2020b), one hundred sixty four undergraduates were asked to generate either positive or negative thoughts about hiring people with disabilities (figure 3). Specifically, in the positive thoughts condition, participants were told to write the positive aspects and some potentially beneficial consequences that could result from the implementation of this egalitarian initiative. In the negative thoughts condition, participants were told to write about the negative aspects and potentially damaging consequences of it. Next, participants were asked to indicate the extent to which they were confident in the thoughts they had listed, and their attitudes towards the proposal. Results indicated that thoughts were a significantly better predictor of attitudes when thought confidence was reported to be relatively high vs. low. As depicted in Figure 4, higher levels of confidence were associated with more persuasion for positive thoughts but less persuasion for negative thoughts. Put differently, to the extent that confidence in thoughts was lacking, persuasion was less dependent on thought valence.

A second study moved to a full experimental approach. In this study, two hundred sixty-four undergraduates were first asked to carefully read a proposal in which a company advocated hiring individuals with disabilities. As in the first study, participants were randomly assigned to list either positive thoughts or negative thoughts about this proposal. Then, participants were asked to think about past situations in which they experienced confidence or doubt. Participants who recalled past instances of confidence reported more certainty in the validity of their thoughts about the proposal compared to those who recalled instances of doubt. Similar to the study just described, confidence increased the impact of thought valence on attitudes compared to doubt. As a consequence, when thoughts were mostly positive, increased confidence enhanced persuasion, but when thoughts were
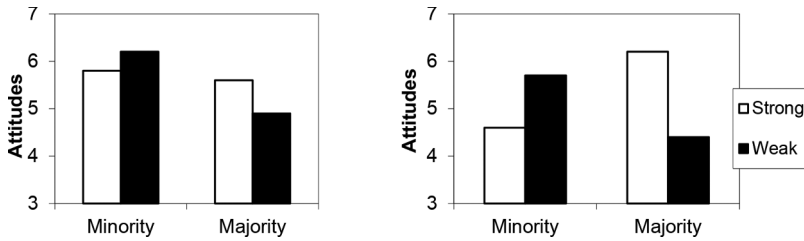
Figure 4. Attitudes as a function of argument quality and source status presented after a message under low thinking conditions (left panel) and high thinking conditions (right panel). Adopted from J. Horcajo et al. (2014).

negative, increased confidence reduced persuasion. In sum, meta-cognitive confidence polarised the effects of both positive and negative thoughts on attitudes. A final study revealed that confidence regarding one's prejudice-related thoughts can also be manipulated through more subtle ways, such as revealing the credibility of the source following the message (see also, Tormala et al., 2007).

Other studies on validation have shown that the perceived validity of prejudice-relevant thoughts can be manipulated by having participants engage in confident (vs. doubtful) actions such as head nodding (P. Briñol et al., 2015), by providing recipients with convergent (vs. divergent) evidence matching their thoughts (J. K. Clark et al., 2009; Clark et al., 2013), by highlighting the entitativity nature of their groups (Clark & Thiem, 2015), and merely by priming the concept of justice (Santos & Rivera, 2015). In all of these self-validation paradigms, thoughts were more likely to impact prejudiced attitudes under high (vs. low) confidence conditions.

In addition to generalising across different variables capable of validating thoughts, another advantage of considering a basic persuasion process such as validation is the potential to generalise the results across diverse stigmatised groups. Thus, research on attitude change through thought validation has been able to change prejudiced attitudes towards stigmatised groups beyond people with disabilities, including African Americans, and people with low socio-economic status (SES, e.g. Clark & Thiem, 2015; J. K. Clark et al., 2009).

Beyond extending across different validating variables and diverse out-groups, another important aspect of meta-cognitive validity is that it can apply to *any* accessible mental contents regardless of their specific content, valence, origin, or nature (Briñol & Petty, 2009). For example, P. Briñol et al. (2015) demonstrated that the impact of subliminally primed words related to the Black (vs. White) stereotype could be magnified when validated by having participants nodding their heads following the prime. Also in line with the idea that any mental content can be validated, recent research has

shown that meta-cognitive confidence can improve the ability of group identity to guide behaviour. That is, Paredes and colleagues (2019) demonstrated that assessing confidence in people's identity fusion responses improved the ability of the fusion measure to predict extreme pro-group outcomes (for additional examples, see Santos et al., 2019; Shoots-Reinhard et al., 2015).

Cognitive and Affective Validation

As noted earlier, people can decide that their thoughts are valid to use for two general kinds of reasons. That is, people can rely on their thoughts because they believe their thoughts are correct (cognitive validation) or because they feel good about them (affective validation). People make inferences of correctness when they are feeling certain in the validity of their thoughts such as when the thoughts are inspired by social consensus (R. E. Petty et al., 2002), by an expert source (Tormala et al., 2007), and by convergent evidence (J. K. Clark et al., 2009). People presumably feel good about their thoughts when they are feeling happy following thinking (R. E. Petty & Briñol, 2015). If thoughts were positive, making people feel especially good would increase persuasion compared to a sad state. However, feeling good can also magnify the impact of negative thoughts thereby decreasing persuasion (Briñol et al., 2007; Huntsinger, 2013, 2014). Although happiness is clearly associated with feeling good (pleasantness), according to appraisal theories of emotion, it is also associated with certainty (e.g. C. A. Smith & Ellsworth, 1985). Because of this, it is not clear whether affective or cognitive validation was responsible for the validation effect in the initial happiness studies.

In order to demonstrate that validation can occur via both cognitive and affective routes, recent research examined emotions that have the potential to affect certainty (related to correctness) and pleasantness appraisals differently. For example, anger and disgust are unpleasant emotions that are associated with certainty, whereas surprise and awe are more pleasant emotions that are associated with doubt and uncertainty. Consistent with our *differential appraisals hypothesis* (P. Briñol et al., 2018), it was demonstrated that each of these emotions are capable of inducing either more or less thought use depending on which appraisal (certainty or pleasantness) is dominant. This approach concurs with previous frameworks in highlighting the importance of appraisals (Lerner & Keltner, 2000), but introduces some novelties such as predicting that different appraisals can be relevant when varied even within the same emotion.

In the most recent illustration of this paradigm relevant to promoting egalitarian attitudes, undergraduates were asked to think about the positive or negative aspects of a proposal to hire people with disabilities in an organisation (Requero, Briñol et al., 2020). Following this thought valence

manipulation, participants were assigned to write about personal episodes in which they felt either hope or hopelessness. Naturally, geneating positive thoughts about people with disabilities might lead people to feel hopeful regarding this group and negative thoughts to feeling hopeless. However, in this paradigm participants are randomly assigned to feel hopeful or hopeless *following* the positive or negative thought generation so that the independent effects of thought valence and emotion can be determined. This work focused on hope and hopelessness because for these emotions the confidence and pleasantness appraisals are mismatched. Hope is a pleasant state that is associated with uncertainty, whereas hopelessness is unpleasant though associated with confidence.

After participants generated their thoughts and received the emotion induction, they were exposed to an appraisal manipulation designed to focus them on a specific appraisal of the emotion (pleasantness or confidence; P. Briñol et al., 2018). Specifically, participants were required in this study to respond to questions that contained words related to pleasantness (pleasantness appraisal) or questions that contained words related to confidence (confidence appraisal). Finally, after the three manipulations (positive versus negative thoughts induction; hope versus hopelessness induction; pleasantness versus confidence appraisal induction), participants reported their attitudes towards the proposal to hire people with disabilities in an organisation.

In line with the self-validation hypothesis, the resutls revealed that feeling hopeless or hope following thought generation can lead to different (and opposite) effects on the use of thoughts. This effect depends on whether the confidence or the pleasantness appraisal of these emotions was made salient. As predicted, when individuals were focused on the confidence/doubt appraisal of the emotion, then feeling hopeless led to more thought use than hope because experiencing hopelessness is associated with an appraisal of confidence that was misattributed to feeling sure about the accuracy or correctness of one's thoughts relative to feeling hope, an emotion associated with uncertainty (cognitive validation). In contrast, when individuals were focused on the pleasantness/unpleasantness appraisal of the emotion, then experiencing hope led to more thought use than feeling hopeless because experiencing hope is associated with an appraisal of pleasantness that was misattributed to feeling good about or liking one's thoughts relative to feeling hopeless, an emotion associated with feeling unpleasant (affective validation).

Beyond the potential to transform our understanding of the hope-hopeless continuum, this novel approach based on highlighting different appraisals within the same emotion can be relevant to designing process-based practical applications promoting positive attitudes towards more diverse organisations and individuals. Furthermore, this research on

differential appraisals of emotions can contribute to inspiring future research on reducing prejudiced attitudes as a fuction of phenomenon such as wishful thinking (a pleasant but uncertain state, Villegas-Gold & Yoo, 2014) and realistic pessimism (an unpleasant but certain state, Kaiser et al., 2004).

Perceiving Cognitions and Meta-Cognitions of Others

After showing that what and how much people think (elaboration) and what people think about their own thoughts (validation) both play a role in prejudiced attitudes, we introduce a new line of research examining to what extent the perceived cognitions and meta-cognitions of others can also influence prejudiced attitudes. Specifically, this research tested the impact of thinking about the cognitions and meta-cognitions of out-group members, including Syrian refugees, South American immigrants, and Gypsy people (Santos et al., 2020).

This research compared the impact of thinking about how members of out-groups usually think (perceived primary cognition) and how members of those out- groups think about their own thoughts (perceived secondary cognition). These two types of cognition were compared because they mapped well onto the elaboration and validation research described earlier, and also because there is some previous evidence suggesting that the distinction between primary and secondary emotions is useful in the domain of dehumanisation. This work has shown that prejudiced evaluations can take the form of attributing stigmatised groups the ability to have mostly primary emotions (i.e. brief, physiologically embedded affective reactions such as anger or joy) but denying they are capable of having secondary emotions (i.e. affective reactions that are the result of social construction through the attachment of meaning to experiences such as admiration or remorse; Kteily et al., 2015; Loughnan et al., 2010).

