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Unasked Questions About Stereotype Accuracy

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ABSTRACT

In this article we argue that there are many unanswered questions crucial to scientific understanding about stereotypes and stereotype accuracy. Scientists do not always engage in purely impartial search for objective truths, because, like other people, they are subject to biases in thinking, motivations to find certain particular results, and social norms regarding what is and is not an acceptable topic or finding. This article suggests that these factors conspired to prevent psychologists from asking serious questions about stereotype accuracy for decades and may help explain why many reviews of stereotypes reach conclusions in the absence of evidence, or, sometimes, in the face of evidence completely disconfirming those conclusions. We review the history of the first unasked question in this area, “Are stereotypes inaccurate?” which went unaddressed for about 70 years after the initial social science interest in stereotypes. Current unasked questions include (a) When and how does relying on a stereotype increase the accuracy of person perception? (b) Why are some stereotypes more accurate than others? (c) How accurate are implicit stereotypes? (d) Do people ever actually ignore individuals’ personal characteristics when perceiving, evaluating, and judging them? We conclude with testable hypotheses about the sources of not asking certain questions, and with recommendations for overcoming scientific biases and blind spots in research on stereotypes.

SCIENTIFIC ABSTRACT

In this article, we argue that there are many unanswered questions crucial to scientific understanding about stereotypes and stereotype accuracy. We present a review and analysis suggesting that a set of cognitive, motivational, and social factors conspired to prevent psychologists from asking serious questions about stereotype accuracy for decades and may help explain why many reviews in the field foreclose on presumptive answers to questions that actually require empirical data. We review the history of the first unasked question in this area, “Are stereotypes inaccurate?” which went unaddressed for about 70 years after the initial social science interest in stereotypes. Current unasked questions include (a) When and how does relying on a stereotype increase the accuracy of person perception? (b) Why are some stereotypes more accurate than others? (c) How accurate are implicit stereotypes? (d) Do people ever actually ignore individuating information? We conclude with testable

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hypotheses about the sources of not asking certain questions, and with recommendations for overcoming biases and blind spots in research on stereotypes.

Keywords: stereotypes, stereotyping, person perception, bias, motivated reasoning

Although not all stereotypes are accurate, stereotype accuracy is one of the largest and most replicable effects in all of social psychology (Jussim, Crawford, Anglin, Chambers, et al., 2016; Jussim, Crawford, & Rubinstein, 2015). This conclusion is doubly striking. First, it flies in the face of 100 years of claims that stereotypes are inaccurate (Jussim, 2012). Second, social psychology is in the midst of a “replication crisis” (Aarts et al., 2015), so one might think that social psychologists would be touting one of their most powerful, most replicable findings. But if one did think that, one could not be more wrong. Although there are exceptions (e.g., Hall & Goh, 2017; Ryan, 2003), this evidence remains largely ignored or, when acknowledged, dismissed as “unimportant” (see Jussim et al., 2015, for a review of sources making this claim; see Table 1). Thus, many questions regarding stereotypes and stereotype accuracy remain unanswered because many of them remain unasked.

In this review, we identify cognitive, motivational, and social forces that likely contributed to

1. a long history of psychologists making claims about stereotypes without evidence,
2. an equally long history of psychologists maintaining claims about stereotype inaccuracy in the face of evidence disconfirming those claims, and
3. decades of simply not asking certain empirical questions about stereotype accuracy, despite their obvious theoretical and practical importance.

In so doing, we also review some of that evidence, identify unasked questions begging for empirical investigation, and identify strategies psychologists can use to elevate the importance of scientific considerations over social psychological ones when addressing issues of stereotype accuracy.

Theoretical Perspectives on Why Some Psychological Questions Go Unasked

This review identifies a set of cognitive, motivational, and social factors (CMS) that can, and likely has, prevented certain questions about stereotype accuracy from being addressed empirically. This framework structures our consideration of how social psychological processes have prevented certain scientific questions from being asked, in general (i.e., without specific application to stereotypes). We then use this framework to help understand why the fundamentally important question, “Are stereotypes inaccurate?” went essentially unasked for 70 years. This framework is then used to help understand why additional questions about stereotype accuracy remain unasked. Our goal is to facilitate the scientific understanding of stereotypes by highlighting productive avenues for future research and limiting some of the CMS obstacles to conducting that research.

Cognitive Factors

Premature scientific foreclosure. Geographers are not publishing studies establishing that the Earth is round; and biologists are not

publishing studies establishing the existence of chromosomes. When the science on some topic is considered settled, there is no reason for further investigation. In some cases, however, scientists erroneously believe the science is settled, discouraging, if not preventing, further investigation. For example, understanding the role of bacteria in producing ulcers was delayed for decades because “everyone knew” (erroneously) that the main cause was stress (Cohn, 2014).

The bias blind spot. People are more able to recognize errors and biases among others than among themselves (Pronin, Lin, & Ross, 2002; Pronin, 2008), and scientists are not immune to such blind spots. Put differently, psychologists may, at least sometimes, be quick to point to evidence of bias in others and fail to recognize their own (Jussim, 2012). For example, much of the scholarly literature on microaggressions treats the concept as settled science, when, in fact, everything from their measurement to causal effects rest, at best, on a weak evidentiary basis (Lilienfeld, 2017). The greater ability to see bias in others (in this case, that people commit microaggressions), than in one’s own beliefs (about the strength of the evidence), could exacerbate this problem. This impedes progress by leading to the failure to conduct research that actually addresses the foundational issues such as the validity of the measurement methods.

Confirmation biases. At least sometimes, people, including scientists, tend to seek information most likely to confirm their expectations (or, in scientific cases, their hypotheses), and systematically overlook information that would disconfirm them (e.g., Jussim, Crawford, Anglin, Stevens, & Duarte, 2016; Lilienfeld, 2010; Nickerson, 1998). For example, many of the studies conducted in the 1940s and 1950s described as the “new look in perception” sought to identify how fears and motivations influenced perception (F. Allport, 1955). This work routinely interpreted results as supporting such influences, but never considered or tested alternative explanations (Jussim, Crawford, Anglin, Stevens, et al., 2016). As a result, none of the scores of studies succeeded in clearly demonstrating such influences (F. Allport, 1955; Jussim, 2012).

Motivational Factors

Motivated reasoning occurs when the desire to reach a particular conclusion, rather than an accurate conclusion, influences the processing of evidence (Kahan, Jenkins-Smith, & Braman, 2011; Kunda, 1990). When information supports preferred conclusions, people often readily accept the evidence and experience positive affect (Ditto & Lopez, 1992; Klaczynski & Gordon, 1996; Munro & Ditto, 1997). When information supports an undesired conclusion, however, people experience negative affect and strongly critique, ignore, or reject the evidence on irrelevant grounds (Edwards & Smith, 1996; Munro, 2010; Munro & Ditto, 1997; Taber & Lodge, 2006).

Such motivations have potential overlapping wellsprings. *Desirability biases* are motivations to reach conclusions people would like to be true (Tappin, van der Leer, & McKay, 2017). *Political biases* are motivations to reach conclusions that support people’s political beliefs (Duarte et al., 2015). *Myside biases* are motivations to reach conclusions that supports one’s prior opinions (which include but are not necessarily restricted to political biases; Stanovich, West, & Toplak, 2013). *Equalitarian biases* refer to motivations to view demographic

Table 1
Modern Claims About Stereotype (In)Accuracy

Source	Explicitly acknowledges strong evidence of stereotype accuracy	Reviews little or no evidence of accuracy and either dismisses accuracy as unimportant or emphasizes stereotype inaccuracy and bias	Defines/declares stereotypes to be inaccurate	Representative quotes
Scholarly books				
Banaji and Greenwald, 2013, <i>Blindspot: The Hidden Biases of Good People</i>	✓			“Because all stereotypes are partly true and partly false, it may seem pointless to debate their accuracy.” (p. 74) “... stereotyping is an unfortunate by-product of the otherwise immensely useful human ability to conceive the world in terms of categories.” (p. 89) “... the question of whether stereotypes are ‘objectively’ (in)accurate is only of marginal interest to most students of prejudice.” (p. 71) “Stereotyping is the cognitive aspect of bias... and it comes in both blatant and subtle forms.” (p. 282) “At the group level, then, stereotypes may have a kernel of truth, but relying on them at the individual level may lead to serious judgment errors.” (p. 100)
Brown, 2011, <i>Prejudice: Its Social Psychology</i>	✓			
Fiske and Taylor, 2008, <i>Social Cognition: From Brains to Culture</i>	✓			
Whitley and Kite, 2009, <i>The Psychology of Prejudice and Discrimination</i>	✓			
Textbooks				
Aronson, 2011, <i>The Social Animal</i>		✓		“To stereotype is to allow those pictures to dominate our thinking, leading us to assign identical characteristics to any person in a group, regardless of the actual variation among members of that group.” (p. 309)
Baumeister and Bushman, 2014, <i>Social Psychology and Human Nature</i>	✓			“The high level of accuracy in modern stereotypes may also indicate that stereotyping has changed.”
Crisp and Turner, 2014, <i>Essential Social Psychology</i>		✓		“Once a category is activated we tend to see members as possessing all the traits associated with the stereotype.” (p. 57)
Greenberg, Schmader, Arndt, and Landau, 2015, <i>Social Psychology: The Science of Everyday Life</i>		✓		“Even though this kernel [of truth] might be quite small, with much more overlap between groups than there are differences, as perceivers we tend to exaggerate any differences that might exist and apply them to all members of the group.” (p. 352)
Grison, Heatherton, and Gazzaniga, 2015, <i>Psychology in Your Life</i>	✓			“Indeed, some stereotypes are based in truth: Men tend to be more violent than women, and women tend to be more nurturing than men. However, these statements are true on average.” (p. 385)
King, 2013, <i>Experiencing Psychology</i>		✓		“A stereotype is a generalization about a group’s characteristics that does not consider any variations from one individual to another.” (p. 402)
Schacter, Gilbert, Wegner, and Nock, 2015, <i>Introducing Psychology</i>		✓		“... stereotyping is a useful process that often produces harmful results, and it does so because stereotypes have four properties: They can be (1) inaccurate, (2) overused, (3) self-perpetuating, and (4) unconscious and automatic” (p. 403)

