CHAPTER 1

The Nature of Implicit Prejudice

Implications for Personal and Public Policy

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Some fifty years ago in Arkansas, nine black students initiated a social experiment with help from family, friends, and armed National Guards. Their successful attempt to desegregate Little Rock's Central High School following the decision in *Brown v. Board of Education* is among the most momentous events in America's history, leaving no doubt about its historic importance and the significance of its impact on public policy. Nevertheless, as many have noted, even at the beginning of the twenty-first century, a blatant de facto segregation in living and learning persists and in some circumstances has intensified (e.g., Orfield, 2001). The American experiment in desegregation is a reminder that public policies, however noble in intent, may not realize their aspirations if they do not include an understanding of human nature and culture. In other words, they cannot succeed if they are not founded on relevant scientific evidence, which reveals the nature of the problem, the likely outcomes, and how social transformation can best be imagined. As an example of the importance of basing policy in science, there is the research of Robert Putnam showing the unsavory result that ethnic diversity may actually increase social distrust. As the ethnic diversity by zip code increases, so does mistrust of one's neighbors, even same-ethnicity neighbors (Putnam, 2007). The naive optimism that diversity will succeed in the absence of a clear understanding of the dynamics of social dominance and intergroup relations is challenged by these and other similar revelations (e.g., Shelton, Richeson, and Dovidio, this volume). Hence, even well-intentioned public policies are unlikely to yield positive outcomes unless they are grounded in the best thinking available about how people actually think and behave. Sadly, this has not been the case, both because policy makers are not sufficiently respectful of the importance of science as the guide to social issues <ll1d because academic scientists resist imagining the policy implications of their evidence.

In this chapter, we address the topics of stereotyping and prejudice, staying firmly within the bounds of what science has demonstrated. However, in keeping with the mission of this book, we spell out what we see to be some obvious, and also some less obvious, tentacles to questions of public policy. We posed the following questions to ourselves: What are the broad lessons learned that have changed our understanding of human nature and social relations in recent decades? In what way does the new view run counter to long-held assumptions? How should policy involving intergroup relations proceed in light of these discoveries? And, can we speak about "personal policies" that may emerge from the education of individuals about the constraints and flexibility of their own minds while also considering the notion of policy in the usual "public" sense? Our contention is that personal and public policy discussions regarding prejudice and discrimination are too often based on an outdated notion of the nature of prejudice. Most continue to view prejudice as it was formulated generations ago: negative attitudes about social groups and their members rooted in ignorance and perpetuated by individuals motivated by animus and hatred. The primary implication of the old view was that prejudice is best addressed by changing the hearts and minds of individuals, for good-hearted people will think well of others and behave accordingly. However, research in recent years demonstrates that the old view of prejudice is incomplete, even dangerously so. Staying with it would lead to policy choices that might be ineffectual, or worse. Staying with it would be akin to ignoring the evidence on smoking and cancer.

How has the scientific understanding of prejudice changed? In short, we now know that the operation of prejudice and stereotyping in social judgment and behavior does not require personal animus, hostility, or even awareness. In fact, prejudice is often "implicit"-that is, unwitting, unintentional, and

uncontrollable-even among the most well-intentioned people (for a review, sec Dovidio and Gaertner, 2004). Moreover, although the discovery of implicit prejudice initially brought with it an assumption that it might be unavoidable (e.g., Bargh, 1999; Devine, 1989; Dovidio et al., 1997), research demonstrates that, although it remains stubbornly immune to individual efforts to wish it away, it can be reduced and even reversed within specific social situations through sensible changes in the social environment (e.g., Lowery, Hardin, and Sinclair, 2001; Rudman, Ashmore, and Gary, 2001). In sum, in addition to the real problems that malicious "bad apples" pose for social policy, research demonstrates that prejudice also lives and thrives in the banal workings of normal, everyday human thought and activity. In fact, an overemphasis on the bad apples may well be detrimental to considerations of policy because it assumes the problem of prejudice to be that of the few rather than that of the many (Banaji, Bazerman, and Chugh, 2003).

We believe that the new understanding of prejudice that has evolved over the past three decades invites a transformation of the public debate regarding how the problem of prejudice may be productively addressed. Hence, this chapter will review the research that has so dramatically changed the contemporary understanding of the nature of prejudice, with an emphasis on research demonstrating (a) the existence of implicit prejudice, (b) the ubiquity of implicit prejudice and its consequences, (c) principles by which the operation of implicit prejudice may be influenced, and (d) the policy changes implied by a recognition of what the mind contains and is capable of. In so doing, we argue that although implicit prejudice has disturbing consequences for social judgment and behavior, potential solutions may arise in part from a reconceptualization of prejudice-less as a property of malicious individuals and more as a property of the architecture of cognition and known mechanisms of social learning and social relations.

The Nature of Implicit Prejudice

The discovery that prejudice can operate unwittingly, unintentionally, and unavoidably emerged from several related developments in psychology, sociology, economics, and political science. Most politically salient was the persistence of social, economic, and health-related racial discrimination despite an increasing unwillingness, during the late-twentieth century, of Americans to consciously endorse "explicit" racist attitudes (e.g., Bobo, 2001; Dovidio, 2001; Snidcrman and Carmines, 1997). Although the observation of dissociations between explicit intergroup attitudes and intergroup discrimination was hardly unprecedented (e.g., Allport, 1958; La Pierre, 1934), it was met with an increasing interest in assessing political attitudes unobtrusively, either to circumvent the role of social desirability in attitude expression (e.g., Crosby, Bromley, and Saxe, 1980; Fazio et al., 1995; Word, Zanna, and Cooper, 1974), orto address the possibility that the psychology of prejudice in the United States had evolved into more sublimated, symbolic, or otherwise less deliberately hostile forms (e.g., Dovidio and Gaertner, 2004; Jackman, 1994; Scars and Henry, 2005). Equally important, developments within the information-processing paradigm of psychology made the study of implicit cognition-including automatic, implicit prejudice- both newly possible and theoretically coherent (e.g., Banaji and Greenwald, 1994; Bargh, 1999; Greenwald and Banaji, 1995). Finally, the social-psychological interest in implicit prejudice resonated with a broader interdisciplinary appreciation across the brain sciences of the variety, sophistication, and richness of information processing that occurs outside the window of conscious deliberation, indicating, among many other things, that prejudice is hardly the only kind of thinking largely implicit in nature (e.g., French and Clceremans, 2002).

