19 Making It Up and Making Do: Simulation, Imagination, and Empathic Accuracy

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CONTENTS

INTRODUCTION

How many times have you had a conversation with someone, only to ask yourself as you were leaving, "What *was* she thinking?!" Researchers have also asked this question, and the last 20 years in particular have produced active attempts to identify why some people are better at understanding another person's thoughts and feelings than others. Over time, many terms have been used to describe this ability, such as social insight (Chapin, 1942), cognitive role-taking (Eisenberg, 1986), accurate empathy (Ickes, 1993), everyday mindreading (Ickes, 2003), and simply "empathy" itself (see also Batson, Chapter 18, this volume). However, most recently researchers have gravitated toward the term *empathic accuracy*, which is defined as one's ability to accurately infer the specific content of another person's covert thoughts and feelings (Ickes, 1993). Empathic accuracy is a diabolically difficult task, in large part because one never has direct access to the contents of another person's mind. One cannot "peer" into a friend's head and understand all of his thoughts and feelings. The friend's mind—like the mind of every other person in this world—is simply not available for direct "download" (a modern metaphor for the ancient "other minds" problem). Invariably, mental contents are interpreted, translated, converted, degraded, and otherwise changed during the inference process.

Accurate inferences rely on the motivation and skill to collect a set of cues about the other person's thoughts and feelings—cues that provide an incomplete and ambiguous guide at best. Paired with attention to cues, however, we also argue that mental simulation (through the use of mental representations) and imagination are necessary parts of empathic accuracy as a remedy for this other minds dilemma. In fact, research in the related fields of perspective taking and mental state inference has identified a whole host of "tools" that perceivers use to compensate for their lack of knowledge about another target person (in this volume, see also Epley & Caruso, Chapter 20,

and Saxe, Chapter 17). Along with mental simulation, two other commonly used strategies are using the self as a template for understanding the other person (projection) and the use of stereotypes (Ames, 2004; Davis, Conklin, Smith, & Luce, 1996; Epley, Keysar, Van Boven, & Gilovich, 2004).[1] Although these strategies have not been as extensively examined in the specific area of empathic accuracy, we believe that the use of mental representations and these related strategies allow the observer to fill in the gaps in the information about the other person's mental state and may be just as important—perhaps sometimes even more important—than attending to cues from the other person when considering factors that predict empathic accuracy.

In this chapter, we start by providing a brief overview of how researchers have studied empathic accuracy. Next, we describe what we have learned from these studies regarding which factors do and do not predict empathic accuracy. Specifically, we focus on the surprising results that individual difference variables that seem intuitively or theoretically related to empathic accuracy do a remarkably weak job of predicting this ability. Rather, it appears that the most powerful predictors are variables that tap the extent to which an observer can create a complex and fleshed-out representation of the other person. Third, we suggest that conceptualizing accuracy as knowing the exact thoughts of a specific individual at a specific time may constitute a higher standard than is necessary for successfully navigating the majority of everyday social interactions. Fourth, we provide some examples of why people can risk being a little "inaccurate" and rely on what might be construed as a variant of "stereotype accuracy" when inferring other people's thoughts. Finally, we end this chapter by discussing some possible avenues of research that may extend our understanding of mental simulation, imagination, and empathic accuracy.

Our chapter regarding empathic accuracy looks on the bright side (cf. Epley & Caruso, Chapter 20, this volume). Given the obstacle of the other minds problem, we believe that strategies such as stereotypes and simulation—although flawed—help provide observers with some insight into the thoughts and feelings of the other person that they would not normally know. That being said, we readily acknowledge that with more effort, people could probably often do a better job inferring others' thoughts than they do, and that mistakes in inferring others' thoughts often stem from these imperfect strategies. Although participants are better than chance at inferring the thoughts and feelings of another person, none of the empathic accuracy studies cited in this chapter demonstrate that people are even remotely close to what we would consider "expert" or even "good" mind readers. One of the major points of our chapter, however, is that accuracy may not be as functionally important as has been previously thought.