Note. This table adapted from Jussim, Crawford, and Rubinstein (2015).

group differences as arising exclusively from discrimination and other environmental forces and to deny and refute any evidence that inequalities result from characterological differences between groups (Winegard, Clark, & Hasty, 2018).

Scientists are not immune to motivational biases (Duarte et al., 2015; Jussim, Crawford, Anglin, Stevens, et al., 2016; Lilienfeld, 2010; Redding, 2001) and intelligence provides no guarantee against them (Ditto et al., 2018; Kahan, 2013; Stanovich et al., 2013).

Social Factors

Norms. Conformity to social norms can occur through either informational or normative influence (Deutsch & Gerard, 1955). Informational influence can occur when new researchers learn that the study of bias is an important topic by observing how many psychologists study bias. Accuracy, in contrast, was, for many years seen as both uninteresting and intractable (see Jussim, 2012, for a review). Normative influence can occur when researchers learn what are socially approved and disapproved topics—a potentially especially important form of conformity in academia given the extent to which careers are dependent on others' approval (peer review for publications and grants, letters for tenure and promotion).

Forbidden base rates. *Forbidden base rates* refer to any statistical generalization that would be appropriately included in a Bayesian analysis of probability but deeply offends a moral, religious, or political community (Tetlock, Kristel, Elson, Green, & Lerner, 2000). The pressure against using a forbidden base rate is moral, and it emerges from the communal guidelines of what attitudes, behaviors, and judgments are socially acceptable and which are unacceptable. As Tetlock et al. (2000, p. 854) put it:

In a society committed to racial, ethnic, and gender egalitarianism, forbidden base rates include observations bearing on the disproportionately high crime rates and low educational test scores of certain categories of human beings. . . . People who use these base rates in judging individuals are less likely to be applauded for their skills as good intuitive statisticians than they are to be condemned for their racial and gender insensitivity.

What Is Stereotype Accuracy?

Before analyzing how the CMS factors may have obstructed the empirical investigation of stereotype accuracy and related phenomena, we briefly define what we mean by stereotype accuracy and how it has been assessed. We adopt Ashmore and Del Boca's (1981) definition of stereotype: people's beliefs about groups and their individual members. This definition does not import implicitly subjective, political, or unverified assumptions about whether stereotypes are bad, inaccurate, or involved in prejudice or discrimination—though it permits any of these possibilities (see Jussim, 2012, for a detailed discussion of definitional issues).

Social perceptual accuracy refers to correspondence between some belief held by one or more perceivers about a target group and that group's actual characteristics or behaviors. *Stereotype accuracy*, therefore, is the correspondence of people's beliefs about groups to what those groups are actually like. *Person perception accuracy* is the correspondence of beliefs or judgments about an individual target with what that individual is actually like.

To assess the accuracy of almost any human belief, including stereotypes, one needs to (a) assess the belief; (b) identify appropriate criteria for evaluating the validity of that belief; and (c) compare them. To assess the accuracy of a stereotype someone holds, one needs to (a) assess that person's belief about a group; (b) identify an appropriate criterion for that belief; and (c) compare them. One can also assess consensual accuracy by (a) assessing the average belief held by a group of perceivers about a

target group; (b) identify criteria; and (c) compare mean perceptions to criteria. Correspondence with criteria is typically assessed with correlations; discrepancies from criteria are typically assessed with difference scores (Judd & Park, 1993; Jussim, 2012).

Evidence of group differences (or similarities) is not evidence of stereotype (in)accuracy absent an empirical comparison to perceiver beliefs. Researchers sometimes declare stereotypes "inconsistent with" some difference or another, without referring to such empirical evidence (e.g., Ellemers, 2018; Hyde, 2014). The only way, however, to know whether group differences (or similarities) confirm or disconfirm people's stereotypes is to assess those stereotypes and compare them to the group differences. If any piece is lacking—the assessment of the stereotype, the assessment of group differences, or the comparison—no conclusions about stereotype (in)accuracy are scientifically justified.

Assessing the accuracy of social beliefs is in many ways similar to assessing the accuracy of psychological hypotheses—identify a prediction (or treat a stereotype as a prediction) and compare it to criteria. Although different criteria have different strengths and weaknesses (see, e.g., Jussim, 2012; Ryan, 2003), some criteria commonly used in stereotype accuracy research are (a) government records about groups (e.g., U.S. Census data); (b) meta-analyses of group differences; and (c) self-reports on well validated measures obtained from representative samples.

There are some stereotypes for which conclusions about (in)accuracy cannot be reached (Judd & Park, 1993; Jussim, 2012; Jussim, Crawford, Anglin, Chambers, et al., 2016; Ryan, 2003). If no criteria exist against which to evaluate the validity of a stereotype, accuracy cannot be evaluated. Furthermore, accuracy can be assessed only for descriptive beliefs. "Most Dutch endorse legal use of marijuana" can be evaluated for accuracy. The accuracy of "I don't like the Dutch," however offensive and psychologically important, cannot be evaluated for accuracy. The accuracy of prescriptive stereotypes, such as "athletes should be role models" or "girls should wear pink" cannot be evaluated for accuracy. Therefore, when stereotypes are something other than descriptive or predictive beliefs, no claims about (in)accuracy are possible. Such stereotypes are not discussed further here.

McCauley & Still (1978) published the first study to meet these standards; indeed, McCauley conducted nearly all of the research on stereotype accuracy through the 1980s (see McCauley, 1995, for a review). In the mid-1990s, however, both a theoretical review (Judd & Park, 1993) and an edited book (Lee, Jussim, & McCauley, 1995) appeared advocating for the study of stereotype accuracy as an empirical question and identifying a variety of ways and reasons to do so. Research on bias was then in its heyday, but several papers pointed out that accuracy was often the flip side of error and bias, so that, indirectly, researchers were already studying accuracy whether they mentioned it or not (Funder, 1987, 1995; Judd & Park, 1993; Jussim, McCauley, & Lee, 1995). Given that the stereotype concept was first developed in the 1920s (Lippmann, 1922/1991), this raises the question: Why did it take five decades of stereotype accuracy to be treated as a serious empirical question, and another two for it to be addressed by much more than a single researcher and his collaborators? This question is addressed in the next section.

Two Historically Unasked Questions About the Accuracy of Stereotypes

This section focuses on the history of two unasked questions in particular: are stereotypes inaccurate, and does relying on a stereotype increase the accuracy of person perception? Here, we provide a narrative review of that history that discusses how the CMS factors described previously probably played some role in

preventing these questions from being treated as empirical questions that require evidence.

A Brief History of the Failure to Empirically Assess the Accuracy of Stereotypes for Decades

It is impossible to know for sure why stereotype accuracy was not empirically investigated for decades and we doubt that there is a single explanation. By applying CMS factors to understanding this gap, we hope to provide some potential insights into why this question went unasked for so long, and thereby lay groundwork for undercutting their distorting influence in this area of research.

Is stereotype accuracy uninteresting or unimportant? Before considering this question in light of CMS factors, we consider this alternative explanation: Perhaps stereotype accuracy was not considered interesting or important. Researchers' time and resources are limited and they cannot be faulted for failing to study uninteresting or unimportant topics. The quotes in Table 1 indicate that, in fact, researchers have sometimes declared stereotype inaccuracy to be unimportant.

