ACCURACY IN SOCIAL PERCEPTION: CRITICISMS, CONTROVERSIES, CRITERIA, COMPONENTS, AND COGNITIVE PROCESSES

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This article reviews controversies that have surrounded research on interpersonal accuracy for the last 50 years by providing and justifying a probabilistic conception of accuracy and by addressing the following issues: Whether accuracy can be distinguished from logical coherence; whether accuracy research provides insight into cognitive processes; why accuracy in perception of a behavior or trait must be distinguished from accuracy in explanations for that behavior or trait; how to distinguish self-fulfilling prophecy from accuracy; why distinguishing among several levels of analysis is crucial with respect to evaluating the accuracy of social stereotypes; whether accuracy research helps create or alleviate social problems; how accuracy can sometimes lead to discrimination, similarities, and differences between establishing scientific construct validity and the accuracy of lay social beliefs; and the nature of some of the contributions to understanding social perception provided by componential and noncomponential approaches to the study of accuracy.

What could be a more basic or obvious purpose of social perception research than assessment of the accuracy of people's perceptions of one another? And what could be simpler? Although both questions are phrased rhetorically, in fact, accuracy was an all-but-dead topic within social psychology for roughly 30 years, from about 1955 to 1985. It turned out that not only was the study of accuracy less simple than it seemed but it was, in fact, widely viewed as a theoretical and political minefield.

This chapter reviews the major controversies surrounding accuracy research and resolves those controversies, shows how researchers who have been studying accuracy have resolved those controversies, shows how identical issues have been resolved in other areas of psychology, or partially
resolves these issues. In the case of partial resolutions, this review also highlights the remaining unresolved issues and discusses how accuracy can be productively studied despite some residual difficulties.

1. What Is Social Perceptual Accuracy?

Social perceptual accuracy, in this review, refers to correspondence between perceivers' beliefs (expectations, perceptions, judgments, etc.) about one or more target people and what those target people are actually like, independent of those same perceivers' influence on them. This definition may appear straightforward, but it involves subtle issues and complexities that warrant explication—which is provided next.

A. PROBABILISTIC REALISM

This definition of accuracy is based on a set of principles referred to here as probabilistic realism. The main ideas of probabilistic realism, adopted throughout this chapter, are that there is an objective reality out there that, flawed and imperfect though we (both scientists and lay people) may be, we can eventually come to know or understand, at least much of the time. The term "probabilistic realism" is used as a somewhat simple name for what has been called "critical realism" and "pancriterian rationalism." It is essentially the same approach described by Funder (1995, 1999), which itself was heavily influenced by mainstream psychological approaches to construct validity (e.g., Cook & Campbell, 1979; Cronbach & Meehl, 1955).

Most psychological researchers implicitly adopt the idea that they can come to understand much about other people nearly all of the time, at least in their research. This perspective is often implicit in the sense that, although its assumptions are widely adopted (as shall soon be demonstrated), few research articles include sections that make explicit the authors' assumptions regarding the nature of social reality. The next section, therefore, explains both the "realism" and "probabilistic" aspects of probabilistic realism and then briefly describes what accuracy means in this context.

1. Realism

"Realism" refers to the idea that there is an objective reality that is independent of social construction. Few social scientists, except the most radical of social constructivists, deny the existence of such a reality. Whenever empirical researchers measure any psychological variable, they implicitly assume that variable is real. Even the three-decade stale (roughly 1955-1985) of accuracy research within social psychology occurred because of heightened interest in bias and recognition of genuine complexities in studying reality—not because researchers argued there was no social reality. The idea that objective social reality can influence social perception and constrain the potential for bias is implicit in many theoretical perspectives within psychology (e.g., Allport, 1955; Brophy, 1983; Brunswik, 1952; Festinger, 1957; Funder, 1987, 1995, 1999; Gibbon, 1978; Jussim, 1991; Kelly, 1955; Kunda, 1990; McArthur & Baron, 1983; McCauley, Nisbett, & Segal, 1980). The "realism" part of probabilistic realism reflects this assumption.

2. Social Reality and Social Beliefs Are Often Inherently Probabilistic

The term "probabilistic" is used to capture three different aspects of accuracy. First, it means that most criteria are probabilistic, not definitive. This applies to perceptions both of individuals and of groups. For example, a child with a high IQ is likely to do well in school, but there is no guarantee. Similarly, if the Nepalese are more courageous than other people, this does not necessarily mean that every person from Nepal, but no one from Denmark, will rush into the palace to save the Royal Family from a rampaging prince with a gun. People from Nepal do not need to always be braver than other folks, but if the Nepalese are more courageous than other people, they will act more courageously than most do others.

Second, "probabilistic" captures the idea that many social beliefs themselves are inherently probabilistic. The belief that Michael Jordan was the best basketball player of the 1990s does not require believing that his teams would win every game they played. Although people rarely phrase their beliefs in explicitly probabilistic terms, this belief is best interpreted as meaning something like "all other things being equal, having Jordan on your team will enhance your chance of winning more than having any other player on your team." Thus, many social beliefs themselves, are probabilistic. Stereotypic beliefs, too, are usually inherently probabilistic (see also Krueger, 1996; McCauley et al., 1980). If John believes that Asians are wealthier than other people, this does not necessarily mean that John expects all Asians to be fabulously rich or denies the existence of a single impoverished Asian. It may only mean that, on average, John believes they are richer than other people. Of course, even absolutist beliefs can be viewed as probabilistic. The belief that all Englishmen are dignified can be translated into the belief that 100% of Englishmen are dignified.

Not only is social reality probabilistic, and not only are many social beliefs probabilistic, but the relationship between belief and reality is often
probabilistic. For example, if Jorge expects Rose to be late for all of their meetings, and Rose is late only 95% of the time, Jorge is still quite accurate—certainly far more accurate than had he expected Rose to generally be on time. Accuracy is rarely all or none; it is usually a matter of degree.

B. ACCURACY

Accuracy is greater the greater the correspondence between perceivers' beliefs (expectations, perceptions, judgments, etc.) about one or more target people and what those target people are actually like, independent of those same perceivers' influence on those targets. This definition has three core ideas: correspondence, what people are actually like, and independent of influence. If Bella's teacher, Mr. Jones, predicts that Bella will receive an A on her next math test, and she does, Jones' belief corresponds well with the outcome. Similarly, near misses involve close correspondence with wildly inaccurate misses. If Jones predicted an A for Bella, and she receives a B+, Jones is still more accurate than had he predicted that she would receive a C. Accuracy as degree of correspondence between subjective perception and objective reality characterizes most modern and many older approaches to accuracy in perception (both object and social) and memory (e.g., Allport, 1985; Brunswik, 1952; Funder, 1995; Gibson, 1979; Judd & Park, 1993; Jussim, 1991; Kenny, 1994; Koriat, Goldsmith, & Pauny, 2000).

"Independent of influence" it is also conceptually straightforward. It means that the perceiver cannot have caused the target's outcome. If a coach predicted that one person will become the team's best player, and the coach caused that person to become the best player (e.g., by giving that player extra time and attention, being extra supportive and encouraging to that player but not to other players, etc.), this is a self-fulfilling prophecy, not accuracy. For a perceiver's belief to be accurate, it must correspond to target's behavior or attributes without the perceiver having caused them.

The phrase "actually like" appears simple but implies several important assumptions made explicit here. Probabilistic realism assumes that people have some characteristics that are independent of any particular perceiver's judgments of those characteristics (see Funder, 1995, 1999, 2001; Jussim, 1991; McCauley et al., 1980). Second, how to identify what those characteristics are, independent of subjective interpersonal judgment, is in essence, the criterion issue. Because identifying criteria for establishing accuracy has so often been framed as something so difficult as to threaten the viability of accuracy research altogether, it constitutes one of the major issues around which this review is focused and will be addressed in detail later.
A. SOME CONTRIBUTIONS OF ACCURACY RESEARCH

Many scientists perform accuracy research because they are interested in understanding the basic social and psychological processes underlying interpersonal interactions, close relationships, motivation and achievement, and intergroup relations (e.g., Ambady & Rozenthal, 1992; Funder, 1995; Icks, 1997; Judi & Park, 1993; Keesey, 1994; Lee, Jussim, & McCray, 1995). Accuracy research over the last 20 years has addressed issues such as how and why the length of relationships influences social perceptual accuracy; how people identify and integrate behavioral cues to reach judgments about others’ personal characteristics; whether stereotypes typically exaggerate, underestimate, or accurately describe group differences; and whether teacher expectations predict student achievement primarily because of accuracy, bias, or self-fulfilling prophecy (and this incomplete list is provided mainly to provide some sense of the issues addressed by accuracy research, not to comprehensively describe the entire body of work—see, e.g., Archer & Akert, 1977; Dawes, 1979; Goldman & Lewis, 1977; Hall & Carter, 1999; Kornai et al., 2000 for accuracy research on other topics).

B. BALANCE?

Another reason that research on accuracy is important is to evaluate the validity of the stark, dark impression of human judgment, perception, and thinking that has emerged from the literature on social cognition and decision making. Social psychology as a long history of emphasizing the evil, immoral, and irrational aspects of human thoughts, feelings, and behaviors (see, e.g., Krueger & Funder, 2004, for a review; or the discussions that appear in almost every social psychology text regarding lack of bystander intervention in emergencies, conformity and obedience, the fundamental attribution error, self-serving bias, and judgment under uncertainty).

1. Social Psychological Scholarship Convinces Undergraduates That People Are Fundamentally Irrational

When I teach social psychology as a small seminar, I offer the following question as an essay on the midterm: “Does social psychological research indicate that people are fundamentally logical and rational or fundamentally illogical and irrational?” The required readings up to the midterm include Myers’s (1999) introductory social psychology text’s chapter on the self, A. SOMERSON'S (1999) Social Animal chapter on self-justification, Merton (1948) on self-fulfilling prophecies, La Piere’s (1934) attitudes-do-not-predict-behavior study, and two chapters each from Cladinin’s (1993) book on social influence and Ross and Nisbett’s (1991) book on the self in the situation. Although not a “random sample,” these are, I think, well-respected, common, and mainstream social psychological writings.