Just as distinguishing between primary and secondary emotions has been useful in this domain, this work examined whether separating perceiving primary versus secondary cognition in others also can be useful when evaluating others. In two studies, Santos et al. (2020) randomly assigned undergraduates to one of three different experimental conditions. In the primary cognition treatment, participants had to answer questions about the primary thinking processes of out-group members. Specifically, participants in this condition were required to respond to 10 questions asking to what extent a particular group had primary thoughts. For example, in one study they responded to whether they thought that: "Syrian refugees tend to think about the world," "Syrian refugees are able to process information," or that "Syrian refugees are able to comprehend different ideas." In the secondary cognition treatment, participants answered questions about meta-cognition. That is, the questions focused on the ability of refugees to reflect

on their own thoughts, and thinking processes. Examples of the items include, "Syrian refugees have a window into their minds," "Syrian refugees realize there are things that they don't know," and "Syrian refugees like to think about the validity of their thoughts." The effect of these two treatments on prejudiced attitudes was compared against a control group, in which participants answered 10 equivalent questions but that were unrelated to primary or secondary cognition (e.g. "Syrian refugees wear socks").

As expected, compared to the control group, the two treatments reduced prejudiced attitudes towards Syrian refugees as well as South American immigrants and Gypsy people. That is, thinking about how out-group members think and how they think about their thoughts both produced more positive attitudes towards these groups compared to controls. In these studies, the two treatments did not differ from each other, but were superior to control groups. Future research can benefit from work aimed at understanding *when* and *for whom* these two different treatments might be more effective alone or in combination in promoting deeper appreciation for the sophisticated mental processes of other groups.

Elaboration and Validation: Specifying Conditions

So far, this review focused on two fundamental mechanisms of reducing prejudiced attitudes – elaboration and validation. As noted, these two mechanisms are critical for predicting whether change occurs in the desired direction and how consequential it is. Given that many variables (e.g. group identity, stereotypes) can affect judgements and behaviours through these two processes, a natural concern is how to distinguish between them. Fortunately, a number of methods have been identified for both separating out and predicting when different processes occur. This section focuses on two moderating conditions: Amount of thinking and timing. Stereotypes are used here as an example describing next how the effects of stereotypes can be predicted *a priori* based on these two contextual factors.

In most of the research on stereotyping and prejudiced attitudes, group category membership (e.g. the race of the target) is learned *before* acquisition of individuating information. When such information precedes processing, research has shown that stereotypes can influence attitudes and performance in the various ways articulated earlier including serving as a simple cue when thinking is relatively low, biasing thoughts when thinking is high, and affecting elaboration when it is unconstrained by other variables (e.g. Wegener et al., 2006). As noted, any variable can influence prejudiced attitudes by one of the five key processes outlined by the ELM. Importantly, learning of someone's group membership "after the fact" allows group stereotypes to influence perceptions in a completely different way – by affecting validation processes.

For example, when a source serves in a validation role, it might matter if the thoughts are about the source him or herself rather than a proposal the source is advocating. Imagine reading a message about some unidentified person that you suspect is a woman. If you then learn that the source is indeed a woman, your thoughts about the source would be validated whereas if you learned that the source was a man, your thoughts would be invalidated. In general, people are likely to have more confidence when the content of their thoughts matches or fits the nature of the source that is revealed rather than when the content does not fit or mismatches. Thus, thought confidence might be increased if a person high in prejudice generated negative thoughts towards a job candidate and then learned that the candidate came from a stigmatised group with low performance expectations rather than from a non-stigmatised group with higher performance expectations. This suggests that sources with low (vs. high) status can affect judgements by validating (rather than invalidating) thoughts under some circumstances such as when the source is the object of the thoughts, and when thoughts are stereotypical or match the nature of the source.

In two experiments examining this idea (Clark et al., 2009), two hundred and nine university students received information about a child who performed either reasonably well or poorly on an intelligence test. The good performance information would lead people to have positive thoughts about the child's intelligence whereas the poor performance report would lead people to have negative thoughts about the child's intelligence. Following the information, participants listed their thoughts about the child and then learned that the child was either from a low socio-economic statue (SES) household or a high SES household. When the SES information matched (vs. mismatched) the performance expectations (i.e. poor performance with low SES and high performance with high SES), participants had more confidence in their thoughts. They also used their thoughts more in forming their judgements of the intelligence of the child. Importantly, the obtained findings on intelligence were mediated by thought confidence and have been replicated several times with different materials (e.g. Clark et al., 2012). This research is also consistent with work on stereotype threat revealing that stereotype-related thoughts can be validated by priming people with convergent (vs. divergent) evidence matching their thoughts (J. K. Clark et al., 2015; Clark et al., 2017; Clark et al., 2018).

In addition of showing the relevance of validation processes to stereotyping, this work also illustrates the importance of considering *timing* as a key variable for understanding process. That is, the confidence that emerges from matching with stereotypes should be salient *following* (or at least, during) thought generation rather than prior to thought generation. By varying the timing of experimental inductions, research on self-validation demonstrated the consequences for evaluation and performance of two different

psychological processes: stereotypes affecting the generation of thoughts when preceding the reception of information and affecting the use (validation) of those thoughts when following the message (Clark et al., 2012; J. K. Clark et al., 2015; see also Briñol et al., 2007). These findings provide evidence in favour of the idea that the same variable (stereotypes) can have different (and opposite) effects on judgements depending on when the manipulation of the variable is introduced.

Testing Processes of Elaboration and Validation for Sources in Minority Status

Beyond stereotypes about SES, other variables associated with stigmatised sources such as being in a numerical minority can influence attitudes by the same processes of elaboration and validation depending on the timing, and the background level of elaboration. When elaboration is not constrained by other variables to be high or low, the numerical status of the source can determine the amount of information processing in which people engage. Thus, persuasive proposals that are presented by Black (vs. White) sources often receive more attention (as indicated by greater impact of strong vs. weak arguments) and result in more consequential attitudes (White & Harkins, 1994), at least among relatively unprejudiced individuals (R. E. Petty et al., 1999). Also, whether an idea is delivered by a source that belongs to the numerical majority or minority can influence how people evaluate that proposal (J. Horcajo, Petty et al., 2010a). When elaboration is unconstrained, majority/minority source status influences the extent of elaboration (Erb et al., 2002; Martin & Hewstone, 2008; Moscovici, 1985).

In one relevant study (Horcajo, Briñol et al., 2010b) eighty-two undergraduates were first assigned to receive a message arguing to change the institutional colour of the participants' university flag. The message came from a source in the numerical majority or minority. The minority status source increased the argument quality effect on attitudes relative to the majority source, which suggests that the minority source led to greater thinking, consistent with Moscovici's (1985) conversion theory (see also, Martin & Hewstone, 2008). Furthermore, as predicted, the argument quality effect obtained for attitudes was mediated by a change in the profile of message-consistent thoughts.

In that experiment, source information about numerical status preceded the presentation of the message information and elaboration was not set to be high. However, if source information were to follow information processing under high thinking conditions, source status should affect validation rather than elaboration. In a test of this hypothesis, Horcajo et al. (2010b) exposed one hundred and ten undergraduates to a persuasive message composed of either strong or weak arguments about the organisational

regulations of a new company. After receiving and processing the message, the communication was attributed to either a person whose position was supported by the majority or a person whose position was supported by a minority of others. The majority source increased the confidence with which the recipients held their thoughts in response to the message compared to the minority source. As a consequence, the majority source increased the impact of argument quality on attitudes compared to the minority source. Importantly, the confidence with which participants held their thoughts mediated the effects of source status on attitudes, whereas the thoughts generated by participants did not.

As a final illustration, consider another study manipulating extent of thinking in the domain of minority influence. In this study with one hundred forty-four undergraduates, J. Horcajo et al. (2014) first manipulated the level of elaboration (low vs. high) using a manipulation of personal relevance to affect motivation to process the message (R. E. Petty & Cacioppo, 1979). Then, participants received a persuasive message composed of strong or weak arguments. Finally, they learned that the message was from a source in the numerical majority or minority and reported their attitudes towards the proposal.

In this study, only under high elaboration conditions did the majority source status increase the argument quality effect on attitudes compared to the minority source. This finding is consistent with the prediction that source status can validate thoughts under high thinking conditions (see Figure 4, right panel). In contrast, under low elaboration conditions, source status was predicted and found to influence attitudes by serving as a peripheral cue. That is, the majority source increased persuasion compared to the minority source irrespective of argument quality (see Figure 4, left panel). In sum, source status can influence attitudes by processes of primary cognition (e.g. serving as a cue, affecting elaboration) and processes of secondary cognition (validating thoughts) depending on timing and the background level of thinking.

Ambivalence Affects Elaboration and Validation

The evaluative structure of recipients' pre-existing attitudes can also influence how they evaluate and respond to individuals from different groups. This section describes research on attitudinal ambivalence in the domain of prejudiced attitudes.

When people endorse both positive and negative reactions to a particular out-group, they report feeling conflicted, indecisive, and mixed about individuals and information relevant to that group (Glick & Fiske, 1996; Katz & Hass, 1988; Priester & Petty, 1996). This form of psychological conflict is called *explicit ambivalence* and occurs when people have an attitude object linked in memory to both positivity and negativity and they further believe that both of these reactions are valid (see R. E. Petty et al., 2007). There are

several other antecedents to feelings of ambivalence, including interpersonal disagreement (Priester & Petty, 2001) and having attitudes that are different from those one wants to have (e.g. wanting to be more positive about the elderly; DeMarree, Wheeler et al., 2014b).

In other cases, a person does not report being conflicted or mixed about the object, but he or she can nevertheless feel generally uncomfortable when considering the object because unendorsed gut feelings (implicit evaluations) conflict with endorsed (explicit) evaluations (Rydell et al., 2008). This is called *implicit ambivalence* (e.g. R. E. Petty et al., 2006). In implicit ambivalence, a person also has an attitude object linked to both positivity and negativity in memory, but one of these reactions is tagged as invalid (Petty & Briñol, 2006). This person does not report being ambivalent because the person does not consider both reactions to be valid. A person's evaluative reaction to an attitude object might be seen as invalid for a number of reasons including that: (1) the person believes the reaction is a mere cultural association (e.g. from the media) and does not represent what they truly believe (e.g. I have a negative reaction to Hispanics because they are portrayed as criminals on TV, but I know that is not true) and (2) the reaction represents a prior attitude (e.g. I used to be a bit prejudiced towards this particular group, but now I no longer am; P. Briñol et al., 2006; R. E. Petty et al., 2006, 2012).