The Discovery of Implicit Prejudice

The discovery and identification of implicit prejudice as consequential, ubiquitous, and distinct from "explicit," or conscious, endorsement of prejudiced attitudes has now been firmly established by decades of research, hundreds of studies, thousands of participants from around the world, and a variety of research methodologies. Implicit prejudice was captured initially in two basic experimental paradigms that emerged from the information-processing nexus of cognitive and social psychology- one demonstrating the effects of concepts made implicitly salient through experimental manipulation, and the other demonstrating the existence and correlates of implicit semantic associations.

The effects of cognitively salient concepts on social judgment were initially captured in now-classic experiments demonstrating that evaluations of social targets are implicitly influenced by recent exposure to judgment-related information (Higgins, Rholcs, and Jones, l977; Srull and Wyer, 1979). Although interdisciplinary consensus about the importance of implicit cognition exhibited by this research tradition had been building for many years, its application to stereotyping was captured in Patricia Devine's iconic paper (1989), which marked the beginning of a

paradigm shift in the social-psychological understanding of stereotyping and prejudice more generally.[1]

In the critical experiment, participants evaluated a hypothetical person named "Donald" as more hostile if they had been subliminally exposed to a large versus a small proportion of words related to common U.S. stereotypes of African Americans. The finding was striking because it suggested that crude stereotypes could operate unintentionally and outside conscious awareness to influence social judgment, and it was disturbing because it showed that implicit stereotyping occurred to an equal degree whether participants explicitly endorsed racist attitudes or not.

This basic paradigm has since been used in scores of experiments that confirm the implicit operation of prejudice and stereotyping in social judgment including, but not limited to, ethnicity and race (e.g., Dovidio et al., 1997), gender (e.g., Rudman and Borgida, 1995), and age (e.g., Levy, 1996). As an example of the existence of implicit gender stereotypes, women but not men were judged as more dependent after recent exposure to female stereotypes, and men but not women were judged as more aggressive after exposure to male stereotypes (Banaji, Hardin, and Rothman, 1993). The effects of stereotype salience were equally large for women and men, regardless of the levels of explicit prejudice. In sum, research in this tradition suggests that mere knowledge of a stereotype can influence social judgment regardless of explicit intentions and regardless of the social category of the one doing the stereotyping.

Research demonstrating the implicit influence of cognitively salient stereotypes in social judgment has been complemented by research in the second paradigm that establishes the extent to which stereotyping and prejudice operate as webs of cognitive associations. Like Freud's discovery that mental architecture is revealed by quantifying what most easily comes to mind given targeted conceptual probes, the notion was initially captured in now-classic experiments showing that judgments on "target" words are faster if they are immediately preceded by brief exposure to semantically related, as opposed to unrelated, "prime" words (e.g., Meyer and Schvaneveldt, 1971; Neely, 1976, 1977). These semantic relations are now known to be highly correlated with those identified in free-association tasks (for a review see Ratcliff and McKoon, 1994). Extensive research demonstrates that a variety of social beliefs and attitudes function as semantic and evaluative associations across several procedural variations, including conditions in which the prime words are exposed too quickly for people to see (for reviews see Fazio, 2001; Greenwald and Banaji, 1995). For example, simple judgments about target female pronouns were faster after brief exposure to prime words either denotatively or connotatively related to women (e.g., lady, nurse) than words related to men (e.g., gentleman, doctor), and judgments about male pronouns were faster after exposure to prime words related to men than women (Banaji and Hardin, 1996; Blair and Banaji, 1996). Similarly, people were faster to judge words associated with negative stereotypes of African Americans after exposure to black faces than to white faces (e.g., Dovidio, Evans, and Tyler, 1986; Dovidio et al., 1997; Wittenbrink, Judd, and Park, 1997). Such results have been taken to demonstrate the automatic nature of beliefs or stereotypes when they capture associations between social groups and their common stereotypes, and have been used to demonstrate the automatic nature of attitudes or preferences when they capture associations between social groups and common evaluations of them.

Research in this tradition suggests the ubiquity with which common prejudice and stereotyping operates among all kinds of people along lines laid down by extant social relations on a variety of dimensions. These include, but are not limited to, ethnicity and race (e.g., Nosek, Banaji, and Greenwald, 2002a), gender (e.g., Banaji and Hardin, 1996), sexual orientation (e.g., Dasgupta and Rivera, 2008), body shape (e.g., Bessenoff and Sherman, 2000), the elderly (Perdue and Gurtman, 1990), and adolescents (Gross and Hardin, 2007). Implicit prejudice of this kind develops early in children across cultures (e.g., Baron and Banaji, 2006; Dunham, Baron, and Banaji, 2006, 2007) and appears to involve specific brain structures associated with nonrational thought (e.g., Cunningham, Nezlek, and Banaji, 2004; Lieberman, 2000; Phelps et al., 2000).

Characteristics of Implicit Prejudice

Although the identification of the course, consequences, and nature of implicit prejudice continues to evolve in research spanning disciplines, research methodologies, and specific social categories, its fundamental characteristics are now firmly established. Implicit prejudice (a) operates unintentionally and outside awareness, (b) is empirically distinct from explicit prejudice, and (c) uniquely predicts consequential social judgment and behavior. Underlying all claims about the operation of implicit prejudice is the fact that the implicit operation of stereotypes and prejudice is robust and reliably measured, as indicated by hundreds of published experiments (e.g., Banaji, 2001; Greenwald and Banaji, 1995). In addition, research shows that implicit prejudice is subject to social influence, a finding that is important to public policy considerations, although the immediate operation of

implicit prejudice is difficult, if not impossible, to control through individual volition.