Consistently, about three quarters of my students conclude that social psychology indicates that people are fundamentally irrational. Consider the following quotations from three papers:

First student, introductory sentence: “Through taking this class, I have come to the conclusion that people are, and have always been, primarily irrational.”

Second student, introductory sentence: “People are not rational beings, rather they are irrational beings.”

Third student, concluding sentence: “I guess that we are probably irrational and spend our lives trying to convince ourselves that we are rational.”

Intentionally or not, social psychological scholarship often creates the impression that people are fundamentally irrational.

2. Some Prominent Scientists Have Reached the Same Conclusion

This impression is not restricted to undergraduates exposed to social psychology for the first time. Consider the following:

“several decades of experimental research in social psychology have been devoted to demonstrating the depths and patterns of inaccuracy in social perception. This applies...to most empirical work in social cognition” (Juss & Krugslanski, 2002, pp. 175-177).

“Social perception is a process dominated far more by what the judge brings to it than by what he takes in during it” (Sage & Crutchfield, 1955, p. 429).

“Out beliefs persistently color and bias our response to subsequent information, evidence, or argumentation” (Erd, Loper, & Postman, 1984, p. 1231).

“Stereotypes are maladaptive forms of categories because their content does not correspond to what is going on in the environment” (Baug & Charnold, 1999, p. 467).

And, of course, several highly influential books have been written on error and bias, which, except for an occasional passing acknowledgment that people are not always wrong, primarily focus on how judgment and perception go awry (Gilovich, 1991; Kahneman, Slovic, & Tversky, 1982; Nisbett & Ross, 1980).
3. Is the Glass Really Almost Empty? Evaluating the Validity of Perspectives Emphasizing Human Bias and Irrationality

In this context, then, research on accuracy becomes important for either of two reasons. One reason is that many social psychologists may emphasize error and bias because they believe that social judgment really is over-whelmed by foolishness and irrationalities. Those subscribing to this view may not completely deny the possibility of accuracy or rationality, but the quotations above indicate that some highly influential social psychologists seem to conclude that inaccuracy, bias, and irrationality are the norm.

To the extent that research within this perspective is interpreted broadly as "demonstrating the depths and patterns of inaccuracy in social perception" (Jost & Kruglanski, 2002), then work on accuracy is essential for evaluating its validity. To reach broad and general conclusions about inaccuracy, one cannot simply study error and bias. If studies are designed just to test for bias, then they will either find bias (if successful) or nothing (if unsuccessful)—see Krugl & Funder, 2004, for a more detailed analysis of this point).

Either way, many such studies provide little or no information regarding accuracy. The only theoretically viable way to reach broad and generalizable conclusions about inaccuracy is to conduct accuracy research.

4. Is the Glass Really Only Half-Empty? Evaluating the Validity of More Balanced Perspectives

Another, not mutually exclusive, possibility is that some social psychological perspectives view people as often accurate and rational but, for a variety of reasons, consider error, bias, and irrationality more interesting and important. This perspective does not aim to create the impression that people are fundamentally irrational and overwhelmingly inaccurate. Proponents would probably agree that a more balanced impression of human social judgment and perception is warranted and desirable. Koriat et al. (2000, p. 522) reached a similar conclusion regarding research on the accuracy of memory.

"Second, while memory may in fact be more fallible and malleable than is assumed by the layman, it seems to be the trend in memory illness and false memories, spurred probably by real life problems, has led researchers to selectively focus on the dark side of memory, resulting in a somewhat biased picture."

Replace "memory" with "social perception and judgment" and this quotation might also aptly describe the current status of research on social cognition. For social scientists subscribing to a more balanced view, work focusing on accuracy is important to evaluate its validity. A balanced perspective would be largely justified if research typically found people arriving at biased and erroneous judgments to about the same extent that they reach unbiased and accurate judgments. However, such a perspective could also be unjustified in either of two opposing directions. First, perhaps, in general, people's social beliefs, perceptions, and judgments are indeed dramatically more prone to error and bias than accuracy (consistent with the first perspective); or second, perhaps, in general, people's beliefs, perceptions, and judgments are much more accurate than they are erroneous or biased. As Brunswik (1952) pointed out over 50 years ago, the only way to justifiably reach broad and general conclusions regarding the viability of the balanced perspective or either of the unbalanced perspectives is to conduct a great deal of research using a wide variety of methodologies that assess the accuracy of people's social beliefs, perceptions, expectations, and judgments in a wide variety of contexts—and only then trying to reach broad and general conclusions about the typical accuracy or inaccuracy of social judgments (see also Funder, 1987, 1995; Koriat et al., 2000 for similar points).

III. Why Addressing Controversies in Accuracy Research Is Important

The need to resolve theoretical and conceptual issues in the study of social perceptual accuracy is particularly acute. Thus is because, as shall be demonstrated throughout this chapter, many of the criticisms of accuracy research and even the concept of social perceptual accuracy have typically not been framed in terms of the types of alternative perspectives and debates that have framed other areas of social psychology (e.g., do attitudes strongly or weakly predict behavior? Is self-enhancement or self-consistency the dominant self-motive? Does affect precede cognition, or does cognition precede affect? Do individualizing information or stereotypes dominate person perception?). Instead, many of the criticisms of accuracy research have often been presented in such a manner as to imply or explicitly state that accuracy research is so flawed as to render the entire enterprise of dubious value, or at least not worth the effort. As a consequence, although theoretical controversies in any area often provide a rich springboard for inspiring research, in the area of accuracy, such controversies have historically tended to restrict and reduce such research by stigmatizing it.

Thus, addressing and resolving many of those controversies would seem to be a particularly valuable conceptual and methodological task. This review, however, does not merely identify those criticisms, difficulties, or...
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logical coherence, whether accuracy research provides insight into cognitive processes, why accuracy in perception of a behavior or trait must be distinguished from accuracy in explanations for that behavior or trait, how to distinguish self-fulfilling prophecy from source, why distinguishing among several levels of analysis is crucial with respect to: evaluating the accuracy of social stereotypes, whether accuracy research helps create or alleviate social problems, how accuracy can sometimes lead to diminishment, similarities and differences between establishing scientific construct validity and the accuracy of lay social beliefs, and the nature of some of the contributions to understanding social perception provided by componential and non-componential approaches to the study of accuracy.

IV. WHAT THIS REVIEW DOES NOT ADDRESS

A. CORRESPONDENCE VERSUS COHERENCE

Accuracy, in this review, involves correspondence between belief and reality, not logical coherence of belief. Logical coherence refers to the internal logical consistency of people's beliefs and perceptions and is best represented by the vast amount of research on logical flaws and errors in decision making and social judgment (e.g., Glicklich, 1991; Hastie & Dawes, 2001; Kahneman et al., 1982; Nisbett & Ross, 1980). Consider someone who estimates that there is a higher chance of 1000 people dying in California because an earthquake leads to a huge flood than there is a chance of 1000 people dying in the United States because of a flood (Tversky & Kahneman, 1983). These predictions are logically incoherent, because floods in California are a mere subset of all floods in the United States, and floods caused by earthquakes are a subset of all floods. Therefore, it is impossible for a flood caused by an earthquake that kills 1000 people in California to be more probable than a flood that kills 1000 people somewhere in the United States.

(1)Coherence is, at best, however, only weakly related to accuracy defined as correspondence (Wright & Drinkwater, 1997) present a detailed exposition regarding an empirical example of the weak relationship between coherence and accuracy. Let's say that the real probabilities of an earthquake causing a flood in California that kills 1000 people sometime next year is 1/1,000,000 and the probability of a flood killing 1000 people somewhere in the United States next year is 1/100. Now let's consider two perceivers generating intuitive probabilities: Social Judge CBI (Coherent but Inaccurate) and Social Judge IBMA (Incoherent but Mostly Accurate). Social Judge CBI
believes the real probabilities are 70% and 90%. CBI is logically coherent, but his estimates are wildly inaccurate.

Social Judge IBMA, in contrast, believes that the probabilities are 1/1000 (California) and 1/100,000 (U.S.), respectively. IBMA’s beliefs are logically incoherent, and her incoherence guarantees that her beliefs will not be perfectly accurate, because at least one of two, and perhaps both, incoherent beliefs must be inaccurate. Nonetheless, from the standpoint of accuracy as defined here (correspondence, independent of influence), IBMA’s predictions are far closer to the truth—that is, far more accurate—than are CBI’s.

Logical flaws, errors, and biases in the processes of judgment and decision making are extremely important, and nothing in this review is intended to, or should be interpreted as, challenging, undermining, or underestimating them. Such flaws in logic or process, however, do not usually provide much direct information about accuracy, as defined here. One can be coherent and accurate, coherent and inaccurate, incoherent and (largely) accurate, and incoherent and inaccurate. This review focuses exclusively on accuracy and does not address coherence further.

B. MAJOR EMPIRICAL ACOMPLISHMENTS OF MODERN WORK ON ACCURACY

This chapter does not review the major empirical accomplishments of accuracy research. Reviews of, for example, accuracy in personality perception (Funder, 1987, 1993, 1999), accuracy in dyadic interactions (Kenny, 1994; Kenny & Albritton, 1987), empathic accuracy (Echon, 1993, 1997), accuracy based on minimal information (Ambady & Rosenthal, 1992), memory (Koirist et al., 2000), and accuracy in social stereotypes (Fagley & Dijkman, 1997; Funder & Park, 1993; Lee et al., 1995; McCauley et al., 1980; Ryan, 1995, 2002) can all be found elsewhere. The purpose of this chapter is to describe how the myriad of conceptual and methodological criticisms and problems with, and obstacles to, conducting accuracy research can be resolved or have already been resolved by the existing scholarship regarding accuracy.