WHITHER ACCURACY: REINCARNATION AFTER CRONBACH

Interest in the accurate perception of others has had a long history of research, dating back to the work of Kohler (1929) and Mead (1934) in the first part of last century and later in the 1940s and 1950s with empathy researchers such as Dymond (1948, 1949). Earlier use of the term *empathy* tended to emphasize the emotional aspect of understanding another person, as illustrated by the origins of the word (from the German word *Einfühlung*), which translates literally as "feeling into" (as in projecting oneself into something else; Hodges & Myers, in press). In contrast, these theorists emphasized the cognitive ability to understand what another person was thinking or feeling rather than sharing in that feeling. In fact, defining empathy as a cognitive ability to understand or deduce what another person was thinking became the dominant view in the 1940s and 1950s. Unfortunately, the general study of accuracy in person perception took a major hit after several articles by Cronbach criticized the methodology commonly used by these researchers to assess accuracy (Cronbach, 1955; Gage & Cronbach, 1955). Using a series of statistical arguments, Cronbach demonstrated that "accuracy" scores of social perception were actually the aggregate of several different components. One of these components, called *stereotype accuracy* by Cronbach (1955), was defined as one's "accuracy in predicting the generalized other" (p. 179). Cronbach argued that a person could obtain a high accuracy score simply by guessing what most people do most of the time.[2] For

example, one could have an accurate idea of how the typical actress would describe herself and use this stereotype to describe Halle Berry relatively well in spite of not knowing her at all. In contrast, Cronbach considered another component, *differential accuracy*, as a true measure of "social sensitivity" because it actually assessed an individual's ability to predict a specific person's response for a particular trait or in a particular situation. In other words, the perceiver is able to successfully identify an individuating profile of traits or other characteristics of a particular person that distinguishes that person from others (Davis & Kraus, 1997). Thus, the validity of these accuracy scores (as measured by the current methodology at that time) was thrown into question because these two components were confounded. Unable to devise new techniques to disentangle these components, many researchers saw the problem as intractable and moved away from the study of the accurate perception of others.

In the last couple of decades, however, research into the accurate inference of the thoughts and feelings of another person has experienced a revival, due in large part to the development of new methodologies for studying empathic accuracy. Because our chapter focuses mainly on studies that have used a particular methodology originally devised by Ickes, Stinson, Bissonnette, and Garcia (1990), we start by providing a brief overview of the technique (for a more thorough review, see Ickes, 2001). Ickes and colleagues' empathic accuracy methodology is based on comparing the actual thoughts and feelings reported by a target person with the inferences of those thoughts and feelings that are provided by another person. To do this, a target person is first videotaped either interacting with another person or talking to the camera. The target person then watches this videotaped interaction and is instructed to stop the tape at any point at which he or she remembered having had a thought or feeling.[3] After stopping the tape, the target person then writes down the content of this thought or feeling. Later, the other person (the "perceiver") also watches the filmed clip. For the perceiver, the tape is stopped at every point at which the target person recorded having a thought or feeling. Paralleling the target person's instructions, the perceiver is instructed to provide a brief description—a best guess—of what the target person was thinking or feeling. In some studies, perceivers play double duty, serving as the conversation partners who originally interacted with the target person in the videotape as well as perceivers (e.g., Ickes et al., 1990; Simpson, Oriña, & Ickes, 2003; Stinson & Ickes, 1992). Other studies use strangers who never met the target person to serve as the perceivers (e.g., Barone et al., 2005; Gesn & Ickes, 1999; Klein & Hodges, 2001; Marangoni, Garcia, Ickes, & Teng, 1995).

After collecting perceivers' inferences, coders then rate the extent to which the perceiver's responses are similar to the target's responses using a 3-point scale ranging from 0 ("the inferred content and actual content are not the same") to 2 ("the inferred content captures the 'gist' of the actual content"). Using a group of three to six raters to code each response, our lab has found an average Cronbach's alpha of .86, which is consistent with the reliabilities reported by Ickes (1993).