The most important characteristic of implicit prejudice is that it operates ubiquitously in the course of normal workaday information processing, often outside of individual awareness, in the absence of personal animus, and generally despite individual equanimity and deliberate attempts to avoid prejudice (for reviews see Devine, 2005; Dovidio and Gaertner, 2004). Evidence of this process includes experiments demonstrating that social judgment and behavior is affected in stereotype-consistent ways by unobtrusive, and even subliminal, manipulations of stereotype salience. Typically in these kinds of experiments, participants attempt to be fair and unbiased and, moreover, exhibit no evidence of knowing that their recent experience included exposure to stereotypes used in their evaluations. Experiments that manipulate stereotype salience subliminally through extremely rapid exposure to words or images make the case especially strongly (for reviews see Bargh, 1999; Devine and Monteith, 1999). Interestingly, implicit prejudice of this kind appears to operate regardless of the personal characteristics of research participants, including participant social category, and regardless of individual differences in related explicit attitudes and implicit attitudes. The implication is that anyone who is aware of a common stereotype is likely to use it when it is cognitively salient and relevant to the judgment at hand (e.g., Hardin and Rothman, 1997; Higgins, 1996).

Complementary evidence that prejudice operates implicitly comes from research using measures of automatic cognitive association, including serial semantic priming paradigms (e.g., Blair and Banaji, 1996), subliminal serial priming paradigms (e.g., Fazio et al., 1995), and startle responses (e.g., Amodio, Harmon-Jones, and Devine, 2003), as well as behavioral interference paradigms like Stroop tasks (e.g., Bargh and Pratto, 1986; Richeson and Trawalter, 2005) and implicit association tasks (IAT; e.g., Greenwald, McGhee, and Schwartz, 1998). Hundreds of experiments using these measures suggest that people are generally surprised to learn that they have implicit prejudices.

A second major characteristic of implicit prejudice is that it is difficult for individuals to deliberately modulate, control, or fake (for reviews see Devine and Monteith, 1999; Dovidio, Kawakami, and Gaertner, 2002; Greenwald et al., 2009). Experiments like Devine's (1989), which demonstrate implicit prejudice through subliminal, unconscious manipulations of stereotype salience, by design preclude individual awareness and control, thereby demonstrating that immediate conscious awareness of stereotyped information is formally unnecessary to produce implicit stereotyping. Similar experiments that manipulate stereotype salience through recent conscious exposure to stereotyped information suggest that implicit stereotyping can occur through the kind of mere exposure to stereotyped information that occurs in the hurly-burly of everyday life in societies that are organized around race, class, and gender (e.g., Rudman and Borgida, 1995). Moreover, research expressly designed to test the success of individuals to control or fake their levels of implicit prejudice as assessed by measures of association show that it is extremely difficult or impossible to do so (Bielby, 2000), whether attitudes are about gays (e.g., Banse, Seise, and Zerbes, 2001), ethnic groups (e.g., Kim, 2003), or gender (e.g., Blair and Banaji, 1996).

Independent of individual attempts to control the operation of implicit prejudice, research shows that it is nearly impossible to consciously correct for effects of implicit prejudice (for one review see Wegener and Petty, 1997). To do so, one must be in the unlikely circumstance of having all at once (a) knowledge that implicit prejudice is operating, (b) both the motivation and cognitive capacity to control it, and perhaps most unlikely of all, (c) precise knowledge of the magnitude and direction of the correction needed (e.g., Bargh, 1999; Fazio and Towles-Schwen, 1999). For example, although individual differences in explicit prejudice predict the overt interpersonal friendliness of whites toward blacks, it is individual differences in implicit prejudice that predicts the nonverbal behavior of whites, which is the behavior that, in turn, predicts black attitudes toward whites (e.g., Dovidio, Kawakami, and Gaertner, 2002).

The third critical characteristic of implicit prejudice is that it is empirically distinct from explicit prejudice, including activating distinctive regions of the brain (Cunningham, Nezlek, and Banaji, 2004). Although explicit attitudes are often uncorrelated with the implicit operation of prejudice (e.g., Devine, 1989; Fazio and Olson, 2003) and implicit prejudiced associations (e.g., Gross and Hardin, 2007), correlations between implicit and explicit attitudes actually vary widely across studies (e.g., Hofmann et al., 2005; Nosek, 2005). A picture of when and why implicit and explicit attitudes are likely to be dissociated has begun to emerge. Baldly explicit prejudice on the basis of race and gender often conflicts with social norms of equity and justice and hence is a domain in which implicit-explicit attitude dissociations often occur. In contrast, in domains in which explicit attitudes do not conflict with consensual social norms, implicit and explicit attitudes are often correlated (e.g., Gawronski, 2002; Greenwald et al., 2009). For example, implicit prejudice is correlated with amygdala activation (Cunningham, Nezlek, and Banaji,

2004; Phelps ct al., 2000), and explicit prejudice is more strongly correlated with prcfrontal cortex activation (Cunningham et al., 2004; see also Amodio et al., 2004). Most importantly, i mplicit prejudice uniq uely predicts related attitudes and behavior over and above explicit prejudice and appears to be related to distinct families of social judgment and behavior. Implicit attitudes are associated relatively more with tacit learning, manipulations, and consequences, whereas explicit attitudes arc relatively more associated with intentionally controllable behaviors and attitudes (e.g., Olson and Fazio, 2003; Spalding and Hardi n, 1999).

Because the u nique predictive validity of im plicit prejudice is critical to appreciating its i mplications for policy choices, we now turn to a detailed discussion of this evidence in the context of policy implications.

Consequences and Social Control of Implicit Prejudice

The existence of implicit prejudice would be of little practical consequence if it were an u nreliable predictor of social judgment and behavior, particularly given the growing interest in its potential economic, labor, legal, and policy implications (e.g., Ayres, 2001; Banaji and Bhaskar, 2000; Banaji and Dasgupta, 1998; Chugh, 2004; Greenwald and Krieger, 2006; Jost ct al., 2009; Kang and Banaji, 2006; Tetlock and Mitchell, in press). However, research demonstrates the consequential nature of implicit prejudice i n a variety of domains, including health, job satisfaction, voting behavior, and social interaction. Our discussion of this evidence is organized around the two paradigms that led to the discovery of implicit prejudice in the first place-the implicit effects of cognitively salient stereotypes and prejudice, and the predictive u tility of implicit associations between social groups and thei r presu med characteristics.