C. THE PHENOMENOLOGY OF ACCURACY

This chapter is not about the phenomenology of accuracy. Whether lay people do or do not see accuracy in the same manner as described here is an interesting issue but is beyond the scope of this review. The definition of accuracy here—probabilistic correspondence between belief and reality, independent of causal influence—is a scientific definition, not a description of or hypothesis about how lay people construe accuracy.

D. MORALITY AND LEGALITY

Universities cannot reject the application of a particular African American simply because one believes that, on average, African Americans score about one standard deviation lower than do Whites on their Standard Aptitude Tests (SATs). Such a rejection would clearly be immoral and illegal because the average characteristics of a group do not dictate the specific characteristics of any individual member. Nonetheless, the belief that African Americans, on average, score about 100 points lower on each of their SATs is accurate (e.g., Neisser et al., 1996). The claim about this particular applicant’s qualification, however, may be—but is not necessarily—wrong. Whether the claim that this particular applicant has low SAT scores is accurate depends on the applicant’s actual SAT scores. Although accuracy is sometimes intertwined with moral and legal issues, establishing accuracy is clearly a different endeavor than establishing morality or legality.

Sometimes, being accurate may be widely seen as offensive and immoral, especially if one is accurate when referring to others with intellectual, physical, or social limitations. This issue is particularly acute with respect to perceptions of groups. It is usually offensive to claim that “they,” as a group, have less of some socially desirable attribute or engage less in some socially desirable behavior than do other groups. This chapter primarily addresses issues of accuracy, without regard to whether accuracy might be considered offensive or immoral by some people or by the legal system. Moral and legal issues are extremely important and will be touched on in a later section addressing political objections to accuracy research and the complex interrelationships of accuracy, bias, and discrimination. Legal and moral issues are, however, generally beyond the scope of this chapter (see, e.g., Dawes, 1988; and Gottfredson, 1994, for discussions of situations in which U.S. courts declared it illegal for employers to use the most valid information available for making decisions about hiring new employees).

V. Structure of This Review

The subsequent critical evaluation of objections to accuracy research is divided into three major sections: a review of the major conceptual objections to accuracy research, an evaluation of the methodological criticism
that it is inordinately difficult to identify criteria for assessing the accuracy of social judgment, and an evaluation of the claim that it is only possible to assess accuracy with statistically sophisticated and difficult componential analyses.

VI. What Are the Main Conceptual Objections to Accuracy Research?
A Critical Evaluation of 50 Years of Criticisms

This section critically evaluates some of the most common substantive or theoretical objections to accuracy research (methodological and statistical objections, such as criteria and components, are considered in later sections). This includes claims that research on accuracy is less informative than research on error and bias because accuracy research provides little information about psychological processes; research on accuracy is unnecessary because research on social cognition already shows that social perception is generally inaccurate; research on accuracy is uninformative because it fails to address how perceivers explain others’ behaviors and attributes; accuracy, itself, may not be very meaningful because that which is “accurately” perceived may merely reflect prior self-fulfilling prophecies; and stereotype accuracy research is unnecessary because even a stereotype that fits a group will inaccurately describe most members of that group. It also addresses a political objection to accuracy research: that accuracy research, and especially research on the accuracy of social stereotypes, is immoral because it does little more than justify or reify existing social inequalities.

A. “COGNITIVE PROCESSES ARE IMPORTANT, ERROR AND BIAS IS IMPORTANT, BUT ACCURACY IS NOT”

1. Process

Researchers studying cognitive processes have frequently ignored accuracy and have periodically explicitly repudiated it (e.g., Fiske & Taylor, 1991; Jones, 1985, 1986; Stangor, 1995). One reason may be that, in its most simplistic form, accuracy research seems to provide no information about processes. Knowing only that a perceiver accurately judged some person or group does not tell us very much about that perceiver’s thought processes. This simplistic view of accuracy, however, does not characterize most accuracy research, nearly all of which does examine issues of social and cognitive processes. Brunswik’s (1952) Lens Model, Cronbach’s componential model, Funder’s (1993, 1999) Realistic Accuracy Model, Judd and Park’s (1993) componential model for studying stereotype accuracy, Ickes (1997) work on empathic accuracy, Jussim’s (1991) Reflection-Construction Model, and Kenny’s (1984) Social Relations Model all address the processes by which people arrive at accurate or inaccurate judgments regarding others (several of these will be discussed in detail later in this chapter). Thus, the idea that research on accuracy is unimportant because it does not address issues of process is false because process issues are central to accuracy research.

2. Error and Bias

Error and bias may be considered more important than accuracy by some researchers for several reasons. One may be that errors and biases are widely viewed as revealing psychological processes. This is true (see, e.g., Funder, 1987; Kahneman & Tversky, 1973), but this then becomes the “process” reason for not studying accuracy, which, it has just been argued, is flawed because accuracy research also addresses process.

Another possibility is that bad and foolish behavior is inherently attention grabbing, and rational and reasonable behavior rarely is (Aronson, 1999; Krueger & Funder, 2004; Schneider, Hastorf, & Ellsworth, 1979). It is frequently surprising and disarming to discover that we make systematic errors in certain types of situations. Identifying such errors is a potentially important first step toward correcting them and arriving at better judgments.

These reasons for emphasizing error and bias have validity. None, however, justify ignoring or dismissing accuracy research or the evidence of accuracy often available in studies of error and bias. Bad and foolish behavior may be attention grabbing, but presumably, scientists evaluate a phenomenon’s importance by factors such as its frequency, power, and place within some wider theoretical context. For example, scientists typically consider car driving more dangerous than airplane flying, because far more people die per mile traveled in cars than in airplanes. That airplane crashes are far more attention grabbing is seen as an interesting social psychological phenomenon but not as a basis for emphasizing the dangers of flying. Similarly, the greater attention-grabbing power of error and bias does not constitute a scientific basis for considering them more important than accuracy.

Furthermore, it is only possible to correct errors if we know what the correct judgment should be and we have means of assessing whether future judgments are correct. Accuracy research is essential if one is interested in correcting systematic errors. Therefore, an interest in improving human judgment does not constitute a basis for considering error and bias research more valuable than accuracy research. Overall, therefore, although these
reasons for emphasizing error and bias have validity, they do not justify de-emphasizing accuracy.

B. RESEARCH ON ACCURACY IS NOT NECESSARY BECAUSE THE SOCIAL COGNITION LITERATURE ALREADY SHOWS THAT SOCIAL PERCEPTION AND JUDGMENT ARE DOMINATED BY ERROR AND BIAS

Psychological research articles are filled with excellent experimental studies of cognitive processes that researchers interpret as indicating that bias, error, and self-fulfilling prophecies are likely to be common in daily life (e.g., Chen & Bargh, 1997; Fiske & Neuberg, 1990; Fiske & Taylor, 1991; Gilbert, 1995; Jost & Kruglanski, 2002; Kaufman et al., 1982; Nisbett & Ross, 1980; Stangor & McMillan, 1992). Therefore, another reason for dismissing or avoiding accuracy research may be that it is not seen as necessary. If errors and biases are identified, then, ipso facto, do we not know that people are inaccurate? In fact, however, we do not know this.

Conclusions regarding the power and prevalence of error and bias in daily life are only justifiable by research that examines the accuracy of people’s judgments, preferably under realistic conditions. No matter how much researchers believe that the processes discovered in the lab should lead to bias and error in daily life, the only way to find out is by assessing the accuracy of those social perceptions. This occurs for at least two separable reasons: some biases can coexist with some degree of accuracy, and some biases enhance accuracy.

For example, consider the “false consensus effect”—the phenomenon whereby people overestimate the extent to which others agree with them. A simple example shows how this is not necessarily mutually exclusive with accuracy. Consider a simple dichotomous choice, say between candidates from two political parties. Assume that 75% of the people in this district belong to one party and 25% to the other party, that all people prefer the candidate from their party and the existence of an extreme false consensus effect in this district—all people believe that their candidate receives the support of the majority. Of the people holding this belief, 75% will be correct (see also, Dermer, 1999). Similar analyses showing that bias can either coexist with or enhance accuracy have been applied to expectancy effects, social stereotypes, and interpersonal perceptions (Bueh & Ross, 1999; Janis, 1991; Kanay, 1994; Kenny & Attell, 1991; McCauley et al., 1980; Ryan, 1995, 2002). For example, stereotypes sometimes influence person perception judgments—a pattern routinely interpreted as evidence of bias and source of discrimination (e.g., Aronson, 1999; Bodenhausen, 1998; Borgida, Rudyman, & Manteufel, 1995; Darley & Gross, 1983; Fiske & Taylor, 1991; Fiske & Neuberg, 1990; Jones, 1986, 1990; Stangor, 1995). If the following two conditions are met, however, both Bayes’ theorem and regression principles predict that such a bias will enhance the accuracy of those person perception judgments: individualizing information is less than perfectly diagnostic, and the stereotype is itself an accurate characterization of the group (Janis, 1991). Such predictions were later confirmed by research empirically demonstrating that the college students who relied most heavily on stereotypes regarding the types of students who choose to live in different residence halls (hippies, preppies, etc.) also reached the most accurate judgments regarding particular individual residents (Bueh & Ross, 1999).

As a consequence, even if experimental laboratory demonstrations of error and bias readily generalized to daily life judgments, perceptions, and decisions—which is not always clear—they do not necessarily lead to the conclusion that those judgments, perceptions, or decisions are inaccurate. If one wishes to make general claims about the extent to which social perception and judgment are dominated by inaccuracies, one cannot rely simply on error and bias research; one needs to assess the accuracy of those judgments.