On the other hand, however, researchers have frequently declared stereotypes to be inaccurate or emphasized their inaccuracy (see Jussim, 2012, and Jussim et al., 2015, for reviews). This frequency implicitly suggests that the (in)accuracy of stereotypes was deemed an important issue by most researchers. Why repeatedly mention something that is unimportant? Claims emphasizing stereotype inaccuracy occur throughout the social science literature, including classic studies (Katz & Braly, 1933; Lapiere, 1936; Snyder, Tanke, & Berscheid, 1977), major reviews (G. Allport, 1954/1979; Bargh & Chartrand, 1999; Brigham, 1971; Campbell, 1967; Ellemers, 2018; Miller & Turnbull, 1986), and textbooks (Aronson, 2011; Birtel & Crisp, 2015). An argument that the topic is "uninteresting and unimportant" is contradicted by the frequency with which psychologists have declared stereotypes to be wholly or partially inaccurate.

How to square these seemingly conflicting views? One possibility is that researchers simply differ on the importance of the issue. However, note the asymmetry: As long as "inaccuracy" seemed plausible, it was important enough to repeatedly mention; once the evidence came in showing substantial accuracy, researchers started declaring the accuracy issue "unimportant." To explore why, and to better understand the lack of rigorous empirical assessment of stereotype accuracy for many decades, we turn to the CMS factors.

Cognitive explanations. The purely cognitive explanations provide some strong contenders. An abundance of sources exist, many of them eminent or "authoritative" and even iconic (as is the case with G. Allport's *The Nature of Prejudice*), that declare stereotypes to be inaccurate (Ellemers, 2018; Katz & Braly, 1933; Lapiere, 1936; Snyder et al., 1977) or exaggerations (G. Allport, 1954/1979; Campbell, 1967). It is worth pointing out, however, that none of these sources cited a single study demonstrating widespread inaccuracy in laypeople's beliefs about groups and criteria for what those groups were actually like. We have labeled this disconnect between claims and evidence "the black hole at the bottom of declarations of stereotype inaccuracy" (Jussim, Crawford, Anglin, Chambers, et al., 2016). Regardless, we suspect that the default presumption of many scholars would be to accept such sources at face value. In fact, it is even possible that the lack of citations rendered the claim of inaccuracy even more persuasive—it was as if stereotype inaccuracy was so obvious, one did not even need to cite evidence. We speculate, therefore, that many in the field prematurely foreclosed on the conclusion that stereotypes were inaccurate believing, erroneously as it turned out, that these authoritative sources had strong evidence supporting their claims. If stereotype inaccuracy was settled science, there would be no reason to empirically attempt to answer the question, "Are stereotypes inaccurate?"

The other two primarily cognitive factors, the bias blind spot and confirmation biases, also could have played some role. One could view the emphasis on inaccurate stereotypes as one gigantic bias blind spot (Pronin et al., 2002)—scientists were quick to declare others inaccurate and blind to their own lack of data bearing on the issue. Similarly, social and cognitive psychologists have emphasized finding biases since at least the 1970s (Funder, 1987), and they have found many. Because accuracy was largely a stigmatized area of research for much of this time (see, e.g., Funder, 1987; Jussim, 2012; Kenny & Albright, 1987), little effort was spent investigating accuracy. The accumulated evidence of a wide variety of biases, on its face, seems entirely inconsistent with the conclusion that any social belief, least of all stereotypes, would be particularly accurate. Thus, the bias blind spot could have also contributed to the illusion that stereotype inaccuracy was settled social science.

Motivational factors. Social activism and social justice have motivated many social scientists for decades (Jost & Kay, 2010; Unger, 2011). Condemning stereotypes is a rhetorically useful tool in the quest to combat discrimination, reduce prejudice, and overcome obstacles to a more fair and just society. Given that social scientists are disproportionately politically left (Duarte et al., 2015; Gross & Simmons, 2014), and have, until very recently, construed prejudice as a problem primarily among conservatives (Brandt, Reyna, Chambers, Crawford, & Wetherell, 2014), myside biases would favor emphasizing the role of stereotypes in prejudice and discrimination, in part, as a way to condemn the right. Furthermore, those on the left may be motivated by equalitarian biases (Winegard et al., 2018). These factors could have combined to lead researchers to have readily accepted evidence of stereotype biases at face value and as evidence of inaccuracy (even though bias and accuracy are not mutually exclusive; Jussim, 1991), and to deny, denigrate, or simply ignore evidence of stereotype accuracy (Jussim, Crawford, Anglin, Stevens, et al., 2016).

Social factors. Scholarship suggesting stereotypes are bad and inaccurate emerged early in psychology's history (G. Allport, 1954/1979; Katz & Braly, 1933; Lapiere, 1936; Lippmann, 1922/1991). Because there was little data that even tangentially addressed accuracy this is probably better described as a norm than as a conclusion. To the extent that scholars accepted the claim of inaccuracy as valid, it would constitute a form of informational conformity—those newly exposed to psychological scholarship on stereotypes would learn that stereotypes were inaccurate from seminal empirical papers and reviews.

At the same time, we suspect that somewhere in those early decades, some probably realized that the declarations of stereotype accuracy were based on exceedingly thin or nonexistent empirical data. Indeed, some scholars did raise doubts in indirect ways. Campbell (1967) explicitly pointed out that there was no data demonstrating stereotype inaccuracy, but concluded they were exaggerations anyway, largely on theoretical grounds. Brigham (1971, p. 31) defined an *ethnic stereotype* as a "generalization about an ethnic group . . . considered unjustified by an observer"—a definition that captures the *subjectivity of even scientific uses of the term*, and, indirectly, highlights the lack of evidence.

One paper, however, addressed the issue bluntly (Mackie, 1973). It was titled, "Arriving at 'Truth' by Definition: The Case of Stereotype Accuracy." From the abstract: "A review of the literature indicates that . . . accuracy is a relatively unexplored variable . . . the liberal sympathies of social scientists discourage a test of ethnic stereotype accuracy." She also quoted this passage from Becker (1967, pp. 239–240):

One can imagine a liberal sociologist who set out to disprove some of the common stereotypes held about a minority group. To his dismay, his investigation reveals that some of the stereotypes are unfortunately true. In the interests of justice and liberalism, he might well be tempted, and

might even succumb to the temptation, to suppress those findings, publishing with scientific candor the other results which confirmed his beliefs.

Becker's (1967) statement, presented as part of a classic and highly cited (over 2,500, according to Google Scholar) defense of sociological activism, can also be viewed as reflecting and contributing to a social norm of placing defending the weak and stigmatized above obtaining scientific truths. In this context, even if one's goal was to reveal the errors and biases of stereotypes, the risk of obtaining empirical data that failed to do so was always present. If one obtained results of stereotype accuracy, then one would face two bad options: suppress the results or attempt to publish them, and if one succeeds in publishing, potentially dealing with hostility and even ostracism. Normative conformity—avoiding the topic and acting as if one accepts the field's empirically unjustified claims—seems like a very appealing third option. There are plenty of other important things to spend one's precious research effort on.

Last, stereotype accuracy, especially with social and politically charged groups such as those based on race, ethnicity, sexual orientations, gender identity, and so forth, exemplifies a forbidden base-rate (Tetlock et al., 2000). For such groups, any statement that begins "[Group] is . . .," even if referring to average group differences, incurs a high risk of being seen as a manifestation of the worst bigotry, unless the person so stating makes sure to frame those differences as arising entirely from discrimination. People have been condemned, denounced, and even fired for making such statements (Jussim, 2018).

Social psychologists interested in evaluating the stereotype inaccuracy claim critically would have had to do so and risk incurring "reputational costs for working on a topic that is likely to produce results that most people don't want to believe" (Anomoly, 2017). Taken together, these are a powerful set of forces converging to create an academic environment in which many behavioral scientists would want to avoid any empirical investigations of stereotype accuracy.

When Are Accurate Stereotypes More Acceptable in Psychology?

Work on the accuracy of all sorts of stereotypes has gotten published, but very little of that work enters textbooks or the canon (Jussim, 2012; Table 1). Anecdotal evidence suggests that, sometimes, merely discussing the evidence of accurate demographic stereotypes can evoke extremely hostile reactions from some academics (Jussim, 2013). However, stereotypes that do not trigger equalitarian defenses rarely generate controversy. For example, the study of sororities, college majors, occupations, and political groups rarely, if ever, generates much controversy (see Jussim, 2012; Jussim et al., 2015; Jussim, Crawford, Anglin, Chambers, et al., 2016 for reviews). Strikingly, however, even this research has rarely made it into the "canon"—broad and general reviews of stereotypes in books, textbooks, and outlets of record, such as handbook and annual review chapters (Jussim et al., 2015).

Thus, the present problem is a second-generation version of the original problem of declaring stereotypes inaccurate without data. There is now published data. Much of it shows moderate to high levels of accuracy in stereotypes. The CMS factors may still be in play, however, because despite this extensive body of empirical evidence (there are now over 50 empirical studies of the accuracy of stereotypes), it is dismissed or ignored in canonical sources (Jussim, 2018; Jussim et al., 2015; see Table 1). Pervasive falsification of claims that "stereotypes are inaccurate" gets little intellectual traction, and, instead, older and empirically unjustified views emphasizing inaccuracy or exaggeration continue to march along as if those studies had not been conducted.