Implicit Effects of Cognitively Accessible Stereotypes and Prejudice

Perhaps the most disturbing aspect of im plicit prejudice is that while cognitively salient stereotypes and prejudices operate outside of conscious awareness, they produce qualitative changes in social judgment and behavior. Across some two dozen experiments in which participants are presented with a series of images of social situations and instructed to as quickly and accurately as possi ble "shoot" if the target is armed and "don't shoot" if the target is unarmed, the finding is consistent: participants faster and more accurately shoot gu n-toti ng black targets than white targets and faster and more accurately avoid shooting tool-toti ng white targets than black targets (e.g., Correll ct al., 2002; Correll, Urland, and Ito, 2006). The finding is obtained among both white and black participants alike, and even among protCssional police officers (Correll ct al., 2007; Plant and Pcruche, 2005; Plant, Pcruchc, and Butz, 2005). In a similar experimental paradigm i n which participants were i nstructed to distinguish between weapons and hand tools, participants were faster to correctly identify weapons after exposure to black faces than to white faces but faster to correctly identify tools after exposure to white faces than to black faces (Payne, 2001). A follow-up study demonstrated that partici pants u nder time pressure were more likely to misidentify tools as gu ns after exposure to black faces but misidentify guns as tools after exposure to white faces (sec also Govoru n and Payne, 2006; Payne, Shimizu, and Jacoby, 2005), a finding that is obtained even among professional police officers (Eberhard t ct al., 2004).

Such findings have important implications for police officers, given the broader finding that police consistently use greater lethal and nonlethal force against nonwhite suspects than white suspects (e.g., for reviews sec U.S. Department of J ustice, 2001; Geller, 1982). Indeed, Los Angeles police officers judge adolescents accused of shoplifti ng or assault more negatively and as more culpable when they have been subliminally exposed to words related to common stereotypes abou t blacks than words that are not related to the stereotypes (Graham and Lowery, 2004).

The implicit use of common stereotypes is not limited to issues of race bu t is also seen in matters of age and in instances of gender bias. For exam ple, the behavior of a seventeen-year-old (but not a sevcnty-oncycar-old) toward a police officer is judged as more rebellious after the latter's su blimi nal exposu re to words related to com mon adolescent stereotypes than with exposure to words that are not, and the magnitude of the effect is unrelated to individ ual differences in explicit attitudes about adolescents (Gross and Hardin, 2007). And, in a telli ng experiment involving stereotypes commonly traded in mass media (e.g., beer ads featuring bikini-clad models), recent exposu re to sexist versus nonsexist television advertisements was shown to cause men to (a) evaluate a job applicant as more incapable and u nintelligent, (b) evaluate her as more sexually attractive and receptive, (c) make more sexual advances to her, and (d) evaluate her as more deserving of being hi red (Rud man and Borgida, 1995). Herc, too, typical of experiments of this type, the effect of exposu re to sexist ads was u nqualified by individ ual differences i n explici t endorsement of sexist beliefs and attitudes.

Implicit prejudice and stereotyping is not limited to judgments of others, however, but also affects self-judgment and behavior, especially with regard to intellectual performance. For example, Asian American women believe they are relatively better at math than verbal skills when they have identified their ethnicity, but better at verbal than math skills when they have identified their gender (e.g., Sinclair, Hardin, and Lowery, 2006). Even more striking are findings that similar manipulations implicitly affect stereotype-related intellecwal performance. Consistent with the respective stereotypes, blacks, but not whites, perform worse on GRE advanced exams when ethnicity is salient (e.g., Steele and Aromon, 1995), and women, bm not men, perform worse on GR.E quantitative exams (Spencer, Steele, and Quinn, 1999), and worse on a logic task but not an identical verbal task, when gender is salient (Cheung and Hardin, 2010). Similarly, older, but not younger people, perform worse on memory tasks when age is salient (e.g., Levy, 1996), and students from low, but not high, socioeconomic backgrounds perform worse on intellectual tasks when economic status is salient (e.g., Croizet and Claire, 1998; Harrison et al., 2006). Moreover, gender and ethnic stereotypes can interact to produce especially large decrements in the math and spatial performance of Latina women (e.g., Gonzales, B!Jnton, and Williams, 2002). Such performance discrepancies are also evident via functional magnetic resonance imaging (fMlU) data. For example, women not only perform worse on mental rotation tasks when negative stereotypes are salient but performance decrements are correlated with greater activity in brain regions associated with emotion and implicit prejudice (Wraga et al., 2007).

Congruent with evidence discussed throughout this paper, the consequences of implicit prejudice to the self echo the principled operation of implicit prejudice more generally. Stereotypes are double-edged swords and hence can sometimes boost performance. For example, Asian American women perform better on quantitative tests when their ethnicity is salient than when their gender is salient (e.g., Shih, Pittinsky, and Ambady, 1999). Whether positive or negative, implicit stereotype threat effects emerge early in development and appear with increasing strength throughout elementary and middle school (e.g., Ambady et al., 2001). Finally, evidence suggests that these kinds of effects are more likely to ocrnr when the relevant stereotypes are made salient in subtle ways rather than blatantly (Shih et al., 2002), congruent with our broader argument about the insidious role that implicit prejudice plays in everyday social cognition and behavior.

Implicit Prejudice as Cognitive Associations

Common stereotypes and prejudice not only affect social judgnlent and behavior implicitly, but several measures of implicit attitudes have been developed (for reviews see Olson and Fazio, 2003; Wittenbrink and Schwartz, 2007), and research based on hundreds of studies shows that implicit attitude measures are stable over time, internally consistent, and reliably predict related judgments and behaviors, including political attitudes, voting, academic achievement scores, consumer prderences, social evaluation, hiring decisions, and verbal and nonverbal affiliation (for reviews see Fazio and Olson, 2003; Nosek, 1995; Perugini, 2005). According to a recent meta-analysis (Greenwald et al., 2009), although implicit and explicit attitudes are commonly uncorrelated with each other, implicit measures are, on average, comparably correlated with criterion measures and usually more strongly correlated with measures of socially sensitive behavior than explicit measures. In short, where stereotyping and prejudice are concerned, implicit measures generally predict behavior better than explicit measures.