Both explicit and implicit ambivalence are important because they are associated with increased elaboration of relevant messages. In one study examining explicit ambivalence, G. R. Maio et al. (1996) measured participants' attitudinal ambivalence regarding immigration to Canada and then exposed them to a discrepancy-relevant message favouring immigration from Hong Kong to Canada that contained either strong or weak arguments. The extent to which participants processed the message information was assessed by examining the extent to which the quality of the arguments made a difference in post-message immigration attitudes. Consistent with the idea that ambivalence increases elaboration, G. R. Maio et al. (1996) found that being ambivalent increased the impact of argument quality on attitudes suggesting that ambivalent individuals engaged in enhanced scrutiny of the issue-relevant information presented. Subsequent research has provided further support to the idea that explicit ambivalence increases elaboration and improves accuracy in decision making (Kleiman & Hassin, 2013; G. R. Maio et al., 2001; Rees et al., 2013; Savary et al., 2015).

In a study examining how implicit ambivalence can enhance elaboration, I. Johnson et al. (2017) showed that as the discrepancy in students' implicit and explicit racial (black versus white) attitudes increased, they engaged in more scrutiny of a message if delivered by an African-American (vs. White) source even if the message content itself was race-irrelevant. In another study, they found that people high in implicit ambivalence more carefully

scrutinised a message related to racial issues (Affirmative Action) even if delivered by a White source. As illustrated in Figure 5, the results of both studies combined (a total of two hundred eighty-five undergraduate participants) showed that the greater the discrepancy between implicit and explicit racial attitudes, the greater the argument quality effect on attitudes to the message. This means that among individuals who were relatively low in explicit prejudice, it was those who were also relatively high in implicit prejudice who were more likely to process messages from or relevant to Blacks. Similar enhanced scrutiny effects occurred for people who were relatively high in explicit prejudice if they were also relatively low in implicit prejudice. That is, the direction of the discrepancy didn't matter. What mattered was the degree of discrepancy in implicit versus explicit racial attitudes. If both explicit and implicit prejudice were relatively low or high, then the scrutiny of information was relatively low.[6]

These findings are important because earlier research on prejudice and persuasion showed that White individuals tended to engage in greater elaboration when information was presented by a Black rather than a White source (White & Harkins, 1994). Subsequent research showed that this enhanced processing of Black over White sources extended to greater processing of Black over White targets (Fleming et al., 2005). Importantly, the research by I. Johnson et al. (2017) showed that the enhanced processing of Black over White sources and targets was most likely to occur among individuals who were low in their explicit prejudice. It was assumed that because these individuals would be concerned about being prejudiced when assessing information from or about Blacks, they would guard against this
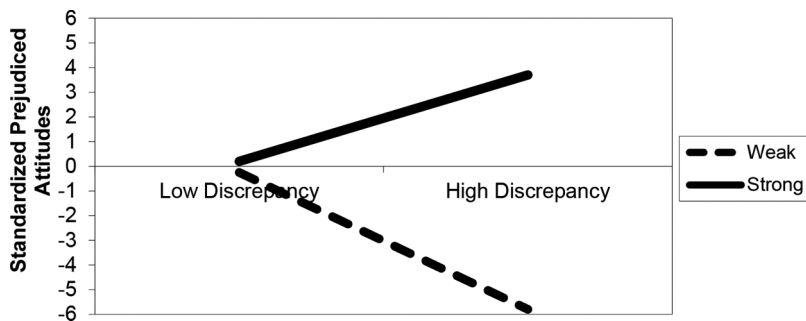

Figure 5. Standardised prejudiced attitudes as a function of argument quality and difference scores (i.e. Standardised explicit minus standardised implicit). Adopted from.I. Johnson et al. (2017)

---

[6]In another study, the discrepancy between implicit and explicit attitudes was manipulated rather than measured yielding similar results (R. E. Petty et al., 2006). That is greater implicit ambivalence was associated with a greater impact of argument quality on attitudes.

possible prejudice by processing the information very carefully (R. E. Petty et al., 1999). Contemporary research suggests that many White individuals who score low in explicit prejudice also harbour automatic negative reactions to Blacks and that they might wish to overcome these negative reactions in order to act in an unprejudiced way (Monteith, 1993; Plant & Devine, 1998). These automatic negative reactions are captured in contemporary implicit measures of racial attitudes such as the IAT (Greenwald et al., 1998). The research on implicit ambivalence provided evidence that rather than the processing effects being driven solely by a desire to watch out for one's own possible prejudice – when explicit prejudice is lower than implicit prejudice – the processing also occurred when explicit prejudice was higher than implicit prejudice. That is, the processing was tied to implicit ambivalence which is the only framework that predicts that either direction of discrepancy between implicit and explicit prejudice would produce feelings of conflict and thereby increase information processing.

Although we focused on research showing that both explicit and implicit ambivalence lead to elaboration, it is important to note that ambivalence also can relate to validation processes (Clarkson et al., 2008; Luttrell et al., 2016). In fact, ambivalence can serve both as an antecedent and also as a consequence of both processes. For example, by elaborating on information relevant to the object of ambivalence one can expect psychological conflict to be reduced (e.g. G. R. Maio et al., 1996; Rydell et al., 2008).

Furthermore, validation processes also can be helpful in reducing ambivalence through a number of paradoxical possibilities, such as enhancing confidence in just one side of the mixed thoughts (K. G. DeMarree et al., 2015) and invalidating all of one's mixed thoughts (Durso et al., 2016). For example, in one study it was shown that low certainty can attenuate the typical effect of ambivalence (Luttrell et al., 2016). Unlike these studies that relied mostly on college student samples, the most recent research on moderating ambivalence effects has provided convergent evidence showing that ambivalence and certainty interact to predict attitude stability outside the lab using real-world populations and settings (Luttrell et al., in press).

Changing Automatic Prejudiced Attitudes with Elaboration and Validation

In the previous section we have seen that explicit measures of prejudice can differ from what is shown on implicit measures. For example, a person can express a positive evaluation of a minority group on an explicit self-report measure, but the automatic evaluations of this person can be negative. Thus, beyond understanding how the processes of elaboration and validation are capable of changing explicit attitudes, it is also important to understand the impact these processes can have on implicit measures of attitudes. Therefore,

this section briefly describes recent research showing that automatic evaluations relevant to stigmatised individuals from minority groups can be affected by processes of primary cognition such as elaboration (e.g. C. T. Smith & De Houwer, 2014; Wyer, 2016), as well as processes of secondary cognition such as validation (e.g. Hahn & Gawronski, 2019; I. Johnson et al., 2017; Johnson et al., 2018; Maddux et al., 2005; Mann & Ferguson, 2016; Sassenberg & Wieber, 2005; Lai et al., 2013).

In initial work on affecting implicit measures of prejudice, automatic evaluations of Blacks were shown to be affected by a number of low thinking processes such as mere exposure to various exemplars of admired Black individuals (see, Gawronski & Bodenhausen, 2006, for a review). In general, research has shown that automatic measures of attitudes can be affected by relatively low thought attitude change processes. In fact, implicit measures of attitudes have sometimes been assumed to change only or to a greater extent as a result of low rather than high thought processes (e.g. Rydell & McConnell, 2006).

However, other work contradicts the general idea that automatic attitude measures respond only or mostly to simple persuasion techniques under relatively low thinking conditions. For example, recent research has shown that automatic evaluations can be affected by thoughtful processing of persuasive messages, advertisements, marketing campaigns and other treatments involving effortful processing of verbal information (e.g. Brannon & Gawronski, 2017; Horcajo, Petty et al., 2010a; Mann & Ferguson, 2016; Mann & Ferguson, 2016; C. T. Smith & De Houwer, 2014; Wyer, 2016; for a review, see R. E. Petty & Briñol, 2010). Thus, the most accurate conclusion is that like explicit measures, implicit measures can be affected by both automatic and deliberative processes. Furthermore, research in this domain is consistent with the idea that the greater the elaboration that goes into processing a message, the more consequential implicit measures become in terms of stability, resistance, and spreading – the same consequences as for explicit measures (e.g. Gawronski et al., 2017; Horcajo et al., 2010a; Ratliff & Nosek, 2011; Schultz & Maddox, 2013; Ye & Gawronski, 2016).

A final point is that research has shown that changes on implicit measures of attitudes are sometimes related to change on explicit measures, but sometimes they are independent of each other (e.g. R. E. Petty et al., 2006; Gregg et al., 2006). In general, deliberative/explicit measures are more likely to correspond with automatic/implicit measures when participants complete the explicit measures after being told to "trust their intuition" (Jordan et al., 2007) or "go with their gut" before responding (Ranganath et al., 2008). Such instructions apparently free participants to report evaluative stirrings of which they are aware but may not report spontaneously on an explicit measure due to uncertainty regarding their origins or appropriateness (Loersch et al., 2011).

Practical Recommendations

As noted throughout, maximising the chances of designing effective procedures to reduce prejudiced attitudes depends in part on understanding the psychological processes that are likely to underlie the impact of any practical interventions. Therefore, a natural concern is how researchers, practitioners, and institutions can explain and test the effects of interventions in a given context. Fortunately, as argued throughout our review, the effects of variables (such as stereotypes, majority influence, Black versus White message sources, etc.) can be predicted *a priori* based on contextual factors, such as the general levels of elaboration in the persuasion context as well as the order in which events occur. Therefore, agents of influence can target a particular process (elaboration, validation) by manipulating the amount of thinking, and by varying the time at which variables are made salient.

In addition to intentionally managing the situation, a number of measures can be useful to diagnose how variables affect persuasion. As noted, measuring both the type and the number of thoughts that participants generate and/or manipulating argument quality can help assess the role of elaboration processes that could be involved in initiatives designed to reduce prejudiced attitudes. Beyond including methods of assessing how much actual thought participants are engaged in, it is also important to assess how much people perceive they have thought (subjective elaboration) because perceptions of thinking can have effects in addition to actual thinking. For example, in one study, participants merely led to believe that they had engaged in more thinking (even though they did not) became more confident in their attitudes and more willing to act on them (Barden & Petty, 2008). Thus, assessing subjective elaboration with a self-report single-item measuring how much people believe they have thought can be helpful in predicting who is more likely to use their attitudes to guide behaviours.