C. ACCURACY OF EXPLANATIONS: “JUST BECAUSE SOME PERSON OR GROUP IS CORRECT DOES NOT TELL US WHY OR HOW THE PERSON OR GROUP GOT THAT WAY”

One common criticism of accuracy research is that it fails to address explanations—either scientific ones or phenomenological ones—for how individuals or groups developed their characteristics. This criticism of accuracy research is implicit in perspectives indicating that accuracy cannot be studied or is meaningless because social processes and phenomena (e.g., discrimination, poverty) create the differences that are perceived (e.g., Char & East, 1998). It is similarly implicit in the common claim that stereotypes are flawed because they assume group differences are biological when they are not (see, e.g., critical reviews of the stereotype concept appearing in Ashton & Del Boca, 1981; Brigham, 1971; Janis, McCauley, & Lee, 1991; McCauley et al., 1980). Such perspectives indicate that demonstrating that people accurately perceive group differences is meaningless because it provides no information about either how people explain those differences or how those differences arose.
The claim that "demonstrating accuracy does not explain how or why those being accurately perceived felt that way" is absolutely true; however, it also fails to threaten or undermine the viability, importance, or informativeness of accuracy research. This applies to most existing research on accuracy.

For example, friends have been found to be more empathically accurate than strangers (Stinson & Ickes, 1992). Empathic accuracy refers to inferring one's partner's conscious thoughts and feelings. Consider a Perceiver who believes a Target is feeling hostile. This "objectification" (focusing on the accuracy of explanations leads to at least four different questions: Is the Perceiver right? What is the Perceiver's explanation for the Target's hostility? If the Target is hostile, how did he or she get that way? And why does the Perceiver believe the Target is hostile?

Providing an answer to one question provides no information about the others. For example, establishing that the Perceiver is correct (the Target really is feeling hostile) tells us nothing about how the Perceiver explains the Target's hostility. Maybe the Perceiver is a bigot who thinks that the Target's ethnicity makes him or her prone to hostility. Maybe the Perceiver thinks the Target was mistreated as a child. Maybe the Perceiver thinks that the Target watched too many old Clint Eastwood movies.

Similarly, establishing that the Perceiver is correct tells us nothing about how the Target became hostile. Maybe there are genes for hostility, and the Target has them. Maybe he or she was abused as a child. Maybe the Target has been watching too many old Clint Eastwood movies.

One could attempt to establish the validity of the Perceiver's explanation for the Target's hostility by comparing it to the "true" reasons for the Target's hostility, if they could be uncovered. Doing so would probably be a difficult task, but while bodies of research have addressed sources of hostile and aggressive behavior (e.g., virtually every social psychological textbook has an entire chapter devoted to explaining aggression), so it would not be impossible. Assessing the validity of the Perceiver's belief that the Target is hostile is simply a different endeavor than is assessing the validity of the Perceiver's explanation for the Target's hostility. That a particular study only focuses on assessing one type of accuracy does not falsify the scientific method of this necessarily explicit how or why the Perceiver came to believe that the Target is hostile. This is a social and cognitive process question, and process is important, but it is not an accuracy question. The accuracy issue evaporates here, because we are no longer evaluating the validity of the Perceiver's judgments, expectations, or beliefs. With respect to evaluating the validity of the Perceiver's belief that the Target was feeling hostile, it does not matter how the Perceiver explains the Target's hostility, it does not matter how the Target came to feel hostile, and it does not matter how the Perceiver came to believe that the Target felt hostile.

This analysis is equally applicable to evaluating the accuracy of people's beliefs about groups (stereotypes). No information about how people arrived at their beliefs about group differences, how they explain those differences, or how those differences actually emerged is provided by the now-abundant research showing that people perceive differences between two groups are often partially or largely accurate (e.g., Brodt & Ross, 1989; Dickman, Eagly, & Kellams, 2000; Hall & Carter, 1999; Judd, Park, Ryan, Brauer, & Kraus, 1995; Jussim, Eccles, & Madon, 1996; Madon, Jussim, Kepper, Eccles, Smith, & Polombo, 1998; McCauley & Stitt, 1978; McCauley & Thangavelu, 1991; Ryan, 1996, 2002; Ryan & Bogart, 2001; Swan, 1994). The lack of information about explanations constitutes a limitation to these studies. This limitation, however, does not threaten or undermine what they do show—considerable accuracy in people's perceptions of differences between demographic groups or between individuals from different groups.

D. ACCURACY VS. SELF-FULFILLING PROPHECY. "IT IS NOT MEANINGFUL TO DISCUSS 'ACCURACY' IF WHAT IS BEING 'ACCURATELY PERCEIVED' DOES LITTLE MORE THAN REFLECT SELF-FULFILLING PROPHETIES"

This objection specifies a very particular process by which those being perceived accurately became that way—self-fulfilling prophecies. This review gives it separate consideration because numerous researchers have specifically stated or could be read as implying that accuracy is meaningless because that which is accurately perceived could result from self-fulfilling prophecies; many perspectives on expectancies enthusiastically embrace self-fulfilling prophecies but question accuracy, in part on the grounds that accuracy is confounded with self-fulfilling prophecy; the main type of "accuracy" some theoretical perspectives discuss is the spurious form that results from self-fulfilling prophecies; and both accuracy and self-fulfilling prophecy involve a belief or expectation corresponding well with targets' outcomes so that the potential confounding of the two is particularly salient or obvious (Claire & Fiske, 1998; Jones, 1986, 1990; Joni & Banaji, 1994; Olson, Roese, & Zanna, 1996; Snyder, 1984; Snyder & Stukas, 1998; Swann, 1984).
The logic underlying this objection seems to be the following:

1. Self-fulfilling prophecies occur.
2. Therefore, differences between targets may reflect effects of self-fulfilling prophecies.
3. If differences that are perceived reflect self-fulfilling prophecies to some unknown degree, attributing "accuracy" to those perceptions is at best, misapplied, and at worst, rules differences produced through social processes.

There is some truth to this argument. Differences that are accurately perceived at some point in time may reflect effects of prior self-fulfilling prophecies. Furthermore, the confounding of self-fulfilling prophecy and accuracy clearly would be a problem in any situation (e.g., daily life, lab research) in which it was not possible to distinguish these two very different reasons for why a perceivers expectations might be confirmed. Simply showing that a perceivers belief corresponds well with targets actual attributes or behaviors, by itself, cannot distinguish accuracy from self-fulfilling prophecy. Researchers have, however, done far more than simply demonstrate correspondence between perceivers beliefs and targets attributes and behaviors.

1. A Wide Array of Methodological and Statistical Techniques Exists for Distinguishing Accuracy from Self-Fulfilling Prophecy

One technique is to have people judge targets with whom they do not interact (e.g., by judging them from resumes, college records, photographs, etc.). People cannot create self-fulfilling prophecies among targets with whom they do not interact. Therefore, by ruling out self-fulfilling prophecy, such designs allow for an assessment of the accuracy of person perception judgments (for examples, see Archer & Akert, 1977; Brody & Ross, 1998; Goldman & Lewis, 1977).

Other methods allow for the simultaneous assessment of accuracy and self-fulfilling prophecy. Although a detailed discussion of these methods is beyond the scope of this chapter, the core idea is simple: If perceivers expectations are self-fulfilling, they should predict changes in targets behavior or accomplishments over time. Theoretical models relying on structural equation techniques have been developed for distinguishing self-fulfilling prophecy from accuracy under naturalistic conditions (e.g., Justm, 1991; Madon, Guyl, Spoth, Cross, & Hilbert, 2003; Trouilloud, Sarrazin, Martinek, & Guillier, 2002; West & Anderson, 1976; Williams, 1976).

Therefore, criticisms along the lines of "If accuracy is confounded with self-fulfilling prophecy, the meaning of accuracy is clouded" are true, but only in the narrow literal sense of this conditional statement (i.e., if confounded, then clouded meaning). Numerous approaches have been developed that largely or completely unconfound the two.

2. "Prior Self-Fulfilling Prophecies May Influence That Which is "Accurately" Perceived"

The self-fulfilling prophecy problem, however, does not go away so easily. Even if any particular study can rule out self-fulfilling prophecy in that particular study, the differences that are "accurately perceived" may still have resulted from prior self-fulfilling prophecies that occurred in interactions outside the study (either with other perceivers or with the same perceivers outside the study). Much like the prior conclusions of accuracy research, however, although this claim is valid (prior self-fulfilling prophecies may indeed influence that which is accurately perceived), it does not undermine the value, viability, or interpretation of accuracy. The next sections explain why.

3. The Unconfounding of Impressions and Predictions. 1. The Perceiver Is Accurate Even if Self-Fulfilling Prophecies Resulting from Other Perceivers' Expectations Did Create Target Differences

Isn't it obvious at best and misleading at worst to attribute "accuracy" to a belief that is true only because of prior self-fulfilling prophecies? When this rhetorical question is treated scientifically, rather than rhetorically, the answer is a clear "no." Understanding why requires understanding the difference between impressions and predictions.

If target behavior, accomplishments, and so forth predilect perceivers' beliefs about the target, causality can only flow in one direction: from target behavior to perceivers beliefs. Those perceivers beliefs may indeed become self-fulfilling, but only with respect to future target behaviors. In this chapter perceivers beliefs developed on the basis of prior target behaviors, accomplishments, and so on are referred to as "impressions" and perceivers beliefs that might predict future target behaviors are referred to as "predictions."

The importance of this distinction is illustrated with a concrete example that can be used to explain the difference between accuracy and prediction.

Consider Miss Smith, a sixth-grade teacher, beginning a new school year. In looking through the records of her new students, she discovers Donna, who received As last year and scored in the top 10% on a statewide standardized achievement test, and Mary, who received Cs and Ds and scored in

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the bottom 30% of the same test. Miss Smith concludes that Donna has been a better student, a higher achiever, and knows the material better. Is there anything wrong, inappropriate, unjustified, confusing, confusing, unintelligible, or vacuous about Miss Smith’s evaluations? Is Miss Smith “blaming the victim”? Is the relying differences between Donna’s and Mary’s ethnic groups?