Unlike explicit measures, in which predictive validity ofren declines substantially for socially sensitive criteria, the predictive validity of implicit measures typically does not. For example, in a study reported by Rudman and Ashmore (2007), implicit prejudice uniquely predicts self reported hostile behavior among whites toward blacks, including ethnic slurs, ostracism, and verbal and physical abuse, and does so over and above explicit attitudes and prejudice. In a second study, implicit prejudice among whites toward Jews, Asians, and blacks was shown to predict preferences to de-fund campus organizations representing Jews, Asians, and blacks, respectively-again, over and above explicit attitudes and prejudice. Implicit prejudice can also predict prejudice-related judgments when explicit attitudes do not, particularly in cases of intergroup relations (reviewed in Greenwald et al., 2009). For example, unlike explicit prejudice, implicit racial prejudice among whites predicts quickness to perceive anger in black faces but not white faces (Hugenberg and Bodenhausen, 2003).

It is one thing for individual differences in implicit prejudice to predict attitudes and judgment, but it is quite another for it to predict behavior. Implicit attitudes predict nonverbal friendliness and discomfort of whites when interacting with blacks (Dovidio et al., 1997, 2002) and how positively bbcks perceive whites with whom they interact (Dovidio, Kawakami, and Gaertner, 2002; Fazio et al., 1995; Sekaquaptewa et al., 2003). For example, in research particularly

telling for common ed ucational and school situations, Richeson and Shelton (2005) fou nd that in face-to-face interpersonal interactions, individual ditlerences in implicit prejudice were more apparent to black than white perceivers and more apparent when whites interacted with blacks than with other whi tes (sec also Perugini, O'Gorman, and Prestwich, 2007; Ziegert and Ranges, 2005).

Implicit attitudes not only affect social judgment and behavior relative to others but also are important predictors of one's own behavior and self-evaluation. For example, implici t, but not explicit, self-esteem predicts anxious behavior in self-threatening situ a-tions bu t not in u nthreateni ng situations (Spaldi ng and Hardi n, 1999; see also Asendorpf, Banse, and Mucke, 2002; Egloff and Schmukle, 2002). Women who implicitly associate romance with chivalry report less interest in economic and educational achievement (Rudman and Heppen, 2003), and implicit dissociations between the concepts of math and women predict lower quantitative SAT scores among women (Nosek, Banaji, and Greenwald, 2002b). Fi nally, a surprising number of African Americans exhibit implicit preference for whites over blacks (e.g., Nosek, Banaji, and Greenwald, 2002a). Variability in implicit anti black prejudice among African Americans predicts stated prderences for worki ng with white versus black partners on intellectually demandi ng tasks and does so i ndependently of explicit attitudes (Ashbu rn-Nardo, Knowles, and Monteith, 2003), a finding suggesting that the general tendency tO favor in-grou ps over out-groups may be tru mped by implicit stereotypes relevant to the task at hand (see also Rudman, Feinberg, and Fairchild, 2002).

Most of the research on the predictive validity of implicit prejudice discussed th us far i nvolves undergrad uate participant samples in laboratory settings, yet one might rightly wonder whether implicit prejudice will matter i n daily tasks, big and small. One reason to believe that it will is research showing that among people who have finished their formal education, implicit attitudes predict behavior and judgment on dimensions that matter to people beside college students and do so on a variety of dimensions of undenia ble real-world application. For example, implici t attitudes predict suicide attempts (Glashouwer et al., 2010; Nock and Banaji, 2007; Nock et al., 2010), severity and treatment outcomes for phobia and panic disorders (e.g., Teachman, Marker, and Smith-Janik, 2008; Teachman, Smith-Janik, and Saporito, 2007; Teachman and Woody, 2003), condom use (Marsh, Joh nson, and Scott-Sheldon, 2001), smoking status (Swanson, Rud man, and Greenwald, 2001), alcohol consu mption (Weirs et al., 2002), and consu mer preferences for consumer goods like yogu rt, beverages, and fast-food restau rants (Maison, Greenwald, and Bruin, 2004). In addition, red uctions in implicit romantic attraction predict the su bsequent breakup of committed relationshi ps (Lee, Rogge, and Reis, 2010).

In addition to the large and growi ng l i teratu re demonstrati ng the predictive validi ty of measu res of implicit attitudes i n matters of everyday lifr, research shows that implicit prejudice predicts behavior outside the laboratory. For example, im plicit preference among Swedish job recruiters for native Swedes over Arabs predicts i nterview prelerences (Rooth, 20 IO). Overall, native Swedes were more than th ree times more likely to receive interview callbacks than equally q ualified Arabs.

Several studies demonstrate that implicit prejudice predicts voti ng behavior, i ncl udi ng the historic 2008 election i n which Barack Obama became the first African American to be elected president of the United States. For example, i n the week before the election, implicit anti black prejudice predicted intention to vote for John McCain over Obama an d did so independently of self.reported conservatism (Greenwald et al., 2009). Another study fou nd that the degree to which participants im plicitly associated America more with McCain than Obama predicted i ntention to vote for McCain (Devos and Ma, 2010).

Implicit prejudice not only predicts voti ng intentions before elections bu t also reported voting behavior after elections. Voters were su bstantially less likely to report voti ng for Barack Obama, and exhi b-ited more negative attitudes toward he,llth care reform, the greater their implicit prejudice (Knowles, Lowery, and Shaumbcrg, 2010), and, i n a follow-up study cond ucted nearly a year after the election, im plicit prejudice remai ned a signi ficant predictor of negative attitudes toward Obama. Moreover, implicit prejudice predicted negative attitudes about health-care reform when it was ascribed to Obama but not when the identical reform was ascri bed to Bill Clinton. Similar findings have obtained i n studies of the Italian electorate, as well (e.g., Arcuri ct al., 2008; Galdi, Arcuri, and Gawronski, 2008; Roccato and Zogmaister, 2010).

Another area of society i n which the real-world operation of implicit prejudice is implicated is i n the practice of medicine, in which difterential treatment as a function of ethnicity is a well-docu mented case in poi nt. A recent study of emergency-room treatment of more than 150,000 patients complai ning of severe pain over a 13-year span found that whites were given powerful opioid pai n killers more than blacks and Hispanics, with evidence suggesting that

the disparity is due more to undertreatment of minorities rather than overtreatment of whites (Pletcher et al., 2008). Racial disparities are well documented for treatment of cardiovascular disease as well (for a review see Kressin and Petersen, 2001), including expensive treatments for acute myocardial infarction (e.g., Petersen et al., 2002).