A third tip related to elaboration processes involves assessing both objective indicators of attitude strength to understanding long term consequences of induced changes (e.g. attitude stability, resistance) and also subjective indicators of attitude strength (e.g. perceived attitude importance, subjective knowledge, felt ambivalence). Relatively simple question such as to what extent the attitude is perceived to remain the same in the future (Cárdaba et al., 2013), and to what extent the person would like to have a different attitude (DeMarree et al., 2014b) can be useful to understand short and long term consequences of changes. We have also noted that taking into consideration the generalisation of change by assessing prejudiced attitudes in other domains (even attitudes only indirectly or distally related to the domain of prejudice) can provide researchers with a subtle, practical tool (Moreno et al., 2020).

In regard to validation processes, assessing participants' confidence and liking for their thoughts can have practical value. Thus, as another step, we

recommend the use of these measures (e.g. judgemental confidence) as a moderator of the effect of any mental content (thoughts, attitudes, goals, traits) on behaviour (e.g. discrimination) because of their ease of use and efficiency, and because measures of meta-cognitive confidence and/or liking can increase the predictive validity of any mental construct. Questions about thought confidence or liking are easy for practitioners to use as they require only asking only one simple question, and people should find it easy to respond. As noted, there is value in asking these questions not only with regard to people's own thoughts but also when it comes to the thoughts of out-group members (Santos et al., 2020; see also DeMarree et al., in press).

Finally, we recommended assessing the psychological meaning of variables (e.g. is having confidence good or bad? is egalitarianism desirable or undesirable?). First, practitioners and institutions can benefit by considering the meanings that people associate to the presumably positive variables introduced in various interventions (P. Briñol et al., 2020; R. E. Petty & Briñol, 2020). For instance, one could expect that variables like power, self-affirmation, and a happy mood will produce a beneficial impact when, actually, it can produce a detrimental impact, and we have explained when and why this could occur (e.g. Briñol et al., 2018). Moreover, because the meaning of subjective states used in various interventions is personal and can also differ depending on the situations and the culture, we suggest that persuasive agents evaluate this important factor by asking a simple question regarding what people think key aspects of a treatment mean. Of course, beyond assessing its natural variations, confidence and meaning can also be manipulated to produce the desired levels of validity.

Summary and Future Directions

This review has focused on how a wide variety of seemingly diverse variables (e.g. stereotypes, stigmatised sources, group identity, minority sources) can affect prejudiced attitudes by the same two underlying psychological processes. These processes refer to how extensively people think in response to a stimulus (elaboration) and whether or not those thoughts are used in forming judgements (validation). The operation of these processes depended on a number of other factors, such as a person's overall motivation and ability to think in the situation, and whether the variable affecting the persuasion process preceded or followed the stimulus to be evaluated. Variables are more likely to impact amount of thinking when the level of elaboration in the situation is not already set to be very high or low by other variables and when the variable precedes the stimulus to be processed. In contrast, validation processes are more likely when elaboration is set high enough for individuals to both generate thoughts and consider their validity,

and when the variable of interest occurs during or after the stimulus to be processed rather than before.

It is important to note that increasing elaboration does not necessarily imply that the thinking that takes place will be objective and bias free. As noted, one of the five processes outlined by the ELM refers to biased processing. Thus, high thinking can make the effect of biasing variables such as stereotypes even stronger than when thinking is low (e.g. Wegener et al., 2006; see Petty, 2001). Furthermore, although the focus was on actual thinking, as we noted earlier, how much people think they are thinking is also important (Barden & Petty, 2008). In a recent line of research in the domain of prejudiced attitudes focused on subjective elaboration (Moreno et al., 2020), undergraduates first read a message advocating in favour of hiring people with disabilities. Then, perceived elaboration was manipulated by having participants answer a misleading questionnaire in which the responses were framed to imply low or high degrees of thinking about the message. Finally, attitudes towards the proposal and behavioural intentions were measured. One behavioural measure involved having participants receive the vita of a job candidate with disabilities and indicating whether or not they were willing to defend that candidate in a forthcoming meeting. In a second measure they reported their intentions to hire the candidate for their university. The perception of having thought more about the proposal led participants to use their attitudes in guiding these choices. Along with assessing subjective perceptions of thinking, future research in this context can also examine the extent to which people find elaboration to be associated with pleasantness and confidence.[7]

Similarly, greater confidence in thoughts does not imply that thoughts are any more accurate or unbiased. People can perceive accurate thoughts to have low validity and believe that biased thoughts have high validity. In fact, in many cases confidence is often overly high and not well calibrated to accuracy since it can be affected by unrelated incidental variables such as the non-verbal indicators of the source delivering the information (Guyer et al., 2019), and the non-verbal responses occurring in the recipient (P. Briñol et al., 2018).

As noted, a key aspect of validation is that confidence and doubt can be attached to anything in mind, including prejudice-related thoughts, group identity, and stereotypes. We have argued that assessing confidence and doubt in responses to prejudice scales have the potential to improve the

---

[7]Future research should also take into consideration the goals underlying elaboration. In the research described throughout this review, most participants were likely to be motivated by their need to know. Recent research has examined an alternative motive in which people aim to process information to be entertained (cf., Moyyer-Guse´, 2008) (e.g. Cancela et al., 2020; Wilson et al., 2019). This research has shown that the same variable (e.g. personal relevance) that can enhance elaboration when people have a knowledge goal can decrease elaboration when people have an entertainment goal.

predictions made by those scales. Validity is not only likely to apply to individual differences in evaluations of minority groups, but also to the associated motivations to control for prejudice towards these groups. We argue that the ability of instruments such as the Motivation to Control Prejudiced Reactions scale (Dunton & Fazio, 1997), and the Internal and External Motivation to Respond without Prejudice scale (Plant & Devine, 1998) to predict differences in public and private endorsement of stereotypes as well their capacity to predict motivation to correct one's social judgements is likely to be improved as meta-cognitive confidence in participants' responses to those scales increases.

Beyond measuring meta-cognitive confidence, assessing subjective indicators of attitude strength such as perceived knowledge can be also useful for future research. For example, in a recent research, Paredes et al. (2020) examined how perceived knowledge influenced the propensity to make hiring decisions about job candidates. In one of the studies of this series, actual job candidates were interviewed by personnel selection professionals for real job offers. After each interview, the interviewers reported their perceived knowledge about the candidate, their attitudes towards the candidate, and whether or not the candidate was actually hired or not was recorded. As expected, these real-world interviewers used their attitudes to hire actual job candidates to a greater extent when they perceived themselves as having more knowledge about the candidates. Having more knowledge about the candidate likely reflected greater confidence in attitudes towards the candidates. Importantly, this effect of perceived knowledge on attitude-impact was present even when the actual amount of information presented was held constant, and it was replicated when job candidates were presented as individuals with disabilities.

In closing this review it is important to make two final remarks. First, in most research covered in this review, persuasion variables (e.g. numerical status, group identity, stereotypes) have been studied in isolation. However, variables associated with the person and the situation can be examined in combination, interacting with each other to influence elaboration and validation processes. It is especially likely that person and situational variables together will affect the extent of elaboration or validation when they match in some way. Some forms of matching capable of operating through elaboration and validation include matching person and social roles (e.g. agent vs. recipient in expressing and receiving information, Xu et al., 2019), matching personal identity and occupation (Schmader & Sedikides, 2018), and matching virtually any dispositions and situations more generally (Teeny et al., in press).

Second, elaboration and validation are two general processes capable of accommodating virtually any change in judgement caused by social and contextual factors. This includes changes in prejudiced attitudes, but it also can include changes in group identity, changes in stereotypes, and many others. The most recent of these applications has examined change within

the domain of expectations (Geers et al., 2019). Although this work focused on amplifying placebo expectations and minimising nocebo expectations, we think that the same basic processes (elaboration and validation) are relevant for understanding changes in expectations in other domains, including expectations about academic performance of members from disadvantaged groups (Murphy et al., 2018), self-fulfilling prophecies (Madon et al., 2018), and even changing expectations related to mental and physical stigmas (P. Briñol, Petty, Belding et al., 2017; Durso et al., 2020).

Funding

References

Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.

Ashton-James, C. E., & Tracy, J. L. (2012). Pride and prejudice: How feeling about the self influence judgmetns of others. *Personality and Social Psychology Bulletin*, *38*(4), 466–476. https://doi.org/10.1177/0146167211429449

Barden, J., & Petty, R. E. (2008). The mere perception of elaboration creates attitude certainty: Exploring the thoughtfulness heuristic. *Journal of Personality and Social Psychology*, *95*(3), 489–509. https://doi.org/10.1037/a0012559

Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology,* (Vol.6, pp. 1–62). New York: Academic Press. doi:10.1016/S0065-2601(08)60024-6

Bergh, R., Akrami, N., Sidanius, J., & Sibley, C. G. (2016). Is group membership necessary for understanding generalized prejudice? A re-evaluation of why prejudices are interrrelated. *Journal of Personality and Social Psychology*, *111*(3), 367–395. https://doi.org/10.1037/pspi0000064

Blankenship, K. L., Wegener, D. T., & Murray, R. A. (2015). Values, inter-attitudinal structure, and attitude change: Value accessibility can increase a related attitude's resistance to change. *Personality and Social Psychology Bulletin*, *41*(12), 1739–1750. https://doi.org/10.1177/0146167215609063

Bogdan, R., & Taylor, S. J. (1989). Relationships with severely disabled people: The social construction of humanness. *Social Problems*, *36*(2), 135–148. https://doi.org/10.2307/800804

Brannon, S. M., DeJong, A., & Gawronski, B. (2019). Determinants of lateral attitude change: The roles of object relatedness, attitude certainty, and moral conviction. *Social Cognition*, *37*(6), 624–658 DOI: 10.1521/soco.2019.37.6.624

Brannon, S. M., & Gawronski, B. (2017). A second chance for first impressions? Exploring the context (in)dependent updating of implicit evaluations. *Social Psychological and Personality Science*, *8*(3), 275–283. https://doi.org/10.1177/1948550616673875

Briñol, P., & Petty, R. E. (2009). Persuasion: Insights from the self-validation hypothesis. In M. P. Zanna (Ed.), *Advances in experimental social psychology* (vol. 41, pp. 69–118). Elsevier.