These are rhetorical questions because it is obvious that Miss Smith’s judgment is accurate, even if the difference between Donna and Mary resulted, in part, from prior self-fulfilling prophecies. Perhaps Donna’s parents strongly encouraged her participation in intellectual activities, whereas Mary’s parents did not. Perhaps Donna had a good teacher in fifth grade who inspired in her a commitment to educational achievement, and perhaps Mary had a teacher who was insulting and obstinate and who discouraged her. These and other potential self-fulfilling prophecy explanations do not change the fact that here and now, Donna has a much better record than does Mary. Believing anything else would be starkly incorrect.

4. The Unconfronting of Impressions and Predictions: If the Perceiver’s Impressions Can Be Accurate Even if Self-Fulfilling Prophecies Resulting from the Same Perceiver’s Expectations Did Create Target Differences

Again, the key issue here is time. If a swim instructor’s expectations trigger a learning interaction sequence such that those expectations cause the student (Jacques) to become an unusually fast swimmer, those expectations are self-fulfilling (e.g., Trouilloud et al., 2002). But, once Jacques has completed the race in record time, how should the swim instructor perceive him? Would the swim instructor be most accurate if she perceived Jacques as a slow, awkward, incompetent swimmer? Or even as an average swimmer? Again, the answer is obvious. A “problem” arises only when we fail to distinguish between impressions and predictions (keeping in mind that today’s impression can become tomorrow’s prediction).

5. Self-Fulfilling Prophecies Occur but Do Not Invalidate Accuracy

Although self-fulfilling prophecies sometimes occur, one cannot assume that differences between any two people or groups result from self-fulfilling prophecies. Such a claim requires specific empirical justification (i.e., empirical evidence that self-fulfilling prophecies caused the differences among the particular targets being studied). Citation of a handful of dramatic self-fulfilling prophecy studies (e.g., Rosenthal & Jacobson, 1968; Snyder, Tanke, & Berscheid, 1977; Word, Zanna, & Cooper, 1974) does not constitute adequate justification for a new claim that self-fulfilling prophecies caused differences among a new set of targets because so much other research shows that expectancy effects are far from inevitable, powerful, or permanent (see, e.g., meta-analyses and reviews by Brophy, 1983; Jussim, 1991; McNatt, 2000; Razoumov, 1984; Rosenthal & Rubin, 1978). Thus, the claim that accuracy cannot be studied because prior self-fulfilling prophecies might influence that which is accurately perceived includes a core falsehood (“accuracy cannot be studied”) enveloped in a good and valid point (“prior self-fulfilling prophecies might influence that which is accurately perceived”). Prior self-fulfilling prophecies might have influenced that which is perceived, but it does not mean accuracy cannot be studied.

E. STEREOTYPE ACCURACY AND LEVELS OF ANALYSIS

The following represents a distillation of a criticism of the notion of stereotype accuracy that has periodically appeared in the social psychological literature (e.g., Allport, 1955; American Psychological Association, 1991; Fiske, 1998; Hamilton, Sherman, & Ravolo, 1990; Nelson, 2002; Stangor, 1995).

Even if it can be successfully shown that perceivers accurately judge two groups to differ on some attribute,

1. Perceivers cannot assume that their stereotypes of the group automatically fit all members of the group.
2. Perceivers cannot apply their belief about the group when judging individuals.
3. If perceivers do apply their belief about the group when judging individuals, they are likely to be wrong much of the time because few members perfectly fit the stereotype.

If all stereotypes are known to be largely inaccurate (as this logic suggests), the need to assess their accuracy would be rendered moot.

This criticism has some validity, but that validity depends, in part, on what this type of statement means. To the extent that the “perceivers cannot” statements represent moral injunctions, rather than statements about accuracy, they are beyond the scope of a consideration of the accuracy of social beliefs.

However, to the extent that “perceivers cannot” means “they would reach inaccurate judgments if they did,” these arguments are a central focus of this chapter. This line of reasoning’s suggestion, however, that all stereotypes are inaccurate because most members of a group fail to fit a stereotype is only partially justified. It is true that most members of a group will fail to
perfectly fit a stereotype. This, however, does not mean that the stereotype is inaccurate. To understand why requires understanding how this reasoning confounds at least three different levels of analysis and how considerably greater conceptual clarity can be brought to understanding stereotype accuracy by clearly distinguishing among these levels of analysis. Table I presents an analytic breakdown of different levels of analysis at which accuracy can be assessed.

1. Stereotypes as Perceptions of Populations

The first row in Table I refers to stereotypes—beliefs (or generalizations) about whole populations (typically, but not always, large demographic groups). The level at which one must measure the criterion for assessing the accuracy of beliefs about groups is the population that comprises that group. Claims about the characteristics of New Yorkers (or women or African Americans or librarians) should be compared with the characteristics of a representative sample or the whole population of New Yorkers (or women or African Americans or librarians). It is not possible to evaluate the accuracy of a belief about Asians in general by using as a criterion the characteristics of a particular Asian target. To do so would be equivalent to evaluating the claim that “Alaska is cold” by measuring the temperature at noon in July 4 in Anchorage.

Census figures, results from randomly selected samples, and meta-analyses of hundreds of studies have all been justifiably used as criteria against which to compare the accuracy of people’s stereotypes (e.g., Judd et al., 1995; McCauley & Stitt, 1978; Swin, 1994; although, how to measure criteria when assessing accuracy is discussed in detail later in this chapter). The evidence that has slowly accumulated regarding the validity of people’s beliefs about populations is that they are usually, though not always, at least moderately accurate, and that people are about as likely to underestimate as to overestimate real differences between population groups (see, e.g., Dickman et al., 2002; McCauley, 1995; Ryan, 2002). Such research, however, cannot and was never intended to evaluate the accuracy of people’s perceptions of individuals from different groups, which requires a level of analysis below that of whole populations.

2. Stereotypes and Person Perception: Accuracy and Bias in Judging Differences Between Individuals from Different Groups

The second row of Table I presents a second level of analysis for assessing accuracy—that of perceptions of differences between individuals belonging to different groups. Perceivers making claims about the differences between the Christians and atheists they know personally, or between their own sons

<table>
<thead>
<tr>
<th>Level of analysis</th>
<th>Social belief in a</th>
<th>Level of criteria for assessing accuracy of that social belief</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Stereotype Regarding as Entire Population</td>
<td>Population</td>
</tr>
<tr>
<td>(This level assesses the accuracy of a stereotype about a group)</td>
<td>Example: 1. An introductory psychology student believes that White Americans are wealthier than African Americans.</td>
<td>1. Income of White Americans and African Americans in a nationally representative sample or in the U.S. Census.</td>
</tr>
<tr>
<td>Research example:</td>
<td>2. A high school teacher believes that teenage boys are better at math than teenage girls.</td>
<td>2. Meta-analyses of hundreds of studies examining sex differences in teenagers’ math performance.</td>
</tr>
<tr>
<td>Judd et al., 1995;</td>
<td>Perception of Differences Between Specific Individual Members of Social Groups</td>
<td>Small Groups</td>
</tr>
<tr>
<td>Swin, 1994</td>
<td>Example: 1. An introductory psychology student sees little difference between the wealth of African American and White students in his class.</td>
<td>1. The wealth (net worth: purely income) of the African American and White students in that student’s introductory psychology class.</td>
</tr>
<tr>
<td>Small Group</td>
<td>2. A high school teacher believes the girls in her class are doing better at math than the boys in her class.</td>
<td>2. Performance in class and on standardized tests of the boys and girls in this teacher’s class.</td>
</tr>
<tr>
<td>(This level assesses the accuracy of beliefs about differences between specific individual targets belonging to different groups)</td>
<td>Person Perceptions</td>
<td>Individuals</td>
</tr>
<tr>
<td>Research example:</td>
<td>Example: 1. An introductory psychology student believes that Mary Anser is wealthier than Bobbi who is wealthier than Lois.</td>
<td>1. Mary Anser’s, Ralph’s, and Lois’s wealth.</td>
</tr>
<tr>
<td>Funder, 1987</td>
<td>2. A high school teacher believes that John is doing better at math than Bobbi who is doing better than Lois.</td>
<td>2. John’s, Bobbi’s, and Lois’s performance on math tests.</td>
</tr>
<tr>
<td>Judd, 1989;</td>
<td></td>
<td></td>
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<tr>
<td>Kenny, 1994</td>
<td></td>
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</tbody>
</table>
and daughters, or between the police in two different towns, are all making claims about differences between small groups. They are not necessarily making claims about whole populations. A soccer coach might believe that the girls on her team play better than the boys on her team, and necessarily believing that girls are typically better soccer players than boys. This level of analysis addresses the role of stereotypes in causing systematic inaccuracy in perceiver judgments about individuals they know personally. Such claims occur at a different, smaller, level of analysis than do claims about differences between whole populations.

Assessing the accuracy of the perceived difference at this level of analysis must be accomplished by comparing the perceived mean difference between targets from differing groups to the actual mean difference. A handful of studies have addressed accuracy at this level of analysis. For example, Clarke and Campbell (1955) had students (African American and White) predict each other’s performance on an upcoming test. White students’ perceptions were a mix of accuracy and bias (slightly underestimating African American achievement), whereas the African American students predicted the achievement of the African-American students quite accurately (they did not report results for each group’s predictions of White students). Other research has assessed the accuracy of teachers’ perceptions of differences between students from different demographic groups in their classes and the accuracy of college students’ perceptions of individuals belonging to different college residence halls, and has found a similar pattern of high accuracy and small bias (Brodi & Ross, 1990; Janisim et al., 1996; Madson et al., 1998).

3. Person Perception

The third row of Table 1 presents a third level of analysis—the individual target. At this level of analysis, most stereotype accuracy questions disappear. Accuracy in the perception of differences between individuals belonging to different groups can now be assessed. Without some comparison of differences in perceptions of groups (large or small), only accuracy in the judgment of individual targets can be assessed.