New evidence suggests that at least one cause for such findings may be individual differences in implicit prejudice among treating physicians. In a study that assessed both explicit and implicit attitudes toward whites and blacks and treatment recommendations for hypothetical patients who differed only as a function of an experimental manipulation of race, emergency-room physicians exhibited strong implicit preference for whites over blacks, and also strong implicit associations of blacks versus whites for being uncooperative, despite exhibiting no explicit preferences for whites or differences in cooperativeness between whites and blacks. Importantly, however, although explicit attitudes did not predict emergency treatment recommendations, implicit attitudes did. Greater implicit prejudice predicted an increasing likelihood to treat whites and a decreasing likelihood to treat blacks exhibiting identical symptoms (Green et al., 2007). By extension, and perhaps unsurprisingly, implicit racial bias among physicians negatively predicts African American patient satisfaction with their physicians (Penner et al., 2010).

Consistent with laboratory findings suggesting that implicit attitudes should be uniquely strong predictors of counternormative behavior, implicit negative attitudes toward injection-drug users among drug and alcohol nurses who treat them predicts nurses' stated intentions to leave drug and alcohol nursing, over and above relevant explicit attitudes (von Hippel, Brener, and von Hippel, 2008),[2] corroborating laboratory demonstrations of the unique predictive power of implicit measures when judgments are potentially nonnormative (Greenwald et al., 2009). In other words, although the medical model frames drug and alcohol abuse as an involuntary disease to be treated, and as such abusers should be worthy of sympathy, the day-to-day experience with a population known to be difficult and challenging by a part of the medical community that is known to have a high job turnover rate may make expressly negative attitudes about abusers counternormative. In addition, it is implicit prejudice (but not explicit prejudice) that mediates the well-documented relation between stress and intention to change jobs (von Hippel, Brener, and von Hippel, 2008).

In short, research demonstrating the real-world applicability of implicit attitudes continues to grow, and it is no longer credible to hide behind the view that the predictive validity of implicit prejudice on judgment and behavior is a quirk of the laboratory (see also Jost et al., 2009).

Social Control of Implicit Prejudice

Given evidence that implicit prejudice is reliably captured and measured and that it is consequential, ubiquitous, and stubbornly immune to individual attempts to control it, what hope is there for effective policy solutions? Although implicit prejudice presents challenges to public policy formulations based on outdated notions of the nature of prejudice, recent research shows that it behaves in predictable ways that conform to fundamental principles of social and cognitive psychology. Implicit prejudice reflects stable social relationships and organization by reflecting social identities, group categorizations and status, as well as general preferences for the self, similar others, and ingroups (e.g., Bosson, Swann, and Pennebaker, 2000; Greenwald, McGhee, and Schwartz, 1998; Spalding and Hardin, 1999). Moreover, evidence suggests that implicit prejudice is responsive to social dynamics, including (a) relative intergroup status (e.g., Rudman, Feinberg, and Fairchild, 2002), (b) minimal group categorization (Ashburn-Nardo, Voils, and Monteith, 2001), (c) chronic and temporary changes in the salience of prejudice-related information (e.g., Dasgupta and Greenwald, 2001), and (d) friendly intergroup contact (e.g., Tam et al., 2006). Implicit prejudice can also increase and decrease as a function of conditioning that is consistent with the fundamentals of learning theory (e.g., Bargh, 1996; Fazio 2001, 2003; Fazio and Olson, 2003; Hardin and Rothman, 1997), and it generally conforms to principles of cognitive consistency (e.g., Greenwald et al., 2009).

An obvious but important indication of the way implicit prejudice reflects social dynamics is the fact that it so well tracks the character of chronic social organization, including relative group power, social status, and concomitant stereotypes. For example, although in-group preference is a common teature of implicit prejudice (e.g., Greenwald et al., 1998), at least as important are findings that it reflects social status. Members of high-status groups in the United States not only exhibit greater implicit group favoritism than low-status groups but also do so as a function of their relative status, whether they are rich, white, skinny, or Christian (e.g., Nosek et al., 2002a; Rudman, Feinberg, and Fairchild, 2002). However, at the same time, although in-group preference is common in both implicit and explicit prejudice, outgroup preference is hardly rare (e.g., Jost and Banaji, 1994) and also closely aligns with relative group

status. For example, members of low-status groups were more likely to implicitly favor dominant outgroups to the extent that their in-group was low in status, despite exhibiting strong explicit in-group favoritism (Jost, Pelham, and Carvallo, 2002; Rudman, Feinberg, and Fairchild, 2002).

Implicit prejudice not only reflects stable social and organizational hierarchies, but research shows that changes in social organization also predict corresponding changes in implicit prejudice, a finding that has promising implications for public policy. Friendly intergroup contact is shown to reduce both implicit and explicit prejudice alike (e.g., Henry and Hardin, 2006; Turner, Hewstone, and Voci, 2007). In one example, implicit prejudice toward gay and lesbian people was found to be lower for people who reported high levels of long-term contact with gay and lesbian people as well as for people who reported being exposed to gay-positive media (Cheung et al., 2011; Dasgupta and Rivera, 2008). Similarly, implicit prejudice toward the elderly was lower among college students the more friendships they reported having with older people (Tam et al., 2006). In yet another example, implicit prejudice was found to be lower between British and South Asian children in England to the extent that they reported out-group friendships, and implicit prejudice was reduced even among children who reported no out-group friendships themselves but who reported having friends who did (Turner, Hewstone, and Voci, 2007). Causal modeling in this research indicates that the findings are more consistent with intergroup friendships affecting implicit prejudice than with implicit prejudice affecting friendship patterns (Tam et al., 2006; Turner, Hewstone, and Voci, 2007), a conclusion corroborated experimentally. For example, implicit prejudice among white college freshmen was reduced more over the course of their first school term if they were randomly assigned to a black roommate than a white roommate (Shook and Fazio, 2007).