Briñol, P., DeMarree, K. G., & Petty, R. E. (2015). Validating a primed identity leads to expectations of group-relevant outcomes. *International Journal of Social Psychology*, *30*(3), 614–630. https://doi.org/10.1080/02134748.2015.1065086

Briñol, P., Petty, R. E., & Barden, J. (2007). Happiness versus sadness as a determinant of thought confidence in persuasion: A self-validation analysis. *Journal of Personality and Social Psychology*, *93*, 711–727.

Briñol, P., Petty, R. E., & Belding, J. (2017). Objectification of people and thoughts: An attitude change perspective. *British Journal of Social Psychology*, *56*(2), 233–249. https://doi.org/10.1111/bjso.12183

Briñol, P., Petty, R. E., Gandarillas, B., & Moreno, L. (2020). Are positive interventions always beneficial? *Spanish Journal of Psychology*, *23*(e23), 1–9. https://doi.org/10.1017/SJP.2020.21

Briñol, P., Petty, R. E., Santos, D., & Mello, J. (2018). Meaning moderates the persuasive effect of physical actions: Buying, selling, touching, carrying, and cleaning thoughts as if they were commercial products. *Journal of the Association for Consumer Research*, *2*(4), 460–471. https://doi.org/10.1086/693561

Briñol, P., Petty, R. E., Stavraki, M., Lamprinakos, G., Wagner, B. C., & Díaz, D. (2018). Affective and cognitive validation of thoughts: An appraisal perspective on anger, disgust, surprise, and awe. *Journal of Personality and Social Psychology*, *114* (5), 693–718. https://doi.org/10.1037/pspa0000118

Briñol, P., Petty, R. E., & Wagner, B. C. (2009). Body postures effects on self-evaluation: A self-validation approach. *European Journal of Social Psychology*, *39*(6), 1053–1064. https://doi.org/10.1002/ejsp.607

Briñol, P., Petty, R. E., & Wheeler, S. C. (2006). Discrepancies between explicit and implicit self-concepts: Consequences for information processing. *Journal of Personality and Social Psychology*, *91*(1), 154–170. https://doi.org/10.1037/0022-3514.91.1.154

Brown, R., & Hewstone, M. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, *37*, 255–343. DOI: 10.1016/S0065-2601(05)37005-5

Cacioppo, J. T., & Petty, R. E. (1982). The need for cognition. *Journal of Personality and Social Psychology*, *42*(1), 116–131. https://doi.org/10.1037/0022-3514.42.1.116

Cancela, A., Briñol, P., & Petty, R. E., (2020). Hedonic vs. epistemic goals in processing persuasive communications: Revisiting the classic personal involvement by argument quality interaction. *Unpublished Manuscript*. Universidad Autónoma de Madrid

Cárdaba, M. M. A., Briñol, P., Horcajo, J., & Petty, R. E. (2013). The effect of need for cognition on the stability of prejudiced attitudes toward South American immigrants. *Psicothema*, *25*(1), 73–78. https://doi.org/10.7334/psicothema2012.107

Cárdaba, M. M. A., Briñol, P., Horcajo, J., & Petty, R. E. (2014). Changing prejudiced attitudes by thinking about persuasive messages: Implications for resistance. *Journal of Applied Social Psychology*, *44*(5), 343–353. https://doi.org/10.1111/jasp.12225

Carpenter, C. J. (2015). A meta-analysis of the ELM's argument quality X processing type predictions. *Human Communication Research*, *41*(4), 501–534. https://doi.org/10.1111/hcre.12054

Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson, & C. P. Herman (Eds.), *Social influence: The Ontario symposium* (Vol. 3, pp. 143–177). Hillsdale, NJ: Erlbaum.

Clark, J. K., & Thiem, K. C. (2015). Group communicators, perceived entitativity, and persuasion: A self-validation analysis. *Journal of Experimental Social Psychology*, *61*, 5–11. https://doi.org/10.1016/j.jesp.2015.06.005

Clark, J. K. & Thiem, K. C. (2018). Stereotype validation and intellectual performance: Negative implications for future achievement. *Self and Identity*, 17, 37–55.

Clark, J. K., Thiem, K. C., Barden, J., Stuart, J. O., & Evans, A. T. (2015). Stereotype validation: The effects of activating negative sterotypes after intellectual performance. *Journal of Personality and Social Psychology*, 108(4), 531–552. https://doi.org/10.1037/a0038887

Clark, J. K., Thiem, K. C., & Kang, S. (2017). Positive Stereotype Validation: The Bolstering Effects of Activating Positive Stereotypes After Intellectual Performance. *Personality and Social Psychology Bulletin*, 43, 1630–1642.

Clark, J. K., Wegener, D. T., Briñol, P., & Petty, R. E. (2009). Discovering that the shoe fits: The self-validating role of stereotypes. *Psychological Science*, 20(7), 846–852. https://doi.org/10.1111/j.1467-9280.2009.02375.x

Clark, J. K., Wegener, D. T., Sawicki, V., Petty, R. E., & Briñol, P. (2013). Evaluating the message or the messenger? Implications for self-validation in persuasion. *Personality and Social Psychology Bulletin*, 39(12), 1571–1584. https://doi.org/10.1177/0146167213499238

Clarkson, J. J., Tormala, Z. L., & Rucker, D. D. (2008). A new look at the consequences of attitude certainty: The amplification hypothesis. *Journal of Personality and Social Psychology*, 95(4), 810–825. https://doi.org/10.1037/a0013192

Crites, S., Fabrigar, L., & Petty, R. E. (1994). Measuring the affective and cognitive properties of attitudes: Conceptual and methodological issues. *Personality and Social Psychology Bulletin*, 20(6), 619–634. https://doi.org/10.1177/0146167294206001

Cvencek, D., Meltzoff, A. N., Maddox, C. D., Nosek, B. A., Rudman, L. A., Devos, T., Dunham, Y., Baron, A. S., Steffens, M. C., Lane, K., Horcajo, J., Ashburn-Nardo, L., Quinby, A., Srivastava, S. B., Schmidt, K., Aidman, E., Tang, E., Farnham, S., Mellott, D. S., Banaji, M. R., & Greenwald, A. G. (2020). Meta-an. alytic use of balanced identity theory to validate the implicit association test. *Personality and Social Psychology Bulletin*. https://doi.org/10.1177/0146167220916631

DeMarree, K. G., Briñol, P., & Petty, R. E. (2014b). The effects of power on prosocial outcomes: A self-validation analysis. *Journal of Economic Psychology*, 41, 20–30. https://doi.org/10.1016/j.joep.2012.07.005

DeMarree, K. G., Briñol, P., & Petty, R. E. (2015). Reducing subjective ambivalence by creating doubt: A metacognitive approach. *Social Psychological and Personality Science*, 6(7), 731–739. https://doi.org/10.1177/1948550615581497

DeMarree, K. G., Petty, R. E., Briñol, P., & Xia, J. (in press). Documenting individual differences in the propensity to hold attitudes with certainty. *Journal of Personality and Social Psychology*. http://dx.doi.org/10.1037/pspa0000241

DeMarree, K. G., Wheeler, C. S., Briñol, P., & Petty, R. E. (2014). Wanting other attitudes: Actual-desired attitude discrepancies predict feelings of ambivalence and ambivalence consequences. *Journal of Experimental Social Psychology*, 53, 5–18. https://doi.org/10.1016/j.jesp.2014.02.001

Devine, P. G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, 56(1), 5–18. https://doi.org/10.1037/0022-3514.56.1.5

Dixon, J., Durrheim, K., Tredoux, C., Tropp, L. R., Clack, B., & Eaton, E. (2010). A paradox of integration? Interracial contact, prejudice reduction and black South Africans' perceptions of racial discrimination. *Journal of Social Issues*, 66(2), 401–416. https://doi.org/10.1111/j.1540-4560.2010.01652.x

Dixon, J., Levine, M., Reicher, S., & Durrheim, K. (2012). Beyond prejudice: Are negative evaluations the problem and is getting us to like one another more the solution? *Behavioral and Brain Sciences*, *35*(6), 411–466. https://doi.org/10.1017/S0140525X11002214

Dovidio, J. E., Schellhaas, F. M. H., & Pearson, A. R. (2019). The role of attitudes in intergroup relationships. In D. Albarracín & B. T. Johnson (Eds.), *Handbook of Attitudes* (Vol. 2, 2nd ed., pp. 419–454). Routledge.

Dovidio, J. F., Gaertner, S. L., & Kawakami, K. (2003). The contact hypothesis: The past, present, and the future. *Group Processes and Intergroup Relations*, *6*(1), 5–21. https://doi.org/10.1177/1368430203006001009

Dunton, B. C., & Fazio, R. H. (1997). An individual difference measure of motivation to control prejudiced reactions. *Personality and Social Psychology Bulletin*, *23*(3), 316–326. https://doi.org/10.1177/0146167297233009

Durso, G., Petty, R. E., Briñol, P., Hinsenkamp, L., Sawicki, V., & Siev, J. (2020). *Predictably unpredictable people: Expecting ambivalence in social evaluation* [unpublished manuscript]. Ohio State University

Durso, Geoffrey R. O.., Briñol, P., & Petty, R. E. (2016). From power to inaction: Ambivalence gives pause to the powerful. *Psychological Science*, *27*, 1660–1666.

Ehrke, F., Berthold, A., & Steffens, M. C. (2014). How diversity training can change attitudes: Increaing perceived complexity of superordinate groups to improve intergroup relations. *Journal of Experimental Social Psychology*, *53*, 193–206. https://doi.org/10.1016/j.jesp.2014.03.013

Erb, H., Bohner, G., Rank, S., & Einwiller, S. (2002). Processing minority and majority communications: The role of conflict with prior attitudes. *Personality and Social Psychology Bulletin*, *28*(9), 1172–1182. https://doi.org/10.1177/01461672022812003

Fazio, R. H. (1990). Multiple Processes by which Attitudes Guide Behavior: The Mode Model as an Integrative Framework. In M. Zanna (Ed.), *Advances in experimental social psychology* (Vol.23, pp. 75-109). San Diego, CA: Academic Press.

Fleming, M. A., Petty, R. E., & White, P. (2005). Stigmatized targets and evaluation: Prejudice as a determinant of attribute scrutiny and polarization. *Personality and Social Psychology Bulletin*, *4*(4), 496–507. https://doi.org/10.1177/0146167204271585

Forscher, P. S., & Devine, P. G. (2014). Breaking the prejudice habit: Automaticity and control in the context of a long-term goal. In J. Sherman, B. Gawronski, & Y. Trope (Eds.), *Dual-process theories of the social mind* (pp. 468–482). Guildford Press.