One important difference between the original Cronbach trait inference research and empathic accuracy research is that the criterion for trait accuracy can come from several sources, among them what the target person self-reports to be his or her traits, consensus traits attributed to the target by others (who might be "experts" or close friends of the target), or behavioral criteria. In contrast, with empathic accuracy, because of the other minds problem, the target person is always the one who must supply the criterion against which to judge accuracy. Other forms of interpersonal sensitivity that do rely on external indicators, such as the ability to accurately read nonverbal cues, may contribute to empathic accuracy, but they are only a part of the message that has to be read.

Given the relative simplicity of its design, the empathic accuracy methodology has been applied to a variety of interactions and social situations. Different dyadic interactions have included strangers (Ickes et al., 1990), same-sex friends (Stinson & Ickes, 1992), romantic or married partners (Kilpatrick, Bissonnette, & Rusbult, 2002; Simpson, Ickes, & Blackstone, 1995; Simpson et al., 2003), and client-therapist pairs (Barone et al., 2005; Marangoni et al., 1995). Topics discussed in those interactions have included academic problems (Klein & Hodges, 2001), the attractiveness of another

person (Simpson et al., 1995), marital problems and divorce (Gesn & Ickes, 1999; Marangoni et al., 1995), and being a first-time mother (Hodges, 2005).

What Is Not Related to Empathic Accuracy?

Of the studies cited, the Marangoni et al. (1995) and the Gesn and Ickes (1999) studies were unique because they had their observers infer the thoughts and feelings of several different targets. Both of these studies indicated that participants' accuracy showed consistency across different targets, with cross-target intraclass correlations of .86 and .91, respectively, suggesting that there may be stable differences in empathic accuracy ability. This begs the question that will serve as the next focus of the chapter: If there is reliability in predicting empathic accuracy, what are the consistent factors either within the person or in the situation that affect empathic accuracy?

Correct?

Among the several studies that have addressed this question, the surprising answer is that traditional, empathy-related constructs generally do not predict empathic accuracy. In the very first published study that used this methodology, Ickes and his colleagues (1990) examined whether self-reported measures of dispositional empathy and empathic accuracy predicted participants' empathic accuracy scores. To assess individual differences in empathy, they used Davis's (1980) Interpersonal Reactivity Index (IRI), which taps four constructs related to empathy: empathic concern, personal distress, perspective taking, and fantasy. They also created a scale to measure self-reported individual differences in empathic accuracy. Neither of these scales significantly predicted empathic accuracy in this study. In fact, two of the subscales on the IRI (perspective taking and fantasy) as well as the self-report empathic accuracy measure were negatively correlated (although not significantly) with empathic accuracy performance. Stinson and Ickes (1992) later partially replicated these results when they again found that higher fantasy subscale scores from Davis's IRI were negatively and significantly correlated with empathic accuracy in dyads consisting of strangers. In unpublished data from our lab, where we collected data on the IRI along with measures of empathic accuracy (e.g., Laurent & Hodges, 2007), we have also found the same inverse relationship between empathic accuracy and perspective taking as found by Ickes et al. (1990).

One possible explanation for these findings is that the IRI only assesses people's self-perceived drive to understand and empathize with others, not necessarily their success in these tasks. As Ickes (1993) pointed out, the discrepancy between self-perceptions of empathy and objective measures of accurately understanding another person's thoughts and feelings may suggest that perceivers lack insight (or metaknowledge) into their own relative level of empathic skill. In fact, people who are particularly weak at empathic accuracy may be the ones who most overestimate how skilled they are in general (Dunning, Johnson, Ehrlinger, & Kruger, 2003; Kruger & Dunning, 1999).