Although friendly intergroup contact generally reduces implicit intergroup prejudice, recent findings demonstrate that intergroup contact does not always have purely positive outcomes. For example, anti-adolescent implicit prejudice among adolescents was greater to the degree that they reported having close friendships with adults (Gross and Hardin, 2007). Evidence also suggests that relatively stable aspects of social hierarchy complicate matters. In research involving blacks and whites in Chicago and Christians and Muslims in Lebanon, implicit intergroup prejudice was shown to be lower to the degree that participants reported out-group friendships (Henry and Hardin, 2006). However, results also indicate that implicit prejudice reduction is greater for low-status group members toward high-status group members than it is for high-status group members toward low-status group members. That is, in this study, outgroup friendships predicted greater reductions in implicit prejudice for Muslims than Christians and for blacks than whites due to their places in the social hierarchy.

Research also indicates that implicit prejudice is affected by social dynamics throughout development (e.g., Baron and Banaji, 2006; Rutland et al., 2005) and that the development of implicit prejudice is likely to be bound up with interpersonal dynamics involving interpersonal identification and intersubjectivity (e.g., Hardin and Conley, 2001; Hardin and Higgins, 1996). For example, implicit intergroup prejudice between Korean and Japanese students in the United States was greater to the degree that participants remained connected to their ethnic heritage as indicated by linguistic fluency (Greenwald, McGhec, and Schwartz, 1998). People exhibited more positive implicit attitudes toward women to the degree that they reported being raised more by their mothers than their fathers (Rudman and Goodwin, 2004). And, implicit racial prejudice among white fourth- and fifth-grade children was correlated with the explicit prejudice of their parents, but only to the extent that they identified with their parents (Sinclair, Lowery, and Dunn, 2005), and the implicit prejudice of mothers predicted racial preferences exhibited by their three- to six-year-old children (Castelli, Zogmaister, and Tomelleri, 2009).

Research demonstrating the long-term social determinants of implicit prejudice is likely to be either encouraging or depressing, depending upon one's sense of the likelihood of broad, long-term changes in social organization and culture. It is important, however, to remember that such things do happen. What changes in implicit prejudice might be revealed if the measures had been in existence long enough to reflect suffrage, women's mass entry into the workforce during World War II, the civil rights movement, and twentieth-century urban white flight, to name just a few societal sea changes?

Although we believe that culture-wide changes in implicit prejudice will require culture-wide changes in social organization and practice, another way in which implicit prejudice obeys principles of social psychology offers some promise of more immediate, if local, opportunities for progress. Research shows that implicit prejudice is subject to the demands of immediate situations and interpersonal dynamics, much like human behavior more generally (e.g., Ross and Nisbett, 1991). For example, white participants exhibited lower implicit prejudice in the presence of a black experimenter than a white experimenter

(Lowery, Hardin, and Sinclair, 2001; Richeson and Am bady, 2003). Interesti ngly, however, Lowery and colleagues (2001) also found that this automatic social tu ning ctfrct did not occur among Asian America n particip:rnts, whose implici t prejudice was red uced only when the experimenter expressly told them to avoid prejudice. This finding suggests that although the norm to avoid prejudice may operate tacitly fix some, it may require explication for people who do not yet recognize their potential rnle as ciphers of prejudice.

Research also suggests that the interpersonal regulation of implicit prejudice is due in part to a motivation to affiliate with others who are presumed to hold specific val ues related to prejudice, as implied by shared reality theory (e.g., Hardi n and Conley, 2001). For example, participants exhi bited less implicit racial prejudice in the presence of an experimenter wearing a T-shirt with an antiracism message than a blank T-shirt, but only when the expe1·imenter was likeable (Sinclair et al., 2005). When the experimenter was not likeable, implicit prejudice was actually greater in the presence of the ostensibly egalitarian experimenter. In addition, social tuning in these experiments was mediated by the degree to which participants liked the experimenter, providing convergi ng evidence that interpersonal dynamics play a role in the modulation of implicit prejudice, as they do in other dimensions of social cognition (Hardin and Conley, 2001; Hardin and Higgins, 1996).

As regards public and personal policy, these findings suggest that a public stance for egalitarian val ues is a double-edged sword, and a sharp one at that. Although it may red uce implicit prejudice among others when espoused by someone who is likeable and high in status, it may backfire when espoused by someone who is not likeable or otherwise of margi nal status. This finding suggests one mechanism by which common frmns of "sensitivity training" in service of the red uction of workplace sexism and racism may be su bverted by interpersonal dynamics, however laudable the goals.

Demonstrati ng the utility of specific interventions to red uce implicit prejudice, Rud man, Ashmore, and Gary (2001) found that diversity education with a likeable black professor reduced implicit prejudice and did so through liki ng for the professor, increased friendships with other African Americans, and reduced fear of blacks. Likewise, thinking about gay-positive rnle models reduced implicit prejudice for those with low contact with gay and lesbian people to the level of those with high contact and increased the endorsement of gay-positive attitudes, including legalizing civil u nions for gays and lesbians (Dasgupta and Rivera, 2008).

In a cautionary note, however, the lack of long-term exposure to a particular group can sometimes trigger greater implicit prejudice when a member of the group is present. In one example, people who reported having no gay friends at all exhibited greater implicit antigay prejudice when a male experimenter incidentally mentioned his "boyfriend" than when he mentioned his "girlfriend." Similarly, women who reported having no lesbian friends exhibited greater implicit antilesbian bias when the experimenter was from a gay and lesbian organization (Cheung et al., 2011). This research complements research showing immediate social i nfluence on implicit prejudice. It suggests that as powerfol as i mmediate social norms might be, implicit prejudice is ultimately expressed differently from individ ual to individual as a function of attitudes presumed to be held by others in relevant long-term social relationships, sometimes in su btle or even contradictory ways, much as it depends on other dimensions of social cognition (e.g., Hardi n and Higgins, 1996).