Gandarillas, B., Requero, B., Briñol, P., & Rojo, B. (2014). El efecto de la responsabilidad organizacional sobre las actitudes hacia la contratación de personas con discapacidad. *Universitas Psychologica*, 13(4), 1615-1624. doi:http://dx.doi.org/10.11144/Javeriana.UPSY13-4.eroa

Gawronski, B., & Bodenhausen, 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., Morrison, M., Phills, C. E., & Galdi, S. (2017). Temporal stability of implicit and explicit measures: A longitudinal analysis. *Personality and Social Psychology Bulletin*, *43*(3), 300–312. https://doi.org/10.1177/0146167216684131

Geers, A. L., Briñol, P., & Petty, R. E. (2019). An analysis of the basic processes of formation and change of placebo expectations. *Review of General Psychology*, *23*(2), 211–229. https://doi.org/10.1037/gpr0000171

Glaser, T., Dickel, N., Liersch, B., Rees, J., Süssenbach, P., & Bohner, G. (2015). Lateral attitude change. *Personality and Social Psychological Review*, *19*(3), 257–276. https://doi.org/10.1177/1088868314546489

Glick, P., & Fiske, S. T. (1996). The ambivalent sexism inventory: Differentiating hostile and benevolent sexism. *Journal of Personality and Social Psychology*, *70*(3), 491–512. https://doi.org/10.1037/0022-3514.70.3.491

Greenwald, A. G. (1968). Cognitive learning, cognitive response to persuasion, and attitude change. In A. Greenwald, T. Brock, & T. Ostrom (Eds.), *Psychological foundations of attitudes* (pp. 148–170). Academic Press.

Greenwald, A. G., McGhee, D. E., & Schwartz, J. L. K. (1998). Measuring individual differences in implicit cognition: The implicit association task. *Journal of Personality and Social Psychology*, *74*(6), 1464–1480. https://doi.org/10.1037/0022-3514.74.6.1464

Gregg, A. P., Seibt, B., & Banaji, M. R. (2006). Easier done than undone: Asymmetry in the malleability of implicit preferences. *Journal of Personality and Social Psychology*, *90*(1), 1–20. https://doi.org/10.1037/0022-3514.90.1.1

Guyer, J. J., Briñol, P., Petty, R. E., & Horcajo, J. (2019). Nonverbal behavior of persuasive sources: A multiple process analysis. *Journal of Nonverbal Behavior*, *23*, 211–229. DOI: 10.1007/s10919-018-00291-x

Hahn, A., & Gawronski, B. (2019). Facing one's implicit biases: From awareness to acknowledgement. *Journal of Personality and Social Psychology*, *116*(5), 769–794. https://doi.org/10.1037/pspi0000155

Haugtvedt, C. P., & Petty, R. E. (1992). Personality and persuasion: Need for cognition moderates the persistence and resistance of attitude changes. *Journal of Personality and Social Psychology*, *63*(2), 308–319. https://doi.org/10.1037/0022-3514.63.2.308

Horcajo, J., Briñol, P., & Petty, R. E. (2010b). Consumer persuasion: Indirect change and implicit balance. *Psychology and Marketing*, *27*(10), 938–963. https://doi.org/10.1002/mar.20367

Horcajo, J., Briñol, P., & Petty, R. E. (2014). Multiple roles for majority versus minority source status on persuasion when source status follows the message. *Social Influence*, *9*(1), 37–51. https://doi.org/10.1080/15534510.2012.743485

Horcajo, J., Petty, R. E., & Briñol, P. (2010a). The effects of majority versus minority source status on persuasion: A self-validation analysis. *Journal of Personality and Social Psychology*, *99*(3), 498–512. https://doi.org/10.1037/a0018626

Horcajo, J., Santos, D., Guyer, J. J., & Moreno, L. (2019). Changing attitudes and intentions related to doping: An analysis of individual differences in need for cognition. *Journal of Sports Sciences*, *37*(24), 2835–2843. https://doi.org/10.1080/02640414.2019.1665876

Hovland, C. I., Janis, I. L., & Kelley, H. H. (1953). Communication and persuasion: Psychological studies of opinion change. New Haven, CT: Yale University Press.

Huntsinger, J. R. (2013). Incidental experiences of affective coherence and incoherence influence persuasion. *Personality and Social Psychology Bulletin*, *39*(6), 792–802. https://doi.org/10.1177/0146167213482588

Huntsinger, J. R., Isbell, L. M., & Clore, G. L. (2014). The affective control of thought: Malleable, not fixed. *Psychological Review*, *121*(4), 600–618. https://doi.org/10.1037/a0037669

Johnson, I., Petty, R. E., Briñol, P., & See, Y. H. M. (2017). Persuasive message scrutiny as a function of implicit-explicit discrepancies in racial attitudes. *Journal*

of Experimental Social Psychology, *70*, 222–234. https://doi.org/10.1016/j.jesp.
2016.11.007

Johnson, I. R., Kopp, B. M., & Petty, R. E. (2018). Just say no! (and mean it):
Meaningful negation as a tool to modify automatic racial attitudes. *Group
Processes and Intergroup Relations*, *21*(1), 88–110. https://doi.org/10.1177/
1368430216647189

Jordan, C. H., Whitfield, M., & Zeigler-Hill, V. (2007). Intuition and the correspon-
dence between implicit and explicit self-esteem. *Journal of Personality and Social
Psychology*, *93*(6), 1067–1079. https://doi.org/10.1037/0022-3514.93.6.1067

Kaiser, C. R., Major, B., & McCoy, S. K. (2004). Expectations about the future and the
emotional consequences of perceiving prejudice. *Personality and Social Psychology
Bulletin*, *30*(2), 173–184. https://doi.org/10.1177/0146167203259927

Katz, D. (1960). The functional approach to the study of attitudes. *Public Opinion
Quarterly*, *24*(2), 163–204. https://doi.org/10.1086/266945

Katz, I., & Hass, R. G. (1988). Racial ambivalence and American value conflict:
Correlational and priming studies of dual cognitive structures. *Journal of
Personality and Social Psychology*, *55*(6), 893–905. https://doi.org/10.1037/0022-
3514.55.6.893

Kim, J. Y., Fitzsimons, G. M., & Kay, A. C. (2018). Lean in messages increase attributions
of women's responsibility for gender inequality. *Journal of Personality and Social
Psychology*, *115*(6), 974–1001. https://doi.org/10.1037/pspa0000129

Kleiman, T., & Hassin, R. R. (2013). When conflicts are good: Nonconscious Goal
conflicts reduce confirmatory thinking. *Journal of Personality and Social
Psychology*, *105*(3), 374–387. https://doi.org/10.1037/a0033608

Kteily, N., Bruneau, E., Waytz, A., & Cotterill, S. (2015). The ascent of man: Theoretical
and empirical evidence for blatant dehumanization. *Journal of Personality and Social
Psychology*, *109*(5), 901–931. https://doi.org/10.1037/pspp0000048

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

Legault, L., Gutsell, J. N., & Inzlicht, M. (2011). Ironic effects of anti-prejudice
messages: How motivational interventions can reduce (but also increase)
prejudice. *Journal of Experimental Social Psychology*, *33*(November), 244–275.
DOI: 10.1177/0956797611427918

Leippe, M. R., & Eisenstadt, D. (1994). Generalization of dissonance reduction:
Decreasing prejudice thought induced compliance. *Journal of Personality and
Social Psychology*, *67*(3), 395–413. https://doi.org/10.1037/0022-3514.67.3.395

Lerner, J. S., & Keltner, D. (2000). Beyond valence: Toward a model of
emotion-specific influences on judgement and choice. *Cognition & Emotion*, *14*
(4), 473–493. https://doi.org/10.1080/026999300402763

Lick, D. J., Alter, A. L., & Freeman, J. B. (2017). Superior pattern of dectectors efficiently
learn, activate, apply, and update social stereotypes. *Journal of Experimental
Psychology: General*, *147*(2), 209–227. https://doi.org/10.1037/xge0000349

Loersch, C., McCaslin, M., & Petty, R. E. (2011). Exploring the impact of social
judgeability concerns on the interplay of associative and deliberative attitude
processes. *Journal of Experimental Social Psychology*, *47*(5), 1029–1032. https://
doi.org/10.1016/j.jesp.2011.03.024

Loughnan, S., Haslam, N., Murnane, T., Vaes, J., Reynolds, C., & Suitner, C. (2010).
Objectification leads to depersonalization: The denial of mind and moral concern
to objectified others. *European Journal of Social Psychology*, *40*(5), 709–717.
https://doi.org/10.1002/ejsp.755

Luttrell, A., Petty, R. E., & Briñol, P. (2016). Ambivalence and certainty can interact to predict attitude stability over time. *Journal of Experimental Social Psychology*, *63* (december), 56–68. https://doi.org/10.1016/j.jesp.2015.11.008

Luttrell, A., Petty, R. E., & Briñol, P. (in press). The interactive effects of ambivalence and certainty on political opinion stability. *Journal of Social and Political Psychology*.

Maddux, W. W., Barden, J., Brewer, M. B., & Petty, R. E. (2005). Saying no to negativity: The effects of context and motivation to control prejudice on automatic evaluative responses. *Journal of Experimental Social Psychology*, *41*(1), 19–35. https://doi.org/10.1016/j.jesp.2004.05.002

Madon, S., Jussin, L., Guyll, M., Nofziger, H., Salib, E. R., Willard, J., & Scherr, K. C. (2018). The accumulation of stereotype-based self-fulfilling prophecies. *Journal of Personality and Social Psychology*, *115*(5), 285–844. https://doi.org/10.1037/pspi0000142

Maio, G. R., Bell, D. W., & Essess, V. M. (1996). Ambivalence in persuasion: The processing of messages about immigrant groups. *Journal of Experimental Social Psychology*, *32*(6), 513–536. https://doi.org/10.1006/jesp.1996.0023

Maio, G. R., Greenland, K., Bernard, M., & Esses, V. M. (2001). Effects of intergroup ambivalence on information processing: The role of physiological arousal. *Group Processes and Intergroup Relations*, *4*(4), 355–372. https://doi.org/10.1177/1368430201004004005

Maio, G. R., Haddock, G., & Verplanken, B. (2019). *The psychology of attitudes and attitude change*. Sage.