A Brief Review of the Empirical Evidence

Empirical research on demographic stereotypes (race/ethnicity, sex) in the United States and Canada consistently shows that they tend to be highly accurate, with consensual stereotype accuracy correlations (correlations of sample mean perceptions with criteria) averaging $r = .70$ or higher, personal stereotype accuracy correlations (correlations of each individual's perceptions with criteria) averaging above $r = .40$, and discrepancies being no more likely to exaggerate than to underestimate real differences (see Jussim, 2012; Jussim, Cain, Crawford, Harber, & Cohen, 2009; Jussim, Crawford, Anglin, Chambers, et al., 2016, for reviews). Age (Chan et al., 2012) and gender stereotypes (Löckenhoff et al., 2014) of personality have been found to be highly accurate in international samples.

The evidence for the accuracy of ethnic stereotypes outside the U.S. and Canada is more mixed. National character stereotypes (beliefs about the personalities of different national or cultural groups), when measured against NEO-PI-R self-report measures have been found to be almost completely inaccurate (Allik, Alyamkina, & Mescheryakov, 2015; McCrae et al., 2013; Terracciano et al., 2005). However, research on national character stereotypes using behavioral criteria has found high accuracy (Heine, Buchtel, & Norenzayan, 2008).

Evidence regarding the accuracy of ethnic stereotypes outside the U.S. and regarding characteristics other than personality is also mixed. For instance, stereotypes regarding the values held by different Finnish ethnic groups had little accuracy (Lönnqvist, Yijälä, Jasinskaja-Lahti, & Verkasalo, 2012). However, a preregistered study found that Danes' estimates of the likelihood of members of 70 different immigrant groups being on public assistance were highly accurate (Kirkegaard & Bjerreker, 2016). The research cited above assessed people's accuracy in inferring attributes based on social categories. A recent study by Carpenter et al. (2017) showed accuracy goes from attributes to inferring targets' social category memberships. People inferred the age, gender, education, and political identification of Twitter users based on their posts far more accurately than chance.

Evidence from a variety of studies using different methods, measures, criteria, and target groups, suggests that people's political stereotypes—for example, in the United States, stereotypes of liberals versus conservatives or of Democrats versus Republicans—typically get the direction of the differences right, but exaggerate them (Jussim, Crawford, Anglin, Chambers, et al., 2016). Political stereotypes often exaggerate real differences by half a standard deviation or more. In the United States, people think the attitudes and policy preferences of liberals and conservatives, and of Democrats and Republicans, differ more than they actually do.

Thus, general claims that "stereotypes are (often) inaccurate" are not justified. Of course, this does not mean all stereotypes are perfectly accurate, or that errors or biases do not occur, or even that no highly inaccurate stereotypes exist. But the sharp contrast of the data with nearly 100 years of canonical claims about stereotypes' supposed inaccuracy is an object lesson in the dangers of reaching conclusions either without data or by overlooking the data.

When and How Does Relying on a Stereotype Increase the Accuracy of Person Perception?

The second unasked question raises the possibility that judging a person based on a stereotype might sometimes be more accurate than not judging the person based on a stereotype. Actually, if it is phrased slightly differently, it is clear that social scientists do want to ask this question. Many educational, health, and psychological interventions are believed to be enhanced if those intervening are high in cultural competence or multicultural sensitivity (e.g., Comas-Díaz & Griffith,

1988; Pinderhughes, 1989). The gist of this work is that understanding something about others' cultural groups can increase the accuracy of one's understanding of the person.

However, when phrased as a "stereotype" a different dynamic unfolds. The same CMS factors apply to this question as to "are stereotypes inaccurate?" Cognitively, if we "know" that stereotypes are inaccurate, it is not possible that relying on a stereotype could increase person perception accuracy. Thus, there is no need for empirical research. Furthermore, both the theoretical focus on bias and the stigmatization of accuracy research described previously would likely have discouraged researchers from even considering this question. From a motivated reasoning standpoint, one of the last things social scientists committed to social justice would want to discover is that relying on stereotypes increases accuracy. Furthermore, from a social norms standpoint, this is a nearly perfect exemplar of why using a forbidden base rate is socially problematic. For example, when Lee et al. (1995) argued that relying on an accurate stereotype could increase person perception accuracy, it evoked an allegation that they disagreed with civil rights law, even though Lee et al. did not even discuss legal issues:

Moreover, they [referring to McCauley, Jussim, & Lee, 1995] differ from the present review in their conclusions, which do not follow from their premises: If two resumes are otherwise equivalent, it is permissible to use stereotypes associated with group membership as a factor in hiring choice, if group membership has previously predicted success on the job. (*In this they evidently disagree with U.S. civil rights law*). (Fiske, 1998, pp. 34–35, emphasis added)

Opposing civil rights is plausibly interpretable as a manifestation of bigotry. We suspect most of our colleagues would conclude that it is better not to raise this question and avoid the reputational risks of such accusations.

Given that the CMS factors all push in the direction of concluding that stereotypes produce inaccuracy in person perception, one should expect the scientific literature to be peppered with variations on this claim. Such an expectation would be confirmed. For example, "The problem is that stereotypes about groups of people often are overgeneralizations and are either inaccurate or do not apply to the individual group member in question" (American Psychological Association, 1991, p. 1064).

Strictly, the statement "stereotypes . . . often are overgeneralizations" could be read to also mean "and often they are not." However, it continues, declaring that stereotypes are either inaccurate or do not apply to the individual. Thus, even in the implied-but-not-stated possibility of stereotypes not being overgeneralizations, when applied to an individual, they are still wrong—because either the stereotype is wrong in the first place, or because it supposedly does not apply. There is no room here for it to successfully apply.

Next, consider, "At the group level, then, stereotypes may have a kernel of truth, but relying on them at the individual level may lead to serious judgment errors" (Whitley & Kite, 2009, p. 100).

The problem here is one of emphasis. That emphasis is highlighted by comparison to how the statement might have read had it been more balanced and nuanced: "At the group level, then, stereotypes may be accurate or inaccurate, and relying on them at the individual level may either increase or decrease accuracy in judgments." In the absence of such balance, although a literal reading of the statement does not preclude stereotypes having some limited degree of accuracy (a kernel) and of producing some accuracy in person perception, it is also clear that the emphasis is not on accuracy but "serious judgment errors." If researchers wish to avoid readers interpreting such claims

as emphasizing error, the solution is quite simple: explicitly articulate the possibility that stereotypes sometimes produce accuracy.

A recent review reaches the same stark conclusion:

Stereotypes often fail to fit the individuals being evaluated; a good fit would occur only if there is no variation within the group and therefore guessing the base rate would be correct by definition, or if the individual being judged falls at exactly their group's mean. In other words, people use stereotypes when judging an individual from a particular group but that particular individual may not fit the stereotypes of their group, therefore contributing to inaccurate perception. (Hall & Goh, 2017, p. 3)

There are several problems here, starting with the unfalsifiable "often" that reveals an emphasis on inaccuracy. However, the rest of this statement is absolutist. "A good fit would occur only if . . ." there was "no variation" in a group, or if target individuals fell exactly at their group mean. The "no variation" condition does not exist and a nonexistent condition producing good fit means that good fit cannot be produced. The second condition, individuals falling at their exact group mean, refers to only a vanishingly small number of members of any group. Therefore, this condition means "a good fit almost never occurs."

Despite the ambiguity as to what "often" means here, these perspectives emphasize the erroneous nature of employing them in person perception. These quotes are similar to many others that can be found throughout the scholarship on the role of stereotypes in person perception (e.g., Banaji & Greenwald, 2013; Fiske & Neuberg, 1990; Fiske & Taylor, 2008; Greenwald & Pettigrew, 2014). There appears to be considerable scientific consensus that it is somewhere between generally and always an error to use a stereotype to judge an individual.

Theoretical bases for predicting that relying on an accurate stereotype increases the accuracy of person perception. The consensus is, however, unjustified, for both theoretical and empirical reasons. The most obvious theoretical basis for predicting that relying on a stereotype can increase the accuracy of person perception is Bayes's theorem. Although no one has ever suggested laypeople engage in explicitly Bayesian calculations, and despite early research suggesting people ignore base-rates (Tversky & Kahneman, 1974), many lay judgments are approximately Bayesian (e.g., Griffiths & Tenenbaum, 2006; Parpart, Jones, & Love, 2017). There is ample theoretical basis for predicting that relying on base-rates, even forbidden ones, can at least under some circumstances improve accuracy in person perception.

In economics, the related theory of "statistical discrimination" (Phelps, 1972) refers to the idea that discrimination can result, not from prejudice or animus, but from people relying on their best estimates about real group differences on relevant characteristics. Car insurance rates are a good example, where actuarial evidence shows that young men get into far more accidents than young women, and, as a result, their rates are higher (Butler, Butler, & Williams, 1988).