For example, many studies examine how well teachers’ perceptions of their individual students’ performance corresponds with those students’ actual performance (Jussim & Harber, in press). How teachers arrive at their perceptions—whether through the use of stereotypes, shoe size, or acute insight—is not relevant at this level of analysis in evaluating the accuracy of their judgments of individual students. No matter how they arrived at their evaluation of a student, that evaluation either is or is not well-justified by that student’s actual performance. Similarly, each of several perceivers might judge the personality attributes of each of several new acquaintances. Accuracy is determined by comparing the judgments to some criteria for measuring those acquaintances’ personalities. Accuracy at this individual level of measuring is frequently at least moderately high (e.g., Funder, 1987; Jussim, 1991; Kenny, 1994).

Although stereotypes might influence those judgments, the role of such influences in accuracy can rarely be determined at this level of analysis. Instead, to determine whether stereotypes increase or reduce accuracy in judgments of individuals, researchers will usually need to group targets (by gender, ethnicity, or whatever stereotype one is studying) and then compare perceived group differences to actual group differences (i.e., at the intermediate level of analysis shown in Table 1). For example, a business owner’s evaluations of employees might correlate A with those employees’ overall performance, indicating moderately high accuracy. Such accuracy tells us nothing, however, about whether the owner exaggerates differences between male and female job performance.

Few of the large number of studies comprising the stereotypes and person perception literature were designed to assess accuracy. Instead, most were intended to assess psychological processes involved in stereotyping. Thus, although they do not address accuracy, this limitation does not constitute a threat to the main purposes of such studies. It is nonetheless important to highlight their inability to address accuracy, because so much of the discussion of this literature states or implies that stereotypes typically lead to inaccurate judgments of individuals (American Psychological Association, 1991; Darley & Fazio, 1980; Fiske, 1998; Fiske & Neuberg, 1990; Jones, 1986, 1990; Jost & Kruglanski, 2002).

One reason for this common misinterpretation of this literature is that it often yields results showing that, even when targets have identical personal characteristics, accomplishments, or behaviors, people view targets differently, depending on whether they belong to one group or another. If two people (or people in two experimental conditions) hold different views of targets with identical personal characteristics, doesn’t this imply that that at least one of them must be wrong? Not necessarily.

First, few such studies included targets with real attributes against which the accuracy of perceiver judgments could be evaluated. In the absence of targets with real behaviors and attributes, it is often impossible to evaluate the accuracy of perceiver judgments. For example, there rarely are...
standards against which to compare perceivers' behavioral predictions or trait inferences regarding fictitious targets invented by researchers. Second, many researchers seem to assume that when targets' behavior is identical, perceivers reaching different conclusions regarding targets from different groups are inherently inaccurate. This assumption is true sometimes, but not always. For example, if two students get 8 of 10 math problems correct on a test, perceiving those students as correctly solving 8 of 10 problems is the only correct perception. In this situation, if two individuals or groups differ in their estimation of the number of problems correctly solved, one or both must be inaccurate. However, if the judgment task involves inferring their general level of intelligence or predicting their future performance, it might not be accurate for the inferences and predictions to be identical. For example, if one student was in an enriched math class and the other in a remedial math class, the most accurate inference and prediction might not be identical, despite the students' identical performances on this one test. Most likely, the students were placed in these different classes because they had dramatically different records of past math achievement. Even if the perceivers were not aware of these differences, they would typically be more accurate predicting that the student in the enriched class would perform more highly in the future than would the student in the remedial class (as compared to predicting their performance to be identical).

Last, in the rare cases in which experimental studies of the role of stereotypes in person perception include clear criteria for evaluating accuracy, almost none include no label or no stereotype control groups. It is possible that, although label A may increase accuracy relative to label B, any label increases accuracy compared to no label. To reach conclusions about whether relying on a stereotype or having a label to guide perception increases or decreases the accuracy of perceivers' judgments, of course, such control groups would be necessary. Although many perspectives suggest that reliance on stereotypes is both inaccurate and immoral (e.g., American Psychological Association, 1991; Devine, 1995; Fiske, 1998; Fiske & Neuberg, 1991; Jones, 1986; Stangor, 1995), the only study providing data capable of empirically comparing the accuracy of person perception judgments in the presence versus absence of a label (Cohen, 1981, experiment 2) found that having a stereotype label before exposure to a target increased accuracy.

4. Stereotype Accuracy and Level of Analysis: Conclusion

Claims suggesting that stereotypes are inaccurate because they do not apply to all individual members of a group (Allport, 1958; American Psychological Association, 1991; Fiske, 1998; Hamilton et al., 1990; Nelson, 2002; Stangor, 1995) are both true and false. The claim that stereotypes cannot possibly apply to all individual members of a group is completely true. The suggestion that this renders stereotypes inaccurate is, however, unjustified because it confounds two levels of analysis (population and individual). A claim about a population cannot be evaluated against the characteristics of an individual, or even against subsets of individuals. Consistency between the level of the perception and the level of the criterion must be maintained when assessing accuracy by comparing beliefs about populations (stereotypes) to characteristics of those population groups, beliefs about differences between small groups of individuals to the actual differences between those small groups of individuals, and beliefs about an individual to the characteristics of that individual.

5. The One Exception: Absolutist Stereotypes

Absolutist stereotypes—beliefs that all members of a group have some attribute—will indeed almost always be false, because there are almost always wide variations among individuals. A single exception invalidates an absolutist belief. Just as a belief that the temperature in all locations in Alaska is always below freezing will be disconfirmed by a single reading of 33 degrees Fahrenheit in Juneau on July 13 at 1 p.m., a belief that all Germans are efficient will be disconfirmed by discovery of a single inefficient German.

The vast accumulated empirical evidence on stereotypes, however, has yet to report a single person who holds absolutist stereotypes. Instead, the evidence indicates that most stereotypes are quantitative and probabilistic, not absolute (e.g., Judd et al., 1995; McCauley & Stitt, 1978; Swian, 1994). Probabilistic stereotypes, which permit many exceptions and wide variability, can only be evaluated by comparison to population-level criteria. People who hold absolutist stereotypes undoubtedly do and probably compropose significant portions of extremist groups such as the Ku Klux Klan and neo-Nazis. Nonetheless, such people are atypical of the participants in most scientific research on stereotypes.

F. POLITICAL OBJECTIONS

Politics seems to lead to both explicit and implicit objections to accuracy research—especially research on the accuracy of stereotypes. First, people's political stances may lead them to be more likely to raise scientific concerns about research that they perceive as opposing their political positions than about research that supports their political stances (e.g., Lord, Ross, &
Lepner, 1979). This will almost never be stated quite so explicitly. No researcher will ever state "I am a liberal" (or "I am a conservative") or "Because I find this research politically offensive, I am going to work extra hard to come up with intellectual arguments against it." Furthermore, people may often not even be aware of how their politics influence their reactions to research.

Politics, however, seems to be a major basis for considering stereotype accuracy research to be a "problem" (e.g., Fiske, 1998; Stangor, 1995) while at the same time not considering research on, for example, automatic stereotyping, ingroup favoritism, ambivalent sexism, or subtle racism to be problems. These areas have their own substantial degree of theoretical and empirical controversy and complexity, so it would be difficult to make the case that stereotype accuracy research is more problematic than other areas on purely scientific grounds. Thus, political issues often remain implicit underlying objections to accuracy research, rather than explicit statements. Occasionally, however, political objections to accuracy research have been explicitly articulated.

1. What Is the Political Criticism of Accuracy Research?

The main political objection is that accuracy research, at best, does not help anyone, and at worst, it helps exacerbate social inequalities. Specifically, accuracy research has been accused of doing little more than reifying or reflecting socially constructed injustices or assisting bigots and oppressors in their racist goals (e.g., Claire & Fiske, 1998; Fiske, 1998; Jost & Banaji, 1994, 1995). Before evaluating the validity of this criticism, why accuracy motivates this type of politically based criticism is briefly discussed.

2. Why Does Accuracy Arouse Political Motivations?

Accuracy runs against the grain of many social scientists' concern for helping alleviate social inequalities and injustices. Demonstrating that some aspects of many people's sex stereotypes are accurate (Dekman et al., 2002; Hall & Carter, 1999; Swin, 1994) or that some aspects of many people's racial stereotypes are accurate (McCay & Stitt, 1978; Ryan, 1996, 2002; Ryan & Bogart, 2001) does little to alleviate or explain injustices associated with sexism or racism. Worse yet, demonstrating social perceptual accuracy can be viewed not merely as documenting high accuracy in perceiving individual and group differences but as reifying those differences.

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To say that a belief that some child is unintelligent or is awkward on the basketball court or is socially inept is "accurate" has a feel of "blaming the victim." If the belief is accurate, then we cannot point to perceivers' errors, biases, misconceptions, egocentrism, or ethnocentrism as explanations for target difficulties. The unintelligent, unathletic, or socially awkward target, in these cases, really is flawed in some way. It is especially distressful to suggest that some negative beliefs regarding large demographic groups (e.g., stereotypes) are valid. People who publicly declare that two groups differ in some societally valued attribute (intelligence, motivation, propensity for alcoholism or crime, morality, etc.) run the risk of being accused of being "ist" (racist, sexist, classist, etc.) or, at minimum, of holding beliefs that do little more than justify existing status and hierarchy arrangements (e.g., 1994; Sidanius & Pratto, 1999).

In contrast, an emphasis on bias and error implies a benevolent and egalitarian concern with injustice. Such an emphasis implies that the empha-
sist believes that so-called "real" differences between groups do not result from any actual attributes of members of those groups (their cultures, their religions, their history, their economic conditions, their geography, their practices, their politics, their genetic predispositions)—they result solely or primarily from the oppressive effects of others' misbegotten beliefs.

In addition, an emphasis on cognitive errors and biases provides a clear villain—the person committing the error or bias. It also points to a relatively straightforward way to ameliorate some social inequalities—change the source of the bias (people's beliefs, expectations, processing, motivation, etc.). Whereas belief change is not necessarily an easy thing to accomplish, it is much easier than changing the mean level of competence among a large portion of the population.