Maio, G. R., Pakizeh, A., Cheung, W., & Rees, K. J. (2009). Changing, priming, and acting on values: Effects via motivational relations in a circular model. *Journal of Personality and Social Psychology*, *97*(4), 699–715. https://doi.org/10.1037/a0016420

Major, B., Hunger, J. M., Bunyan, D. P., & Miller, C. T. (2014). Ironic effects of weight stigma. *Journal of Experimental Social Psychology*, *51*(March), 74–80. https://doi.org/10.1016/j.jesp.2013.11.009

Mann, T. C., & Ferguson, M. (2016). Reversing implicit first impressions through reinterpretation after a two day delay. *Journal of Experimental Social Psychology*, *68*(June), 122–127. https://doi.org/10.1016/j.jesp.2016.06.004

Martin, R., & Hewstone, M. (2008). Majority versus minority influence, message processing and attitude change. *Advances in Experimental Social Psychology*, *40*, 237–326. DOI. 10.1016/S0065-2601(07)00005-6.

McGuire, W. J. (1981). The probabilogical model of cognitive structure and attitude change. In R. E. Petty, T. M. Ostrom, & T. C. Brock (Eds.), *Cognitive responses in persuasion*, (pp. 291–307). Erlbaum.

Meleady, R., Crisp, R. J., Hodson, G., & Earle, M. (2019). On the generalization of intergroup contact: A taxonomy of transfer effects. *Current Directions in Psychological Science*, 28, 430–435. https://doi.org/10.1177/0963721419848682,

Monteith, M. J. (1993). Self-regulation of prejudiced responses: Implications for progress in prejudice-reduction efforts. *Journal of Personality and Social Psychology*, *65*(3), 469–485. https://doi.org/10.1037/0022-3514.65.3.469

Moreno, L., Briñol, P., Petty, R. E., & Paredes, B. (2020). The impact of elaboration on spreading and generalization of attitude change. *Unpublished Manuscript*. Universidad Autónoma de Madrid

Moscovici, S. (1985). Social influence and conformity. In G. Lindsey & E. Aronson (Eds.), *The handbook of social psychology* (Vol. 2, 3rd ed., pp. 347–412). Random House.

Moyyer-Guseˊ, E. (2008). Toward a theory of entertainment persuasion: Explaining the persuasive effects of entertainment-education messages. *Communication Theory*, *18*(3), 407–425. https://doi.org/10.1111/j.1468-2885.2008.00328.x

Murphy, M. C., Kroeper, K. M., & Ozier, E. (2018). Prejudiced places: How contexts shape inequality and how we can change them. *Policy Insights from the Behavioral and Brain Sciences*, *5*(1), 66–74. https://doi.org/10.1177/2372732217748671

O'Brien, G. V. (2003). People with cognitive disabilities: The argument from marginal cases and social work ethics. *Social Work*, *48*(3), 331–337. https://doi.org/10.1093/sw/48.3.331

Paluck, E. L., & Green, D. P. (2009). Prejudice reduction: What works? A review and assessment of research and practice. *Annual Review of Psychology*, *60*(1), 339–367. https://doi.org/10.1146/annurev.psych.60.110707.163607

Paolini, S., Crisp, R. J., & McIntyre, K. (2009). Accountability moderates member-to-group generalization: Testing a dual process model of stereotype change. *Journal of Experimental Social Psychology*, *45*(4), 676–685. https://doi.org/10.1016/j.jesp.2009.03.005

Paredes, B., Santos, D., Briñol, P., Gómez, A., & Petty, R. E. (2019). The impact of meta-cognitive certainty on the relationship between identity fusion and endorsement of extreme pro-group behavior. *Self and Identity*. DOI: 10.1080/15298868.2019.1681498

Paredes, B., Santos, D., Briñol, P., Guyer, J. J., Moreno, L., & Petty, R. E. (2020). The influence of perceived knowledge on hiring decisions of job candidates. *Unpublished Manuscript*. Universidad Autónoma de Madrid.

Pettigrew, T. F. (2009). Secondary transfer effect of contact: Do intergroup contact effects spread to noncontacted outgroups? *Social Psychology*, *40*(2), 55–65. https://doi.org/10.1027/1864-9335.40.2.55

Pettigrew, T. F., & Tropp, L. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, *90*(5), 51–783. https://doi.org/10.1037/0022-3514.90.5.751

Petty, R. E., & Wegener, D. T. (1991). Thought systems, argument quality, and persuasion. In R. S. Wyer & T. K. Srull (Eds.), *Advances in social cognition* (Vol. 4, pp. 147–161). Erlbaum.

Petty, R. E., Haugtvedt, C., & Smith, S. M. (1995). Elaboration as a determinant of attitude strength: Creating attitudes that are persistent, resistant, and predictive of behavior. In R. E. Petty & J. A. Krosnick (Eds.), *Attitude strength: Antecedents and conseqeunces* (pp. 455–488). Erlbaum.

Petty, R. E. (2001). Subtle influences on judgments and behaviors: Who is most susceptible? In J. Forgas & K. D. Williams (Eds.), *Social influence: Direct and indirect processes* (pp. 129–146). Psychology Press.

Petty, R. E., & Briñol, P. (2010). Attitude structure and change: Implications for implicit measures. In B. Gawronski & B. K. Payne (Eds.), *Handbook of implicit social cognition: Measurement, theory, and applications* (pp. 335–352). Guilford Press.

Petty, R. E., Briñol, P., & Johnson, I. (2012). Implicit ambivalence. In B. Gawronski & F. Strack (Eds.), *Cognitive consistency: A fundamental principle in social cognition* (pp. 178–201). Guilford Press.

Petty, R. E., & Briñol, P. (2012). The Elaboration Likelihood Model. In P. A. M. Van Lange, A. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (Vol. 1, pp. 224–245). Sage.

Petty, R. E., & Briñol, P. (2020). A process approach to influencing attitudes and changing behavior: Revisiting classic findings in persuasion and popular interventions. In J. P. Forgas, W. D. Crano, & K. Fiedler (Eds.), *Applications of social psychology: How social psychology can contribute to real world problems* (pp. 82–103). Psychology Press.

Petty, R. E., & Briñol, P. (2006). A meta-cognitive approach to "implicit" and "explicit" evaluations: Comment on Gawronski and Bodenhausen (2006). *Psychological Bulletin*, *132*, 740–744.

Petty, R. E., & Briñol, P. (2008). Persuasion: From single to multiple to meta-cognitive processes. *Perspectives on Psychological Science*, *3*(2), 137–147. https://doi.org/10.1111/j.1745-6916.2008.00071.x

Petty, R. E., & Briñol, P. (2015). Emotion and persuasion: Cognitive and meta-cognitive processes impact attitudes. *Cognition and Emotion*, *29*(1), 1–26. https://doi.org/10.1080/02699931.2014.967183

Petty, R. E., Briñol, P., & DeMarree, K. G. (2007). The meta-cognitive model (MCM) of attitudes: Implications for attitude measurement, change, and strength. *Social Cognition*, *25*(5), 657–686. https://doi.org/10.1521/soco.2007.25.5.657

Petty, R. E., Briñol, P., & Tormala, Z. L. (2002). Thought confidence as a determinant of persuasion: The self-validation hypothesis. *Journal of Personality and Social Psychology*, *82*(5), 722–741. https://doi.org/10.1037/0022-3514.82.5.722

Petty, R. E., & Cacioppo, J. T. (1979). Issue involvement can increase or decrease persuasion by enhancing message-relevant cognitive responses. *Journal of Personality and Social Psychology*, *37*(10), 1915–1926. https://doi.org/10.1037/0022-3514.37.10.1915

Petty, R. E., & Cacioppo, J. T. (1986). Communication and persuasion: Central and peripheral routes to attitude change. New York: Springer-Verlag.

Petty, R. E., & Cacioppo, J. T. (1990). Involvement and persuasion: Tradition versus integration. *Psychological Bulletin*, *107*(3), 367–374. https://doi.org/10.1037/0033-2909.107.3.367

Petty, R. E., DeMarree, K. G., Briñol, P., Horcajo, J., & Strathman, A. J. (2008). Need for cognition can magnify or attenuate priming effects in social judgment. *Personality and Social Psychology Bulletin*, *34*(7), 900–912. https://doi.org/10.1177/0146167208316692

Petty, R. E., Fleming, M. A., & White, P. H. (1999). Stigmatized sources and persuasion: Prejudice as a determinant of argument scrutiny. *Journal of Personality and Social Psychology*, *76*(1), 19–34. https://doi.org/10.1037/0022-3514.76.1.19

Petty, R. E., Harkins, S. G., & Williams, K. D. (1980). The effects of group diffusion of cognitive effort on attitudes: An information processing view. *Journal of Personality and Social Psychology*, *38*(1), 81–92. https://doi.org/10.1037/0022-3514.38.1.81

Petty, R. E., & Krosnick, J. A. (Eds.). (1995). *Attitude strength: Antecedents and consequences*. Erlbaum.

Petty, R. E., Ostrom, T. M., & Brock, T. C. (Eds.). (1981). *Cognitive responses in persuasion*. Erlbaum.