Stereotypes of the phenomenological structure "Some of Them Have X" (even if X is a range) can be viewed as an intuitive base rate (e.g., McCauley, Stitt, & Segal, 1980). When one has completely diagnostic individuating information, however, the base-rate becomes irrelevant. For example, consider a perceiver who believes that men are, on average are 6 feet tall and most men between 5'10" and 6'2". If this perceiver finds out that a male target is 5'5" tall, the base rate becomes irrelevant, and the perceiver should judge the target as 5'5" tall.

In many social situations, however, we do not have completely diagnostic individuating information. Even many of the most successful and well-validated instruments in psychology, such as IQ tests and

NEO-PI-R (formerly, the Big Five Personality Inventory), do not perfectly predict academic achievement or behavioral manifestations of personality. In such situations, Bayes's theorem indicates that the most subjectively rational thing to do is combine the probabilistic information provided by the stereotype with that of the relevant individuating information.

A second theoretical perspective also predicts that relying on an accurate stereotype can increase accuracy in person perception. Figure 1A presents the reflection-construction model (Jussim, 1991), which depicts relations among the key variables involved in accuracy, bias, and self-fulfilling prophecy. "Constructive accuracy" (see Figure 1B) refers to the process by which expectancy-induced "biases," including stereotype biases, can increase person perception accuracy (Jussim, 1991). Figure 1B shows that impression accuracy (correspondence between perceivers' judgments of targets and those targets' behavior or attributes) can be quite high, even when perceivers base their judgments of individual targets exclusively on their own expectations, and are oblivious to (ignore, overlook, do not have access to) targets' actual behavior or attributes.

If all three paths shown are high enough, perceiver judgments will correspond to (correlate with) target behavior or attributes, even though perceiver judgments are heavily based on their own expectations and not at all based on target behaviors or attributes. This is because, in Figure 1B, the correlation between perceiver judgments and target behavior or attributes is the multiplicative product of the three paths. For example, if all three equal .8, then impression accuracy equals $.8^3 = .51$. However, if there was no "bias" (if the effect of a stereotype-based expectation on judgment was zero), impression accuracy equals 0. In psychological, rather than mathematical terms, this means that, if perceivers' expectations are strongly based on highly valid information, *the more they rely on those expectations when judging targets, the more accurate they will be.*

Thus, there are ample theoretical reasons for psychologists to simply stop declaring, without evidence, that relying on a stereotype

always or generally reduces accuracy in person perception. Social psychologists focusing on intergroup relations especially have leapt to an unjustified conclusion that seems to support both social justice narratives and a longstanding theoretical focus on bias, without acknowledging the existence of theoretical perspectives suggesting the opposite.

Empirical evidence that avoided the answer. Several studies have actually provided data that address the question but did not state the empirical answer they found—that stereotypes increased rather than reduced accuracy. Cohen (1981) examined the role of occupational stereotypes in memory for the behaviors of someone labeled as either a librarian or waitress—the conclusions all focused exclusively on how memory for stereotype consistent judgments (e.g., receiving a book as a gift, drinking a beer, respectively) was more accurate than stereotype inconsistent judgments. However, the results also showed that, overall, having an occupational category improved memory compared to a no category control. This is, as far as we know, the first study to show that reliance on a stereotype increased accuracy of person perception (in this case, person memory).

Next, a study framed around processes of stereotyping yielded essentially the same pattern. People more accurately remembered target attributes when they had a stereotype than without it (Macrae, Milne, & Bodenhausen, 1994). That these findings were not even mentioned in the published report is consistent with the conclusion that one or more of the CMS factors were likely operating.

Additional empirical evidence. A handful of additional studies have examined whether relying on a stereotype increases person perception accuracy. Most find it does (Brodt & Ross, 1998; Jussim, Eccles, & Madon, 1996; Lewis, Hodges, Laurent, Srivastava, & Biancarosa, 2012; Madon et al., 1998).

An accurate stereotype should increase person perception accuracy when targets fit the stereotype. This hypothesis was directly tested in a study of how perceiver politics can influence whether relying on stereotypes increased or reduced the accuracy with which they iden-

Figure 1A: The Full Model

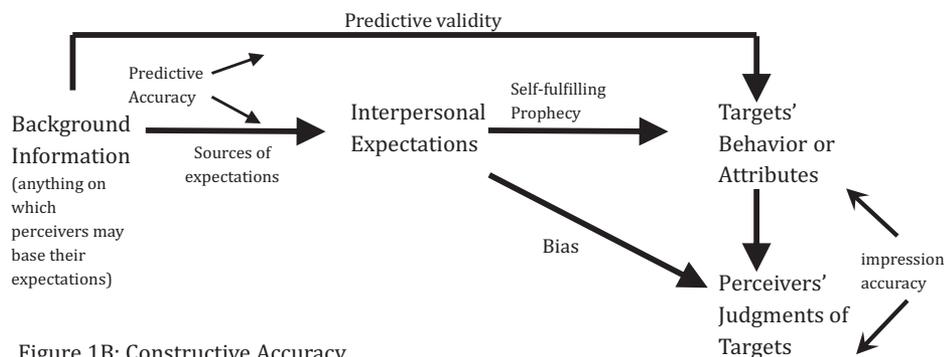


Figure 1B: Constructive Accuracy

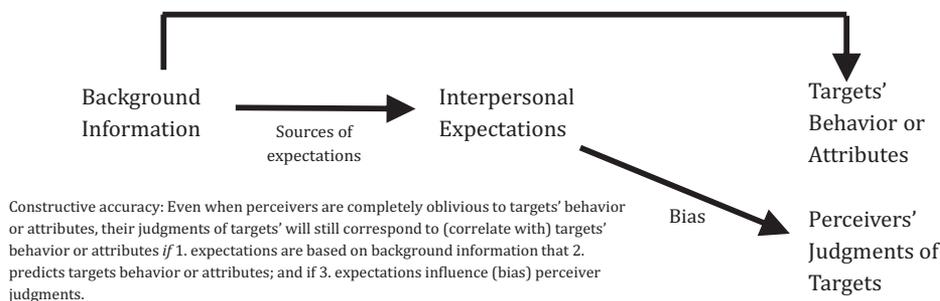


Figure 1. The reflection-construction model (Jussim, 1991).

tified targets as gay or straight (Stern, West, Jost, & Rule, 2013). Conservatives, who were more willing to apply their stereotypes of gay men than were liberals, made more accurate judgments regarding targets who fit the stereotype, whereas liberals made more accurate judgments regarding targets who did not fit the stereotype (Stern et al., 2013).

Because the amount of research on this issue is so limited, it is premature to reach strong conclusions about whether, empirically, relying on versus ignoring stereotypes generally produces more accurate person perception judgments. A handful of studies plus sound theoretical and statistical bases for predicting this will happen does not necessarily mean it actually does happen very much, which is one reason empirical research is needed.

How emphasizing the role of stereotypes in decreasing person perception accuracy undermines theory and applications. Theoretically driven empirical research seeking to understand the social and psychological processes leading stereotypes to increase or reduce the accuracy of person perception is sorely needed. Many social scientists recognize people sometimes hold accurate stereotypes. But they choose to emphasize how stereotypes can be wrong, proceed with an emphasis on inaccuracy in person perception and ignore the implications of accuracy.

This is not likely to change the world for the better. In addition to undercutting the credibility of the social sciences, interventions designed to improve intergroup relations by changing “inaccurate” stereotypes will not work, if those stereotypes are not inaccurate in the first place. If people are asked to judge others exclusively on the basis of their individual characteristics, even if not completely diagnostic, because that maximizes procedural justice, some sacrifice of accuracy may be warranted. But if they are asked to do so on the grounds that relying on a stereotype is always inaccurate, and it isn't, the loss of credibility could torpedo the effectiveness of the intervention. Furthermore, there surely are some conditions under which relying on a stereotype will reduce accuracy. The only way social science will discover when it is necessary to improve accuracy by eliminating reliance on stereotypes is by empirically investigating this question.

Unasked Questions

In this section we discuss two unasked questions about stereotype accuracy and one about the use of individuating information that we consider likely casualties of the CMS processes discussed above. Our analysis identifies those questions, briefly discusses why they remain unasked, identifies hypotheses about possible answers, why they should be tested, and how to do so.

Why Are Some Stereotypes More Accurate Than Others?