One might suggest that perhaps more proximal measures of an observer's reaction to a particular situation are better predictors of empathic accuracy than individual differences. Research has consistently demonstrated that an "other-oriented" emotion of sympathy, concern, and compassion—what we will call *empathic concern*—can arise when an observer takes the perspective of another person in need (Batson, Early, & Salvarani, 1997; Batson, Sager, et al., 1997). Impressively, feelings of empathic concern can also motivate the observer to help that other person in spite of the fact that this helping can appear to provide no apparent direct benefit to the observer. Thus, it seems plausible that the increased connection and involvement that accompany greater empathic concern may also predict greater empathic accuracy. For example, if empathic concern increases Sam's motivation to help Holly after losing her dog, he would need to identify *how* he could help her. This would require that Sam have a good understanding of Holly's thoughts and feelings so he could provide the appropriate type of support. However, several studies conducted in our lab (e.g., Hodges & Klein, 2000) suggested that empathic accuracy and empathic concern are orthogonal. In one study, perspective-taking instructions were manipulated between participants (i.e., either imagine how a target person feels or remain as objective as possible), and then participants watched a college woman describing an academic setback. After completing a measure of empathic concern

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"After she lost her dog"? Otherwise, it seems Sam lost the dog.

Indicate whether Batson, Early, et al., 1997, or Batson, Sager, et al., 1997.

created by Batson and his colleagues (1997), the participants then watched the tape a second time using Ickes's empathic accuracy methodology. Consistent with past findings by Batson and colleagues, taking the perspective of the woman led to greater feelings of empathic concern. However, perspective-taking instructions had no effect on empathic accuracy.

In a second study (Hodges, 2005), we varied the target's similarity with the participants who served as perceivers and examined similarity's effect on empathic concern and empathic accuracy. Past research suggests that perceived similarity—functioning somewhat like perspective taking—can lead to increased feelings of empathic concern (Batson, Lishner, Cook, & Sawyer, 2005; Cialdini, Brown, Lewis, Luce, & Neuberg, 1997). Women who had never been mothers, were pregnant with their first child, or had just given birth to their first child served as three different groups of perceivers. All of the perceivers watched videotapes of targets—who were all new mothers—describing their experiences with their babies. Similar to the Hodges and Klein (2000) study, perceivers first reported their feelings of empathic concern for the target and then watched the videotape a second time, during which they inferred the target's thoughts and feelings. As expected, the results indicated a significant linear trend for empathic concern, with women who had just given birth to their first child reporting the most empathic concern, followed by the pregnant women, and then by those who had never been mothers. In contrast, however, similarity had no effect on empathic accuracy; all three groups were equally—and moderately—accurate in inferring the thoughts and feelings of the new mother.

These two sets of results offer support for the idea that empathic concern and empathic accuracy are separate constructs and that consequently empathic concern is not necessarily a good predictor of empathic accuracy. Thus, individual differences in self-reported empathy (using empirically valid and reliable scales) do not predict empathic accuracy, and other empathy-related constructs evoked by specific interactions do not appear to fare much better.

What Is Related to Empathic Accuracy?

On the other hand, a number of studies have identified factors that predict empathic accuracy, and we turn to those in this section. The results suggest that the key to effective empathic accuracy is not the extent that a person feels concern for another person, but rather a perceiver's motivation and ability to create a coherent mental representation of the target person. One consistent result is that general intelligence (such as cognitive complexity and high field independence) and, in particular, verbal intelligence of the perceiver positively predict empathic accuracy (Davis & Kraus, 1997; Ickes et al., 1990, 2000, although significant effects in the last study were found only for males). This is consistent with the theory that taking the perspective of another person is a mentally taxing skill that requires more than just keen observational skills; it requires considerable motivation and intelligence to construct an understanding of the other person.

Second, it is not surprising to learn that research indicates that people are better at inferring the thoughts and feelings of their friends than those of strangers. This does not appear to occur because friends are more similar to each other or that they are more expressive with each other during the interactions. After controlling for these differences, Stinson and Ickes (1992) still found a significant effect for relationship status on empathic accuracy. They found that the differences were driven by the superior ability of participants to correctly identify the thoughts and feelings of their friends that concerned events and places outside the immediate experimental context—that is, events that could be seen as requiring mental simulation and imagination. Without shared reference points and memories, a stranger serving as an interaction partner could not bring to mind, for example, the past melodrama of how his conversation partner had been treated by an ex-girlfriend when the partner mentioned her name—a history that might provide a rich background for understanding what the partner is thinking or feeling about her in the current context.