Petty, R. E., Tormala, Z. L., Briñol, P., & Jarvis, W. B. G. (2006). Implicit ambivalence from attitude change: An exploration of the PAST Model. *Journal of Personality and Social Psychology*, *90*(1), 21–41. https://doi.org/10.1037/0022-3514.90.1.21

Petty, R. E., Wells, G. L., & Brock, T. C. (1976). Distraction can enhance or reduce yielding to propaganda: Thought disruption versus effort justification. *Journal of Personality and Social Psychology*, 34(5), 874–884. https://doi.org/10.1037/0022-3514.34.5.874

Phills, C. E., Kawakami, K., Tabi, E., Nadolny, D., & Inzlicht, M. (2011). Mind the gap: Increasing associations between the self and Blacks with approach behaviors. *Journal of Personality and Social Psychology*, 100(2), 197–210. https://doi.org/10.1037/a0022159

Pinel, E. C., & Long, A. E. (2012). When I's meet: Sharing subjective experience with someone from the out-group. *Personality and Social Psychology Bulletin*, 38(3), 296–307. https://doi.org/10.1177/0146167211433878

Plant, A. E., & Devine, P. G. (1998). Internal and external motivation to respond without prejudice. *Journal of Personality and Social Psychology*, 75(3), 811–832. https://doi.org/10.1037/0022-3514.75.3.811

Priester, J. R., & Petty, R. E. (1996). The gradual threshold model of ambivalence: Relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of Personality and Social Psychology*, 71(3), 431–449. https://doi.org/10.1037/0022-3514.71.3.431

Priester, J. R., & Petty, R. E. (2001). Extending the bases of subjective attitudinal ambivalence: Interpersonal and intrapersonal antecedents of evaluative tension. *Journal of Personality and Social Psychology*, 80(1), 19–34. https://doi.org/10.1037/0022-3514.80.1.19

Ranganath, K. A., Smith, C. T., & Nosek, B. A. (2008). Distinguishing automatic and controlled components of attitudes from direct and indirect measurement methods. *Journal of Experimental Social Psychology*, 44(2), 386–396. https://doi.org/10.1016/j.jesp.2006.12.008

Ratliff, K. A., & Nosek, B. A. (2011). Negativity and out group biases in attitude formation and transfer. *Personality and Social Psychology Bulletin*, 37(12), 1692–1703. https://doi.org/10.1177/0146167211420168

Rees, L., Rothman, N. B., Lehavy, R., & Sanchez-Burks, J. (2013). The ambivalent mind can be a wise mind: Emotional ambivalence increases judgment accuracy. *Journal of Experimental Social Psychology*, 49(3), 360–367. https://doi.org/10.1016/j.jesp.2012.12.017

Requero, B., Briñol, P., & Petty, R. (2020a). Appraisals of hope vs. helplessness are capable of moderating the effect of thoughts on attitudes and behavior. *Unpublished Manuscript*. Universidad Autónoma de Madrid.

Requero, B., Santos, D., Paredes, B., Briñol, P., & Petty, R. E. (2020b). Attitudes toward hiring people with disabilities: A meta-cognitive approach to persuasion. *Journal of Applied Social Psychology*, 50(5), 276–288. https://doi.org/10.1111/jasp.12658

Rohmer, O., & Louvet, E. (2018). Implicit stereotyping against people with disability. *Group Processes and Intergroup Relations*, 21(1), 127–140. https://doi.org/10.1177/1368430216638536

Rucker, D. D., Tormala, Z. L., Petty, R. E., & Briñol, P. (2014). Consumer conviction and commitment: An appraisal-based framework for attitude certainty. *Journal of Consumer Psychology*, 24, 119–136. 1

Rudolph, A., & Hilbert, A. (2017). The effects of obesity-related health messages on explicit and implicit weight bias. *Frontiers, 7*, 2064. https://doi.org/10.3389/fpsyg.2016.02064

Rydell, R. J., & McConnell, A. R. (2006). Understanding implicit and explicit attitude change: A systems of reasoning analysis. *Journal of Personality and Social Psychology*, 91(6), 995–1008. https://doi.org/10.1037/0022-3514.91.6.995

Rydell, R. J., McConnell, A. R., & Mackie, D. M. (2008). Consequences of discrepant explicit and implicit attitudes: Cognitive dissonance and increased information processing. *Journal of Experimental Social Psychology*, *44*(6), 1526–1532. https://doi.org/10.1016/j.jesp.2008.07.006

Saguy, T., Tausch, N., Dovidio, J. F., & Pratto, F. (2009). The irony of harmony: Intergroup contact can produce false expectations for equality. *Psychological Science*, *20*(1), 114–121. https://doi.org/10.1111/j.1467-9280.2008.02261.x

Santos, D., Briñol, P., Petty, R. E., Gandarillas, B., & Mateos, R. (2019). Trait aggressiveness predicting aggressive behavior: The moderating role of meta-cognitive certainty. *Aggressive Behavior*, *45*(3), 255–264. https://doi.org/10.1002/ab.21815

Santos, D., Requero, B., Martínez, R., Briñol, P., & Petty, R. E. (2020, February). Changing prejudiced attitudes through meta-cognitive processes of persuasion. *Presented at the Attitudes Preconference of the Society for Personality and Social Psychology*. Vegas, Nevada.

Santos, D., & Rivera, R. G. (2015). The accessibility of justice-related concepts can validate intentions to punish. *Social Influence*, *10*(3), 180–192. https://doi.org/10.1080/15534510.2015.1031170

Sassenberg, K., & Wieber, F. (2005). Don't ignore the other half: The impact of ingroup identification on implicit measures of prejudice. *European Journal of Social Psychology*, *35*(5), 621–632. https://doi.org/10.1002/ejsp.267

Savary, J., Keliman, T., Hassin, R. R., & Dhar, R. (2015). Positive consequences of conflict on decision making: When a conflict mindset facilitates choice. *Journal of Experimental Psychology: General*, *144*(1), 1–6. https://doi.org/10.1037/a0038551

Schmader, T., & Sedikides, C. (2018). State authenticity as fit to environment (SAFE): Implications of social identity for fit, authenticity, and self-segregation. *Personality and Social Psychology Review*, *22*(3), 228–259. https://doi.org/10.1177/1088868317734080

Schultz, J. R., & Maddox, K. B. (2013). Shooting the messenger to spite the message? Exploring reaction to claims of racial bias. *Personality and Social Psychology Bulletin*, *39*(3), 346–358. https://doi.org/10.1177/0146167212475223

Scroggins, W. A., Mackie, D. M., Allen, T. J., & Sherman, J. W. (2016). Reducing prejudice with labels: Hared group membership attenuate implicit bias and expand implicit group boudaries. *Personality and Social Psychology Bulletin*, *42*(2), 219–229. https://doi.org/10.1177/0146167215621048

Sherman, J., Gawronski, B., & Trope, Y. (2012). Dual-process theories of the social mind. New York, NY: Guildford Press.

Shoots-Reinhard, B. L., Petty, R. E., DeMarree, K. G., & Rucker. D. D. (2015). Personality Certainty and Politics: Increasing the Predictive Utility of Individual-Difference Inventories. *Political Psychology*, *36*(4), 415–430.

Smith, C. A., & Ellsworth, P. C. (1985). Patterns of cognitive appraisal in emotion. *Journal of Personality and Social Psychology*, *48*(4), 813–838. https://doi.org/10.1037/0022-3514.48.4.813

Smith, C. T., & De Houwer, J. (2014). The impact of persuasive messages on IAT performance is moderated by source attractiveness and likeability. *Social Psychology*, *45*(6), 437–448. https://doi.org/10.1027/1864-9335/a000208

Stark, T. H., Flache, A., & Veenstra, R. (2013). Generalization of positive and negative attitudes toward individual to outgroup attitudes. *Personality and Social Psychology Bulletin*, *39*(5), 608–622. https://doi.org/10.1177/0146167213480890

Tausch, N., Hewstone, M., Kenworthy, J. B., Psaltis, C., Schmid, K., Popan, J. R., Cairns, E., & Hughes, J. (2010). 'Secondary transfer' effects of intergroup contact:

Alternative accounts and underlying processes". *Journal of Personality and Social Psychology*, *99*(2), 282–302. https://doi.org/10.1037/a0018553

Teeny, J. D., Siev, J. J., Briñol, P., & Petty, R. E. (in press). A review and conceptual framework for understanding personalized matching effects in persuasion. *Journal of Consumer Psychology*.

Tesser, A. (1978). Self-generated attitude change. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 11, pp. 289–338). Academic Press.

Tormala, Z. L., Briñol, P., & Petty, R. E. (2007). Multiple roles for source credibility under high elaboration: It's all in the timing. *Social Cognition*, *25*(4), 536–552. https://doi.org/10.1521/soco.2007.25.4.536

Tormala, Z. L., & Petty, R. E. (2001). On-line versus memory based processing: The role of 'need to evaluate' in person perception. *Personality and Social Psychology Bulletin*, *12*(12), 1599–1612. https://doi.org/10.1177/01461672012712004

Turner, R. N., & Crisp, R. J. (2010). Imagining intergroup contact reduces implicit prejudice. *Social Psychology*, *49*(December), 129–142. https://doi.org/10.1348/014466609X419901

Villegas-Gold, R., & Yoo, H. C. (2014). Coping with discrimination among Mexican American college students. *Journal of Counselling Psychology*, *61*(3), 404–413. https://doi.org/10.1037/a0036591

Vornholt, K., Uitdewilligen, S., & Nijhuis, F. J. (2013). Factors affecting the acceptance of people with disabilities at work: A literature review. *Journal of Occupational Rehabilitation*, *23*(4), 463–475. https://doi.org/10.1007/s10926-013-9426-0

Walther, E. (2002). Guilty by mere association: Evaluative conditioning and the spreading attitude effect. *Journal of Personality and Social Psychology*, *82*(6), 919–934. https://doi.org/10.1037/0022-3514.82.6.919

Wegener, D. T., Clark, J. K., & Petty, R. E. (2006). Not all stereotyping is created equal. Differential consequences of thoughtful versus non-thoughtful stereotyping. *Journal of Personality and Social Psychology*, *90*(1), 42–59. https://doi.org/10.1037/0022-3514.90.1.42

White, P., & Harkins, S. G. (1994). Race of source effects in the elaboration likelihood model. *Journal of Personality and Social Psychology*, *67*(5), 790–807. https://doi.org/10.1037/0022-3514.67.5.790

Wilson, T. D., Westgate, E. C., Buttrick, N. R., & Gilbert, D. (2019). The mind is its own place: The difficulties and benefits of thinking for pleasure. *Advances in Experimental Social Psychology*, *60*(January), 175–221. DOI: 10.1016/bs.aesp.2019.05.001.

Wyer, N. A. (2016). Easier done than undone . . . by some of the people some of the time: The role of elaboration in explicit and implicit group preferences. *Journal of Experimental Social Psychology*, *63*(March), 77–85. https://doi.org/10.1016/j.jesp.2015.12.006

Xu, N. M., Wright, N., Petty, R. E., & Briñol, P. (2019). Individual differences in the specific motivations to evaluate: Learning and expressing. *Unpublished Manuscript*. Ohio State University.

Ye, Y., & Gawronski, B. (2016). When possessions become part of the self: Ownership and implicit self-object linking. *Journal of Experimental Social Psychology*, *64* (May), 72–87. https://doi.org/10.1016/j.jesp.2016.01.012