Three hypotheses. Little is known about why some stereotypes are more accurate than others. Prior reviews have identified three phenomena that seem to account for some patterns of accuracy and inaccuracy (Jussim, 2012; Jussim et al., 2015; Jussim Crawford, Anglin, Chambers, et al., 2016). These, however, require rigorous empirical investigation as a priori hypotheses. The *stereotypes as knowledge hypothesis* predicts that more accurate stereotypes should be found among perceivers with more intelligence, education, and contact with the stereotyped group. Consistent with this view, people who were more intelligent or had higher educational achievement also had more accurate ethnic stereotypes (Ashton & Esses, 1999; Kirkegaard & Bjerrekær, 2016). Furthermore, people better at pattern detection, which was itself correlated with intelligence, more efficiently learned, updated, and applied stereotypes (Lick, Alter, & Freeman, 2018). This is easily tested as an a priori hypothesis by measuring any

of these moderators of stereotype accuracy and then examining whether, in fact, they do predict who holds more accurate stereotypes.

It is important to test this hypothesis to better understand the extent to which stereotypes are mostly unjustified shared cultural myths that primarily serve to justify inequality or prejudice (Jost & Banaji, 1994; Lapiere, 1936). If so, then intelligence and education should predict lower accuracy because, presumably, such people are more likely to have learned those cultural myths, which masquerade as facts, thereby disconfirming the stereotypes as knowledge hypothesis. On the other hand, if stereotypes really are knowledge, people with more knowledge (higher education or greater contact with the target group) or with greater abilities to attain valid knowledge (higher intelligence), should, in general, have more accurate stereotypes.

The *egalitarian denial hypothesis* predicts that people who are motivated to be egalitarian are motivated to understate real group differences. This may help explain the oft-replicated finding that people are more likely to underestimate than to exaggerate race (e.g., McCauley & Stitt, 1978) and gender stereotypes (e.g., Swim, 1994). Consistent with this, Ashton and Esses (1999) found that people who scored very low on rightwing authoritarianism were particularly likely to underestimate real differences among Canadian ethnic groups. This hypothesis can easily be tested by examining whether higher scores on egalitarianism measures predict greater underestimation of group differences, especially when comparing groups perceived as oppressors and victims. It is important to test this hypothesis because it addresses whether egalitarianism is not just an attitude, but also a form of motivated social cognition.

The *hostility hypothesis* predicts that stereotypes are more likely to exaggerate real differences the more members of two groups dislike each other (Jussim, Crawford, Anglin, Chambers, et al., 2016). This is consistent with Park and Judd's (2005) review concluding that prejudice drives intergroup bias and raises the possibility that exaggeration occurs primarily *when groups are in conflict*. Stereotype exaggeration does indeed occur among political group members who are strongly identified with their group, regarding core values (Chambers, Baron, & Inman, 2006) and among those holding extreme attitudes (Westfall, van Boven, Chambers, & Judd, 2015). The hostility hypothesis also suggests that strongly identified and extremist members of groups with recent histories of conflict (e.g., Israelis and Palestinians, Indians and Pakistanis, environmentalists and fossil fuel producers, etc.), may tend to hold exaggerated stereotypes of one another. Indeed, it also inherently includes an *individual difference in stereotype accuracy* subhypothesis: The more individuals are hostile to some group or believe a group with which they strongly identify is in conflict with some other group, the more likely they are to exaggerate real differences.

The *hostility hypothesis* can be readily tested by (a) comparing the accuracy of stereotypes among groups in conflict to those of groups not in conflict; and (b) assessing people's hostility toward groups as an individual difference measure and then using that to predict stereotype accuracy. It is important because it offers some hope of reviving the classic emphasis on stereotype inaccuracy, albeit in more limited form. Of course, it is also possible that, when that emphasis emerged, scholars were, in fact, primarily thinking about groups in conflict (e.g., Lapiere, 1936; Lippmann, 1922/1991).

Why has this question gone unasked? First the foreclosed presumption that stereotypes are inaccurate meant that there was no good reason to even ask if some stereotypes are more accurate than others. Second, social psychology, the field most likely to investigate this sort of question, has been dominated by a quest for bias for nearly half a century. Thus, cognitive confirmation biases would tend to lead researchers to be more likely to look for evidence of inaccuracy than for conditions under which accuracy versus inaccuracy is more prev-

alent. Third, if many researchers study intergroup relations to combat injustice, they may be far more highly motivated to find evidence of biases than of accuracy. Last, to even ask it is to run the risk of obtaining an answer that will arouse intense hostility from at least some of one's colleagues.

How Accurate Are Implicit Stereotypes?

We focus here primarily on the implicit association test (IAT; Greenwald, McGhee, & Schwartz, 1998) meaning that implicit stereotypes are measured by assessing differences in RTs to different constellations of target groups and attributes. If, for example, on an IAT Democrats found it easier to categorize target words into "Republican/stupid" and "Democrat/smart" than into "Republican/smart" and "Democrat/stupid," this would constitute evidence of an implicit stereotype about party identification and intelligence. There are many unresolved issues regarding the precise meaning of IAT scores (e.g., Arkes & Tetlock, 2004; Blanton, Jaccard, Strauts, Mitchell, & Tetlock, 2015; Forscher et al., 2016). Nonetheless, there is no controversy that stereotypes about all sorts of groups can be measured with implicit methods, including but not restricted to stereotypes of racial, gender, religion, ethnicity, age, and political groups (Nosek et al., 2007).

The basic implicit stereotype accuracy hypothesis and how to test it. Nearly all of the extant scholarship on implicit intergroup associations in social psychology focuses on their role in bias, prejudice, and discrimination (e.g., Banaji & Greenwald, 2013). Therefore, even suggesting that the accuracy of implicit stereotypes is an empirical question runs counter to at least the spirit of two decades of scholarship. Isn't it already well established that the IAT measures bias? How can we even raise the accuracy question?

The IAT does not measure "bias"—it measures RTs. The extent to which those RTs capture any sort of bias is itself an empirical question, which, as we have noted, is currently quite controversial. Nonetheless, even if IAT scores do reflect prejudice to some degree, it is also possible that they reflect real group differences to at least some degree. Therefore, the basic implicit stereotype accuracy hypothesis is that implicit stereotypes reflect social realities.

How could research on implicit stereotype accuracy be conducted? Reaction times do not have "truth" criteria and there is no way to assess their absolute accuracy in the same way that one could test the absolute accuracy of a prediction that tomorrow's high temperature will be 71°F or that men average 6 feet tall. One question that could be addressed empirically is, How well do people's implicit associations of attributes with several groups correspond to the criterion differences for those groups? To do so one could administer several IAT's and then correlate those results with criteria. For example, one could easily assess ethnic stereotypes about education level or wealth by comparing IATs assessing such stereotypes with Census data. One could assess gender stereotypes about nonverbal skills or preferences for things versus people by comparing IATs assessing those stereotypes to meta-analyses. Such correlations could be computed for each individual (personal implicit stereotype accuracy correlations); and they could be computed for sample mean IAT scores (consensual implicit stereotype accuracy correlations). Because IATs are difference scores, in general, it would be most appropriate to correlate them with differences between target groups.

One could also ask a different implicit stereotype accuracy question: How accurate are beliefs about differences between two groups across a range of attributes? This could be assessed by holding the two groups to be compared constant (e.g., Democrats and Republicans), and varying the stereotype content, for example, by performing IATs assessing prolife/pro-choice, pro/antigay marriage, pro/antitax cuts. Consistent with theoretical perspectives emphasizing how implicit

beliefs reflect real world structural inequalities (Payne, Vuletic, & Lundberg, 2017) and accurately reflect the environment (Reber, 1989), and inconsistent with perspectives emphasizing implicit associations as bias (Banaji & Greenwald, 2013) our preregistered prediction is that many implicit stereotypes will be far more accurate than they are biasing (i.e., predicting actual discrimination), an effect shown to usually be quite modest (e.g., Forscher et al., 2016; Oswald, Mitchell, Blanton, Jaccard, & Tetlock, 2013).

This perspective also generates predictions about when implicit stereotypes will be less accurate. If implicit stereotypes reflect tacit knowledge about group differences gleaned from the environment, then when the environment does not readily provide such information, there is no reason to expect much accuracy in such stereotypes. A great deal of information about many demographic groups (race/ethnicity, age, gender) is often readily available within one's own country, as is information about political parties. Thus, this perspective predicts that such implicit stereotypes would be relatively high in accuracy. In contrast, because far less information is generally available about people in faraway countries, implicit stereotypes about them should show little or no evidence of accuracy. Such work would address fundamental issues in social cognition and it would advance debates centering on the extent to which implicit measures capture biases or social realities (compare, e.g., the different claims in, e.g., Arkes & Tetlock, 2004; Banaji & Greenwald, 2013; Johnson & Chopik, 2018; Payne et al., 2017).

Why has this question gone unasked? It strikes us as odd that although research on implicit and automatic stereotyping has been conducted for 30 years (Devine, 1989), nearly all of it presumes such stereotypes are bad, biased, or inaccurate (see Banaji & Greenwald, 2013, for a review) without evidence assessing accuracy. This is doubly odd because the earliest work on implicit learning and cognition concluded that, "Implicit learning produces a tacit knowledge base that is abstract and representative of the environment . . . [and] . . . it can be used implicitly to solve problems and make accurate decisions about novel stimulus circumstances" (Reber, 1989, p. 219). When a fundamental question is not even asked for 30 years, even though the tools are readily available to do so, and the theoretical basis for doing so is well-established, it begs for an answer to the question, "Why?"