In contrast, if the belief about group differences is accurate, then changing the situation may require work on a grand scale. To make groups more equal, we must upgrade one group's competence (we could also downgrade the higher-status groups' competence, which may appeal to some people with deeply felt resentments, but which most scientists would agree is not the optimal solution). Doing so may require years of education, training programs, mentoring, and the like. This is both much more labor intensive and typically not under the purview of most social psychological activities.

Furthermore, a series of studies on inter racial stereotypes in the United States have converged on the conclusion that many Whites have adopted an "egalitarian" ideology that, as part and parcel of its emphasis on intergroup equality, actively denies differences between groups (Judd et al., 1995; Ryan, 1996, 2002; Wozniak, Park, Judd, & Wittmerbriek, 2000). This denial-of-
difference ideology is not shared by many African Americans, who have adopted a "multicultural" ideology that involves acknowledging both the
positive and negative differences between groups (see also Lee et al., 1995; Ryan, 2002 for discussions of the similarities between multiculturalism and stereotype accuracy). Nor is this denial-of-difference ideology shared by many researchers outside the United States—despite active programs of research on stereotypes and prejudice in Australia, Canada, and Europe, the most vigorous critiques of the concept of accuracy, especially when applied to stereotypes, have been produced by American researchers (e.g., Clance & Fiske, 1998; Fiske, 1998; Jones, 1985, 1986; Stangor, 1995). In contrast, for example, an Australian team, in a broad and sweeping review of research on stereotypes, characterized the social cognition emphasis on stereotype inaccuracy as "mythic" (Oakes, Haslam, & Turner, 1994).

Regardless, researchers (whether White or not, and whether in the United States or not) who share the type of denial-of-difference egalitarian ideology uncovered in the research by Ryan and Judd and their colleagues may be offended by research on stereotype accuracy because it implies the potential existence of bona fide differences between groups. This may also help explain the relatively greater political appeal to many social psychologists and other social scientists of error, bias, and prejudice compared to accuracy, especially with respect to stereotypes.

3. Are the Political Criticisms Justified?

Does accuracy research blame the victim and justify and exacerbate inequalities, as suggested by the politically motivated criticisms? Social and political judgments have the potential to influence all sorts of research, especially in the social sciences (Herrnstein & Murray, 1994; Jacoby & Glaserberman, 1995; Redding, 2001). In this sense, political analyses of accuracy research are justified, but no more than they are in other areas of research. Accuracy research is neither more nor less subject to such influences than other social science research.

The idea that accuracy research somehow reifies, creates, or justifies social inequalities and injustices is simply false—at least if the criterion is what researchers studying accuracy have actually written. I know of no articles that provide or review evidence of accuracy that state, imply, or even hint that accurately perceived differences between individuals or groups reflect immutable, permanent, or essential features of those people (see, e.g., Brophy, 1983; Eagly & Diekmann, 1977; Funder, 1987, 1995; Ickes, 1993, 1997; Judd & Park, 1993; Kientz, 1994; Lee et al., 1995; McCalley et al., 1980; Ryan, 1995, 2002). Regardless, as is most social science fields, strong steps can be taken to considerably reduce political bias from entering into consideration of issues involving accuracy (discussed later in this chapter; see also Funder, 1987, 1995; Judd & Park, 1993; Kenny, 1994; Ryan, 2002).

Whether it is scientifically and politically more appropriate to deny and ignore group differences or to understand and acknowledge such differences is clearly a contested and controversial issue. For both scientific reasons (discussed throughout this chapter) and political reasons (discussed next), accuracy research involves understanding and acknowledging such differences.

4. Accuracy Research As A Tool in the Alleviation of Social Problems

Even if the sole purpose of research were to alleviate social problems, wouldn’t we want to know whether people’s beliefs about groups and their individual members (i.e., stereotypes) are accurate? We should want to know for several reasons. First, if we think we are curing a social disease by changing people’s inaccurate, biasing, or misbegotten beliefs about groups, our efforts will be sorely misguided if their perceptions of groups and individuals are already accurate. Second, if some beliefs are widely inaccurate and some are reasonably accurate (as is likely the case), only research directly and empirically assessing the accuracy of stereotypes could possibly tell us which beliefs and whose beliefs need to be changed through social interventions.

Furthermore, we need to be able to assess and understand accuracy to improve the quality of people’s judgments and evaluations. Only after determining that some people hold highly inaccurate beliefs would it be reasonable to begin work on changing those beliefs. Work on changing inaccurate beliefs itself would only be useful if it were conducted after we knew how to lead people to arrive at more accurate judgments. Of course, there will be no way to assess our success at leading people to adopt more accurate beliefs unless we have techniques to assess accuracy. By understanding what leads people astray and what leads them to accurate judgments, we will be much more capable of harnessing those factors that lead to accurate judgments and, therefore, reduce social problems resulting from inaccurate beliefs.

5. Accuracy Can Lead To Discrimination

Although most of the political criticisms of accuracy and accuracy research are not justified, social perceptual accuracy can indeed lead to unequal distribution of valued resources to different groups and to discrimination. The perspective taken in this chapter is that it is more valuable to understand the social and psychological processes that might lead accuracy to cause discrimination than to simply deny the existence of
accuracy or to suppress accuracy research. At least two classes of such situations are distinguishable: situations in which accurately perceived group differences lead to justifiable differences in group outcomes, and situations in which accurately perceived group differences lead to unjustified outcomes for at least some individuals. Each class is discussed next.

a. Accurately Perceived Bona Fide Differences Between Individuals from Different Groups Can Lead to Group Differences in Outcomes. People with low incomes, for example, will typically not be eligible to receive as large a mortgage from a bank as are people with higher incomes. If bank loan officers accurately judge others' wealth and income, they will offer larger mortgages to wealthier people. Regardless of whether one considers this evidence of discrimination against poor people, demographic groups often differ in their wealth. On average, in the United States, Asians, Whites, Latinos, Native Americans, and African Americans rank from highest to lowest, respectively, in yearly household income (U.S. Census, 2002). If bank loan officers are good at judging wealth, and even if they are completely unbiased, Asians will be more likely to be approved for larger loans than will be African Americans.

Similarly, many middle-class jobs require a college education. In the United States, a higher proportion of Whites than Latinos complete college. Therefore, even if race and ethnicity-based discrimination evaporated, employers who accurately evaluate applicants' level of education would provide proportionately more of those jobs to Whites. Accurately perceived differences in skills, competencies, accomplishments, and so forth between individuals belonging to different groups can sometimes produce mean group differences in valued societal outcomes (jobs, college admissions, etc.).

b. Accuracy Leads to Bona Fide Discrimination. It is also possible, however, that accurately perceived group differences can simultaneously lead perceivers to be as accurate as possible in their judgment of individuals and to unfairly discriminate against many members of certain groups. Because this issue is politically charged, a nonsocial example is used first to illustrate the basic principles.

A U.S. penny is almost, but not quite, perfectly balanced—when flipped in the air, it will come down as heads slightly more frequently than tails. If one wished to successfully predict the outcome of a coin toss, one would maximize one's accuracy by predicting heads 100% of the time. Such a person could be justifiably characterized as having an "extreme heads bias," but the predictions would also be as accurate as possible.

Such a situation characterizes U.S. car insurance policy rates. Young people, and especially young males, are legally charged far more for car insurance than are middle-aged adults. This is because young people,

and especially young males, are actuarially more likely to have accidents. Although undoubtedly true at the group level, this policy clearly discriminates against individual young adults who drive safely.

A structurally similar situation, but one in which the discrimination is illegal in the United States, is one in which a bank uses race/ethnicity as a basis for making loans. Because credit history and past income are not 100% diagnostic of future ability to pay, however, in an actuarial (or Baye's theorem) sense, it might be more accurate to predict that an Asian with a mixed credit history will be more likely to pay of a loan in the future than will a Native American with an equally mixed credit history. Nonetheless, instituting a policy that denied loans to Native Americans with credit histories comparable to those of Asian Americans who received loans would clearly constitute illegal discrimination.

The potential for bias to enhance accuracy and then to produce discrimination is probably one of the least well understood (or perhaps nearly least discussed) processes and set of interlocking phenomena in the social sciences. Bias is frequently seen as implying inaccuracy; accuracy is frequently assumed to be antithetical to bias and discrimination. Such a view is, however, not only seriously flawed, but may account for some of the resistance to and criticisms of accuracy, and especially stereotype accuracy, within social psychology. To the extent that researchers view accuracy as conflicting with their egalitarian goals of alleviating social problems, it is understandable that they may be tempted to demigrate accuracy research. But understanding that bias sometimes enhances accuracy, that accurately perceived group differences in inputs may lead to group differences in outcomes, or that biased and discriminatory predictions may be as accurate as possible under some circumstances seems crucial with respect to the scientific analysis of intergroup relations and social policy.

The goals of accuracy and social justice sometimes conflict. It seems unlikely that deciding how to reconcile those goals will be best accomplished by merely denying accuracy. It seems more likely that a thoughtful understanding of the ways in which accuracy, bias, and discrimination are intertwined, and not necessarily mutually exclusive, could contribute to informed and durable policy decisions regarding issues such as civil rights legislation, antidiscrimination laws, and affirmative action. Social scientists and lawmakers will be in a much stronger intellectual position to weigh the relative costs and benefits of accuracy and egalitarianism when making policy if they have a more complete understanding of those costs and benefits than if they merely deny lay accuracy or attempt to suppress accuracy.

ACCUACY IN SOCIAL PERCEPTION
6. Conceptual Objections to Accuracy Research. Conclusions

Within social psychology, accuracy research has had a turbulent and controversial history, which probably helps explain why such little research on accuracy was performed from about 1955 to 1985. This, in turn, may help explain the minimal discussion of accuracy in most major reviews of social cognition and social perception phenomena, such as stereotypes, expectancies, schemas, categorization, attribution, and person perception (see, e.g., the 1985, 1996, and 1998 editions of the Handbook of Social Psychology, and the last 30 years of Annual Review chapters on these topics).