Research demonstrating that implicit prejudice is subject to social influence is broadly consistent with principles of information processing (for a review see Blair, 2002). Implicit racial prejudice is reduced (a) when ad mired black exemplars are used (e.g., Dasgupta and Greenwald, 2001; cf. De Houwer, 2001), (b) after seeing an image of blacks at a friendly barbeque versus u nfriendly street corner (Wittenbri nk, Judd, and Park, 2001), and (c) imagining the virtues of multicultural education (Richeson and Nussbaum, 2004). In contrast, implicit racial prejudice is i ncreased after exposure to violent rap music (Rudman and Lee, 2002). Implicit gender stereotypi ng is red uced for those who have recently been exposed to images of fomale leaders (Dasgupta and Asgari, 2004) or have recently imagined a powerful woman (Blair, Ma, and Lenton, 2001). This research suggests that simple images and text in im mediate situations can affect levels of implicit prejudice for those in the situation i n ways that are broadly congruent with construct accessibility theory (e.g., Bargh, 1996), which is the "common language" that u nderlies most information-processing theory in social cognition (Higgins, 1996).

Taken together, research on the social control of implicit prejudice is broadly congruent with the Marxian maxim that egalitarian societies elicit egalitarian-minded people, as well as with the Skinnerian maxim that admirable individual behavior is elicited by situations that reinforce admirable behaior. Indeed, the methodological and theoretical adnnces that have transformed the understanding of the nature of prejudice-including sometimes-puzzling relations between implicit and explicit

prejudice- resonates with what Skinner argued about the relation between scientific advances and the understanding of human nature more generally:

> The line between public and private is not fixed. The boundary shifts with every discovery of a technique for making private events public . . . The problem of privacy may, therefore, eventually be solved by technical advance.
>
> *-B.F. Skinner, 1953, p.282*

Conclusions

It is not far-fetched to argue that successful policy solutions to the problem of prejudice are best pursued in light of the science of the nature of prejudice. Research in recent decades has revealed the insidious capacity of prejudice to operate implicitly-unwittingly, unintentionally, and unavoidably- as well as its course, consequences, and control at the nexus of individual cognition and social relations. In some ways, the transformativc understanding of the nature of prejudice brings full circle the story of human nature since its inception in American social psychology in the mid-twentieth-century work of Sherif, Lewin, Asch, and others as an attempt to understand how seemingly good people can participate in genocide, which is also captured in Hannah Arendt's memorable phrase, "the banality of evil."

Indeed, the most important thing to know about the nature of prejudice is that it is ever present in human behavior and cognition. It remains sufficiently in the background such that it eludes conscious awareness and immediate individual control, yet it is often consequential in everyday life. Its capacity to affect social judgment and behavior without personal animus or hostility is dismissed or ignored at some peril, because a continued focus on the problem of prejudice as a result of the nonnormativcly hostile behavior of the few is likely to distract policy makers from adopting strategies more strongly rooted in the science of the many. What remains are questions about how best to deal with these discoveries in shaping personal and public policy-questions that are in this light only beginning to receive the empirical attention they deserve.

What must enter into any policy computation are additional facts about the nature of prejudice beyond the primary idea that banality is its modus operandi. We must add to this the idea that prejudices and ste·reotypes arc rooted in social consensus; they are not random. Within a given society, the likes, dislikes, and beliefs that constrain some and privilege others occur in patterns that systematically oppress subordinates while further ingraining the superiority of the dominants. Were the effects of prejudice and stereotypes less systematic, policy intervention would be less needed because their effects may be said to cancel each other out. However, when, for example, over 80% of American whites and Asians show anti black bias and over 90% of Americans show anti-elder bias, we must pay heed. Policies that are willing to take into account the presence of implicit forms of prejudice and discrimination as a given will be the more forward-thinking instruments for change because they will be rooted in a truth about human nature and social contexts.

Furthermore, for societies that derive their sense of good character on the basis of personal accomplishment and meritocracy, research on implicit prejudice poses particularly thorny problems. The research we reviewed suggests that behavior is shaped by the social jostling and "sloshing around" of the individual, unbeknownst to the person and those around her, suggesting that the problem of implicit prejudice may be especially insidious in a society that celebrates, evaluates, and is organized around individual meritocracy. Indeed, research shows that beliefs in meritocracy pose special problems for members of stigmatized groups (e.g., Jost and Burgess, 2000; Jost and Thompson, 2000). For example, Filipina domestic workers in Hong Kong, as well as women in the United States, devalued the monetary value of their work more if their group identity was salient, but do so only to the degree that they endorsed system-justifying attitudes related to meritocracy (Cheung and Hardin, 2010). The aggregation of these kinds of effects, both large and small, but systematically organized across situations and social roles, suggests at the very least the possibility that even incrementally small biases may be expressed through actions that create a large divide among people.

Research demonstrating the effects of stereotypes and prejudice on behavior give direction to policy makers for the types of behavior most in need of their attention. It is our contention that locating the problem of prejudice in a few problematic individuals and designing solutions to the problem around this view is to miss the point. The profound implication of the discovery of implicit prejudice is that anybody is capable of prejudice, whether they know it or not, and of stereotyping, whether they want to or not. Therefore, given the implicit operation of prejudice and stereotyping and its ubiquitous nature, we believe that solutions should focus on identifying the enabling conditions that call out prejudice and stereotyping across individuals rather than focusing on identifying the rotten apples. Once identified, we must focus on the enabling conditions that promote egalitarianism

and healthy individ uation. What kinds of situations bring out implicit egalitarian attitudes? Congruent with well-docu mented pri nciples identified across the behavioral and mi nd sciences and corroborated i n research on implicit prejudice, social situations populated with powerfol, likeable people who are known or assumed to hold egalitarian values implicitly call out like minds in those arou nd them.

Notes

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1. Here and throughout we adopt conventions of social-psychological nomenclature in ou r use of terms. The umbrella term *attitude* includes eval u.uions (prejudice), beliefs (stereotypes), a nd behaviors (discri mination) regarding an attitude object. The terms *explicit* and *implicit* are used to capture a well-.1Cccpted heu ristic dichotomy between modes of mental fimctions that operate largely consciously and reAectively versus u nconsciously and automatically. Hence, *implicit attitude* reters to the strength of automatic association between ,111 attitude object and characteristic attri bu tes, *implicit prejudice* rcters to the strength of automatic associations between social grou ps and attributes good and bad, and *implicit stereotyping* rders to the strength of au tomatic associations between social groups and characteristic attributes which may vary in eval uative valence.

2. Specific intention to change jobs is the strongest known predictor of actual volu ntary job changes (van Breukelen, v.rn der List, and Steensma, 2004).

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