CMS factors offer strong contending explanations. First, the accuracy of implicit stereotypes is a variation on the accuracy of stereotypes, so all the reasons stereotype accuracy research was not conducted for 70 years likely apply here. Second, it now seems clear that some of the earliest research on implicit biases were (a) immediately followed by attempts to influence law and policy, long before the scientific community had much opportunity to critically evaluate some of the strongest claims (Mitchell, 2018); and (b) many of those strong claims have turned out not to be justified (e.g., Cone, Mann, & Ferguson, 2017; Forscher et al., 2016; Payne, Vuletic, & Lundberg, 2017; Rubinstein, Jussim, & Stevens, 2018).

Do People Ever Systematically Ignore Individuating Information?

The idea that "stereotypes lead people to ignore individual differences" has deep roots in social psychology (Jussim, 2012; Jussim et al., 2015). It appears in many varieties, including the idea that stereotyping leads people to view group members as all the same, to overlook or resist disconfirming evidence, or that stereotypes are a difficult to override default basis of person perception (Fiske & Neuberg, 1990). Variations on it are generally deployed as part of arguments emphasizing the power of inaccurate stereotypes to distort

perceptions (e.g., Aronson, 2011; Birtel & Crisp, 2015; Fiske & Neuberg, 1990; Gaertner & Dovidio, 2005).

Testing hypotheses about when people ignore individuating information. Even though existing research provides no evidence that people ignore individuating information, and, in fact, shows the opposite (that reliance on individuating information is one of the largest effects in all of social psychology; Jussim, 2012; Kunda & Thagard, 1996), it is nonetheless possible that conditions exist under which ignoring individual differences actually occurs. Thus, one goal of future research would be to see if nontrivial such conditions can be created. By “nontrivial” we exclude simplistic situations where people have no choice but to ignore individuating information (e.g., when they have no access to it or they only have information that is irrelevant to their judgment). Identification of such conditions would constitute an existence proof—they would show that such conditions can exist. We suspect that it will be easier to create such conditions under controlled laboratory conditions than to identify them out in the messy world. Once identified, researchers could then engage in a more informed search for such conditions out in the natural world.

Acknowledging this raises interesting and important questions. One hypothesis is that intense hostility (perhaps outright hatred is required) can lead people to ignore individual differences. For example, we suspect many readers of this article will have a hard time thinking about benevolent Nazis, in part, because Nazism was so despicable. Nonetheless, some did exist, with Schindler, the Nazi Party member who saved hundreds of Jews, perhaps the most obvious. Regardless, if one did have difficulty even contemplating that question, one can take that as anecdotal evidence at least raising the possibility that hatred can lead people to ignore individual differences.

Similarly, the classic view of stereotypes (rigid, resistant to change, steeped in prejudice) does often seem to characterize groups in genocidal conflict with one another (Powers, 2002). It is extremely difficult to gear one’s society up to engage in mass slaughter of one’s enemies if one is required to recognize their fundamental humanity as manifested in their wide range of individuality. In such a case, stereotypes (e.g., of the other group’s supposed despicableness) may lead people to ignore individual differences because acknowledging them conflicts with the goal of committing mass murder.

How could this be studied in the lab? One possibility is to create a situation where a target, possibly even the experimenter, is a despicable person, and then manipulate individuating information. Another is to have people evaluate targets from widely despised groups. Individuating information could be made available but require some cost or effort on the part of perceivers to obtain. We suspect many would choose not to obtain it, but this is an empirical question.

Why has this question gone unasked? Finding positive evidence that people actually ignore individual differences would attest to the evils of stereotyping and is therefore not a forbidden finding. It would advance, not contest, the equalitarian norms of psychology. It would be consistent with the heavy theoretical emphasis on error and bias. Why, then, has the question never been addressed? The answer here, we suspect, is that the question does not come up. The evidence that makes the question interesting and compelling has been systematically ignored—and that has probably occurred because of the full gamut of CMS reasons framing this paper. Overwhelming evidence shows that people rely heavily on individuating information (Jussim, 2012). In their review and meta-analysis, Kunda and Thagard (1996, p. 292) described the effect of individuating information on person perception judgments as “massive.”

And yet, many of the most influential, prestigious reviews in social psychology completely ignore evidence on the power of individuating information. For example, not a single chapter in the 2010 *Handbook*

of Social Psychology (Fiske, Gilbert & Lindzey, 2010) cited either Locksley et al.’s (1980) classic demonstration that individuating information eliminates stereotype bias or Kunda and Thagard’s (1996) meta-analysis, even though chapters addressed issues such as intergroup relations, intergroup biases, social justice, and person perception. Other more recent examples of canonical sources on stereotypes and intergroup perceptions that neither mention individuating information nor cite any of the relevant sources include a recent *Annual Review* chapter on gender stereotypes (Ellemers, 2018) and a book length review of subtle biases (Banaji & Greenwald, 2013).

Why might this be? We propose that this ignoring of the evidence occurs because of the following taboo trade-off (Tetlock et al., 2000). Scientists generally do strive to be true to the science; but, especially among those studying intergroup relations, many are also committed to social justice (Unger, 2011). If fighting bigotry is viewed as a high moral calling (Jussim, Crawford, Stevens, et al., 2016), admitting into evidence that people already for the most part make meritocratic decisions risks undercutting emphasis on the power of biases—and such an emphasis is itself useful rhetoric for advocating for large scale interventions (such as implicit bias or microaggression trainings) to redress such biases. If judgments are already mostly meritocratic, or even easily made more meritocratic by highlighting individuating information, it becomes much more difficult to justify the need for many more intensive interventions and trainings. Of course, by ignoring the (for some) politically inconvenient evidence that individuating information effects are massive, the field fails to address the theoretically and practically important question of whether, or under what conditions, people actually do ignore individuating information. If such conditions exist—and we strongly suspect they do—both social scientists and social justice activists should want to know about them.

How to Break the CMS Barriers

Science Reform

The science reform movement in psychology is in the process of changing much about how psychological research is conducted (Spellman, 2015), and a steady flow of contrary findings are challenging what has long been considered canonical knowledge in social psychology and beyond (Jussim, 2016). Sometimes, the movement is called “open science” to refer to the idea that psychological science needs to be far more transparent than it has been historically. One purpose of transparency is to facilitate scientific self-correction—it is far easier to correct errors when full information is available for all to see. Thus, one of the goals of science reform is to create a more effectively self-correcting psychological science. Just as an “open mind” colloquially means willingness to consider many alternative perspectives, open science includes acknowledging the existence of alternative perspectives and lines of scholarship that perhaps diverge from one’s own. This can demote the importance of “compelling narratives” (e.g., Bem, 2002) and elevates the importance of “getting it right” (Funder et al., 2014). By acknowledging contradictory evidence, conflicting theories, and a great deal of uncertainty about what is actually true, scholarship becomes more open to alternatives. Ignoring, dismissing, or trivializing theories, findings, and reviews that contest one’s preferred narrative, without actually disconfirming, falsifying, or rebutting them, should not be serious scientific options. Openness to seriously considering alternatives, then, is one foundation for improving research on stereotype accuracy (and probably many other topics, as well).

The CMS Analysis Generates Testable Hypotheses

One important contribution of the science reform movement has been the increasing recognition of how social and psychological processes,

including biases, norms, and incentives, can distort scientific conclusions (e.g., Spellman, 2015). Psychologists might bristle at the idea that their research is subject to the very same biases they study in laypeople; thus, testing hypotheses about why certain questions go unasked is, itself, the epitome of an unasked question. “Where do these unasked questions come from?” can be viewed as the apex unasked question.

If the cognitive factors we identified primarily underlie unasked questions, then researchers should display (a) belief in the existence of empirical evidence that does not exist (e.g., showing that demographic stereotypes are inaccurate); (b) overestimates of how much research shows stereotypes are inaccurate; (c) ignorance or underestimation of the amount of empirical evidence that does exist showing accuracy (e.g., showing that relying on stereotypes increases the accuracy of person perception); and (d) misunderstandings, such that research that does not assess accuracy is viewed as showing inaccuracy. Indeed, one can see this in the scientific literature, where empirical evidence of small sex differences (Hyde, 2014), and evidence about the processes of social judgment (Bian & Cimpian, 2017) are claimed to show that stereotypes are inaccurate, even though these articles neither presented nor reviewed empirical evidence assessing the accuracy of laypeople’s actual stereotypes.