This section has reviewed many common conceptual objections to accuracy research. It has suggested that many of these objections have considerable validity, in the sense that the criticisms may be true and in that they often raise interesting and important questions. Accuracy in perceptions of an attribute really is different than accuracy in explanations for that attribute. Prior self-fulfilling prophecies might explain some differences between targets that are accurately perceived. Despite whatever validity they might have, however, this critical evaluation of the common criticisms leads to the conclusion that none constituted serious threats to the value or interpretation of existing research on social perceptual accuracy.

One important and common objection to accuracy research has not yet been discussed—the so-called criterion “problem.” The selection and identification of appropriate criteria for evaluating accuracy has been frequently characterized as a problem sufficiently severe to call the viability of accuracy research into question (e.g., Fiske, 1998; Jones, 1985; 1996; Snyder & Stukas, 1998; Stangor, 1995). Next, therefore, this review will critically evaluate whether such issues are more complex or problematic than those facing most areas of psychological research.

VII. How Can One Establish Criteria for Evaluating the Accuracy of Social Perception?

Only gods know Absolute Truth. The goal of accuracy research is not to establish Absolute Truths. Instead, the criteria against which social beliefs should be evaluated are similar to the criteria against which psychological hypotheses are evaluated—truths with a small “t.”

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A. TRUTH WITH A SMALL “t”

Truth with a small “t” is evidence, preferably from a variety of sources, indicating that some belief is valid (true, warranted, justified, etc.). In short, the solution to the problem of partially fuzzy, intangible constructs is to establish their validity through multiple methods and approaches (e.g., Campbell & Stanley, 1963; Cook & Campbell, 1979; Cronbach & Meehl, 1955). Truth with a small “t” is typically established via rigorous methodological variations of the “duck” test (Block, 1993; Funder, 1995). If it looks, walks, acts, and sounds like a duck, although the possibility remains open that it really is an ansecope, sport utility vehicle, alien visitation, or bacterial growth, it is most likely a duck. A person is, of course, more likely to confuse a duck with a goose or a cornman than with the Statue of Liberty or a praying mantis. Even if that goose is believed to be a duck, however, probabilistic realism further assumes that it would eventually be possible to receive information that corrects this faulty view.

The same analysis applies to all the fuzzy attributes studied by psychologists. Does Voter A have a positive attitude toward the current president of the United States? We might ask A whether she supports the current president, voted for him in the last election, likes him, would vote for him in an election held today, and belongs to the same political party as the president. If Voter A says she does support and like the president, voted for him last time, would vote for him again, and belongs to his political party, classifying her as having a positive attitude toward the president does not seem unreasonable. A similar analysis could be applied to mental and emotional states, self-esteem, personality, expectations, schemas, intelligence, stereotypes, prejudice, motivation, and indeed, the whole panoply of constructs studied by psychologists. The myriad of papers on these and similar hypothetical, intangible constructs are written as if the authors believe these constructs are real. If the constructs filling the journals and texts are “real enough” for psychologists to study in their scientific research, why are they not “real enough” to constitute criteria for evaluating the accuracy of social perception, social beliefs, and social judgments?

B. CONSTRUCT VALIDITY AND SOCIAL PERCEPTUAL ACCURACY

There are only two logically coherent possibilities with respect to the issues of construct validity and criteria for social perceptual accuracy. One possibility is that the constructs routinely studied by psychologists have no
realities, so that the articles relying on and reporting them are meaningless and it makes no sense to use meaningless criteria in research on accuracy. This perspective, though logically coherent, is far too extreme and has few proponents (except perhaps some radical social constructivists) who characterize mainstream social science research as, to exist, story-telling (e.g., Gergen, 1985).

A second possibility is that the constructs routinely studied by psychologists are real enough, so that the articles relying on and reporting them are meaningful. It would, therefore, make sense to use those some criteria when studying accuracy. This is the perspective advocated here. Of course, even this perspective presumes that the criteria really exist and are not, as good (or bad) as the same criteria, regardless of whether they are used in self-fulfilling prophecy research or in accuracy research.

Researchers are logically coherent if they accept the criteria used to establish correspondence between perception and reality in both self-fulfilling prophecy and accuracy research, a position that is well-justified. A position suggesting that "both accuracy research and self-fulfilling prophecy research should be dismissed" because of criteria problems is internally inconsistent and logically coherent. This position is so extreme, however, that no articles advocate it. It would be, however, logically incoherent to accept the criteria used to establish correspondence between perception and reality in the service of self-fulfilling prophecy research while rejecting the same criteria when used to establish correspondence between perception and reality in the service of accuracy research.

C. WHAT IS AND IS NOT INCLUDED IN THIS SECTION ON CRITERIA

This section identifies and describes four broad classes of criteria: objective criteria, behavior, agreement with others, and agreement with targets. Each type of criterion is defined and distinguished from other types of criteria. When a certain type of criterion has been controversial, those controversies are discussed and critically evaluated. Finally, the viability of each type of criterion is also critically evaluated. This next section, however, only addresses how to identify plausible criteria. It does not address how best to use those criteria for estimating accuracy (this is addressed in a subsequent section on componential and other approaches for assessing accuracy).

The term "criteria" here is not used in the general sense of "how to assess accuracy." Even the limited aspects of "how to assess accuracy" that are addressed in this review involve the issues raised throughout this entire
chapter (not any one section) and cannot possibly reflect all the issues and
details involved in assessing accuracy in all the ways and contexts in which it
has been assessed (see e.g., Ambady & Rosenthal, 1992; Brunswik, 1955;
Jussim, 1991; Krantz, 1994; Kruglanski, 1989; McCauley et al., 1980 for
such details). Thus, the term "criteria" is used quite narrowly herein to refer
to the measures, variables, or constructs that might be used as standards
against which to evaluate the validity of social perceptions, judgments, and
beliefs. As shall be seen, however, even the issues surrounding criteria
defined narrowly are both complex and controversial.

D. OBJECTIVE CRITERIA

Criteria are objective when that which is being judged is assessed in a
standardized manner that is independent of the perceiver's judgment. Many
interesting and important social phenomena involve simple, clear, objective
criteria. A tennis player wins or loses the point. A salesman makes or loses
the sale. An applicant is either accepted into or rejected from a college.
There is nothing least bit difficult or "problematic" about the criteria for
predictions regarding these events. Ninety-nine times out of 100, or
more, there will be no controversy on whether the ball was in or out. In
the event that one player hits a clear and obvious winner, we all agree that it
was a winner, but the criterion for evaluating whether or not it was a winner
is not our agreement. We agree because we all saw the ball clearly land in
and because the second player did not even hit the ball. Agreement is a result
of accuracy, not a criterion for establishing accuracy. Even John McEnroe,
perhaps the most argumentative professional tennis player of all time, at
his most argumentative only argued a few calls per match—and a tennis match
includes hundreds of shots.

All sorts of outcomes occur independent of individual perceivers' beliefs,
predictions, or expectations (e.g., election outcomes, returns on investments,
the achievements and accomplishments of our friends and acquaintances,
etc.). These come up all the time in daily life, and the criterion issue is rarely
a "problem."

1. One-Shot Hit or Miss: The Prototypical Case

It is perhaps easiest to understand the elegant simplicity in identifying and
using objective criteria by starting with a class of cases, referred to here as
"one-shot hit or miss. This means there is a single perceiver making a single
judgment about an objective single attribute or behavior of a single target.

ACCURACY IN SOCIAL PERCEPTION

Although finding out whether a single person makes an accurate or inaccu-
rate single prediction is not usually particularly psychologically interesting,
by virtue of eliminating a slew of methodological, conceptual, and statistical
issues irrelevant to the criterion issue, the one-shot hit or miss situation with
objective criteria, though oversimplified, is particularly informative.

Despite many social psychologists' emphasis on the influence of ambiguity
in social reality (e.g., Glitter, 1995; Jones, 1990; Ross & Nisbett, 1991), many
aspects of human social behavior, including but not restricted to sports,
relationships, investments, academics, and politics, are objective. If I predict
that my friend's marriage won't last 2 years, the criterion is similarly clear
and objective—they either do or do not get divorced within 2 years. If
Margaret predicted that the Republicans would win a majority of Senate
seats in 2002, she was right. If, in early 2000, Bob predicted that the stock
market was in the midst of a speculative bubble that was destined to crash
and put all his money into money markets and bonds, he clearly made the
right decision.

The processes by which Bob, Margaret, and I arrived at our beliefs—our
propensities to be self-fulfilling, expectancy-confirming, reliant on faulty
heuristics, ideologically motivated, or dispositionist in our attributions—are
ever irrelevant to evaluating whether we are right or wrong. The one-shot
hit or miss situation makes it clear that objective criteria exist for many
personally and socially significant beliefs, expectations, and predictions, and
accuracy can be assessed independent of process.

2. Overall Levels of Accuracy

One-shot hit or miss situations, however, reveal few, if any, important
psychological principles and rarely have much bearing on any psychological
theory or hypothesis. Usually, therefore, research on accuracy requires
investigating many people making one or more judgments or predictions
about one—and sometimes many—other person(s).

Although statistical procedures for assessing accuracy sometimes become
more difficult in such situations, the criterion issue is no more difficult than
in the one-shot hit or miss situation. If a criterion is appropriate for assessing
the accuracy of some prediction or judgment in the one-shot hit or miss
situation, it is equally and identically appropriate for assessing accuracy
when there are multiple judges, judgments, or targets. Dollars in real estate
sales, numbers of college acceptances and rejections, and length of a roman-
tic relationship are all exactly identical in their appropriateness as criteria
(for judgments of real estate sales success, predictions of college admissions
success, and length of relationship predictions, respectively), regardless of