If motivational factors contribute, the patterns described above should be more extreme among those more highly motivated to emphasize stereotype inaccuracy. Who might that be? A strong contender is researchers who identify social justice activism as a core reason for becoming a social scientist (Unger, 2011). Among those researchers, such biases should manifest more strongly than among those who take a more value neutral approach to social science. Furthermore, motivated reasoning often manifests as double standards, so one should find researchers characterizing findings showing stereotype biases and inaccuracy as more “important” than findings showing stereotypes failing to bias judgments and stereotype accuracy (a pattern that is broadly consistent with the field’s longstanding emphasis on inaccuracy when there was no data followed by downplaying the importance of accuracy once data showing moderate to high accuracy came in—see Table 1). If social factors contribute, surveys of social psychologists should show greater fear of social sanctions when studying stereotype accuracy (and, indeed, any topic that risks running afoul of researchers’ moral and political values) than when studying less politically charged topics. Although a problem is not solved by identifying its sources, doing so is a first step that can be helpful in further efforts. In that spirit, we offer several steps that can be taken now as part of such efforts.

Skepticism

Merton (1973) argued that organized skepticism—subjecting scientific claims to critical scrutiny by the community of scientists—was one of the core norms of science, something that distinguished it from other disciplines and justified the credibility science was given by the wider society. Merton (1973) recognized that individual scientists were potentially subject to all sorts of nonscientific biases and motivations. For Merton, individual scientists were not necessarily capable of always keeping all those distorting influences at bay; that was the job of the skepticism of the community of scientists. By subjecting claims, conclusions, findings, and methods to intense skeptical scrutiny, scientists’ own errors and biases could be identified and eliminated.

Skepticism can also be viewed as a manifestation of one of the few strategies known to be successful at combating confirmation biases and motivated reasoning. When people were induced to consider the opposite of a belief they hold, they were less likely to commit confirmation biases (Lord, Lepper, & Preston, 1984). Skepticism instantiates this strategy. “Are stereotypes inaccurate? Where’s the evidence? Is there evidence that they are accurate?” Had social

psychologists spent as much effort empirically asking these questions as asking questions about bias, 100 years of unjustified claims and conclusions might have been avoided.

Strong Inferences and Theoretical Inclusion

Theoretical inclusion. The term *inclusion* is often used to refer to efforts to bring people from historically oppressed, marginalized, or disadvantaged groups—people who have been excluded from many of the benefits enjoyed by other members of the same society—into contexts in which they can enjoy those same benefits as majority or higher status group members. We use the term *theoretical inclusion* to refer to a similar idea: Science can be more readily advanced if researchers acknowledge the existence of alternative perspectives and theories, and seriously consider them both when designing studies and reaching conclusions. This is in sharp contrast to a tunnel-vision-like focus on a single theory that systematically ignores competing perspectives, a pattern that has a disturbingly extensive history in some areas of psychology (Jussim, 2012; Jussim, Crawford, Anglin, Stevens, et al., 2016). Theoretical inclusion is a necessary precondition for our next recommendation.

Strong inference. *Strong inference* refers to testing competing alternative hypotheses and can, at least sometimes, provide the most effective and efficient advances in scientific understanding of particular phenomena (Platt, 1964; Washburn & Skitka, in press). Like skepticism, it can be viewed as a form of “consider the opposite.” Consider how strong inference might have been used to more quickly identify what is captured by implicit measures, such as the IAT. For much of the test’s existence, results of IAT’s have been labeled as “implicit bias”—but this constitutes subterranean importation of an answer to a question that was not even asked. That is, IAT scores were presumed to reflect “bias,” when it is just as possible that they reflect social realities. Although we realize this may appear to be a radical notion to some, it is actually an alternative explanation well-steeped not only in early critiques of the IAT (Arkes & Tetlock, 2004), but in the foundational work on implicit cognition (Reber, 1989).

Consistent with this analysis, a recent review (Payne et al., 2017) concluded that implicit “bias” scores primarily reflected group inequalities produced by structural inequalities, racism, institutional discrimination, and the like. In fact, however, discrimination in the present is only one of many possible sources of inequalities, which can also persist from a history of discrimination (even if there is little or no discrimination in the present) or derive from group differences in social or cultural practices, or, in some cases, biology. The analysis that implicit “bias” scores reflect social realities, rather than (or along with) personal prejudices, is, in fact, just as viable regardless of whether those inequalities result from present discrimination, past discrimination, institutional discrimination, biology, cultural practices, or other social realities. Where group differences come from might be an interesting and important topic in its own right but it is irrelevant to assessing accuracy in perceptions (whether explicit or implicit) of those differences (Jussim, 2012).

An example can demonstrate this. Let’s say an oppressor group starves an oppressed group. The oppressors will weigh more than those being starved. One will not be “biased” if one perceives the mean weight levels as different. For example, the liberators of Nazi death camps were not “inaccurate” or biased in perceiving the survivors as emaciated. Of course, weight differences need not come from oppression; they can come from genetic or environmental differences between groups. If there are differences in weight, then people will be more accurate if they perceive differences in weight than if they believe the groups weigh the same. This analysis applies to all group differences; the cause of differences is a different question than

accuracy in perceiving those differences. The strategy of conducting research based on strong inference offers the most obvious paths to improving the quality of research on stereotype (in)accuracy, bias, error, and rationality. This strategy is built on the pillars described here: Open science, full-throated embrace of skepticism, and theoretical inclusion.

Addressing the normative elephant in the room. The recommendations above will work primarily if scientists can be reasonably confident that they will not be socially and professionally sanctioned for engaging in research that asks these questions empirically, even if it gets the “wrong” answers. This is not guaranteed (Stevens et al., 2018). As a result of the risk of professional hostility, many researchers may decide this is not worth pursuing (Inbar & Inzlicht, 2018), thereby perpetuating the cycle of not asking certain questions. Such social sanctioning need not occur very often for it to succeed at deterring research on these questions. Most speeding motorists do not get tickets, yet the potential for getting one likely deters many motorists from excessive speeding. Why risk any elevated risk of such sanctions, when one can study other topics?

Countering dysfunctional social incentives is no easy task. One cannot prevent scientists from being hostile to other scientists. One straightforward counter to social stigma is to create means for providing social accolades. One route, therefore, is to provide awards and honors to people who produce high quality scholarship that resists censorship and sanctioning, and contests conventional wisdom and politically popular notions. Heterodox Academy’s *Courage Award*, given to Alice Dreger in 2018, is a prototype (received for both resigning over a case of university censorship of an academic paper and for *Galileo’s Middle Finger*, a book that exposed certain social justice activist groups as having employed lies and personal attacks to silence certain scientists). Other professional organizations should consider following suit. If “getting it right” in the face of efforts at silencing was rewarded by major professional organizations, perhaps much of the social stigma could be reduced.

Conclusion

This review identified a whole toolbox of cognitive, motivational, and social phenomena that have likely conspired to make it quite difficult for psychologists to recognize and acknowledge the extent to which existing data—scores of studies at this point, including multiple meta-analyses—show that, though biases are real, stereotype accuracy and reliance on individuating information are some of the most powerful and replicable findings in all of social psychology (Jussim, Crawford, Anglin, Chambers, et al., 2016). We also identified a set of as yet unanswered questions that can guide future research in this area in theoretically and practically important ways.

Specifically, this article raised the following heretofore unasked questions as crucial to the scientific understanding of stereotypes: (a) Why are some stereotypes more accurate than others? (b) How much and under what conditions does relying on a stereotype increase (or decrease) the accuracy of person perception? (c) Are there any conditions at all under which people ignore relevant individuating information that is available to them? (d) How accurate are implicit stereotypes? Empirically addressing these questions offers considerable promise of advancing both basic theoretical insights into the nature of social cognition and interpersonal processes, and the quest to create interventions and policies based on sound science

Lewin’s (1943, p. 118) famous dictum, “There is nothing so practical as a good theory” rests on the theory actually being good. We add this corollary: It is impractical to design interventions based on bad theories. This is because once we start designing interventions based on bad theories, the interventions are likely to fail and the unintended

consequences may do more harm than good. They waste precious time and resources, and can, especially in the areas of intergroup relations, produce boomerang and backlash effects (e.g., Dobbin, Schrage, & Kalev, 2015). This is a problem, of course, because no one intentionally designs interventions based on bad theories. But when cognitive, motivational, and social factors combine to create blind spots and denial of evidence, bad theory is probably inevitable.

Fortunately, however, psychological scientists have a growing array of tools capable of limiting and even eliminating such blind spots. The science reform movement, open science, and a new spirit of skepticism toward accepted canons is sweeping the field. This improves the chances that unjustified canonical beliefs will be more quickly identified. A strategy of strong inference—of explicitly comparing competing alternative theories and hypotheses—would, in the case of stereotype inaccuracy and bias, have much more quickly invoked accuracy and unbiased responding as viable alternatives to consider. Our hope is that as more and more psychologists embrace these reforms, the canon can be brought more into line with the evidence—and part of that process will involve empirically addressing not only previously unasked questions about stereotype accuracy, but even ones that researchers feared asking.

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