The idea that creating a coherent mental representation of another person improves empathic accuracy was supported by the first empathic accuracy study conducted by Ickes et al. (1990).

While self-reported measures of empathic ability in this study did not predict empathic accuracy, the researchers did find that the extent to which perceivers made attributions about the stable characteristics and traits of the target (e.g., "This guy is pretty creative," "She is snobbish," "What a weirdo") was positively correlated with empathic accuracy. The authors believed that these results implicated how "both [attribution making and empathic accuracy] may be outcomes or products of a more general epistemic attempt to 'understand' another person" (p. 736).

An overarching theme in these studies is that an empathically accurate perceiver is one who engages in on-line attempts during the interaction to develop a more "fleshed-out" representation of the target person. Furthermore, the components that make up this mental representation do not necessarily derive solely from the immediate interaction. Instead, the perceiver may access schemas of the self, stereotypes, and past experiences to create an impression of the target person that goes beyond what the target person is actually saying or doing in the interaction.

Furthermore, there is evidence to suggest that, as interactions unfold over time, mental constructions such as schemas and simulations may become increasingly more important sources of information for the perceiver than the actual behavior of the target person during the interaction. For example, Gesn and Ickes (1999) found that participants who saw a videotape of the target person played as it was originally filmed were equally mediocre at inferring the target's thoughts and feelings than were participants who saw segments of the video in a randomized order. On closer inspection, however, Gesn and Ickes found that this null effect was due to a significant schema consistency-by-order effect: Participants who saw the tape in its original order were apparently able to construct a mental representation of the target person that they consistently relied on when trying to imagine what that person was thinking or feeling. As long as the target person's thoughts and feelings were highly or moderately consistent with this representation, these participants were more empathically accurate than their counterparts in the randomized-order condition, who were unable to create a coherent mental representation of the target person. However, when the target person had a thought or feeling that was inconsistent with this representation, participants in the original-order condition exhibited significantly worse empathic accuracy because they appeared to erroneously base their inferences on the schema that they had created about the target person rather than the immediate cues present in the interaction. Lacking a well-developed representation about the interaction, participants in the randomized-order condition had to pay more attention to its individual segments. Consequently, they were better able to react to inconsistencies in the target person's behaviors and thoughts when they arose in the interaction. Gesn and Ickes's study suggests that when people can apply a schema or generate a simulation, they will use it to infer others' thoughts and feelings. Given that it is far more common for people to experience an interaction in its correct chronological order than in randomly ordered pieces, the use of these representations should be considered the norm rather than the exception

Kilpatrick et al.'s (2002) study of empathic accuracy among newly married couples further supports the idea that over time people may increasingly rely on schemas and simulations—that is, internally generated constructs rather than externally cued ones—to infer what another person is thinking or feeling. As part of a larger longitudinal study, couples were brought into the lab three times over the first 3 years of their marriage. Each time, the researchers videotaped the couples interacting with each other. They then ran each member of the couple through the empathic accuracy methodology described in this chapter. Thus, each partner in the couple served as both a perceiver and a target for the study. In addition to empathic accuracy scores, stereotype accuracy scores were computed (see Ickes et al., 1990) by randomly pairing actual thoughts and feelings from one partner with inferences for different thoughts or feelings made by the other partner and rating their similarity. Stated differently, this stereotype empathic accuracy (that Kilpatrick et al. and others have called "baseline" empathic accuracy)[4] represents the accuracy of a perceiver in inferring the thoughts and feelings of a target person in a specific context that is due to chance. This stereotype empathic accuracy score was then subtracted from the total empathic accuracy score to create an "adjusted" empathic accuracy score. Following Cronbach's logic, this adjusted empathic accuracy

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score represents a "purer" measure of accuracy because it partials out other components that could artificially inflate these scores.

Consistent with their hypotheses, Kilpatrick et al. (2002) found that adjusted empathic accuracy decreased over time. Specifically, couples scored significantly higher at Time 1 than Time 2 or 3. However, were these results due to a decrease in overall unadjusted empathic accuracy, an increase in stereotype empathic accuracy, or both? When they examined these two components, Kilpatrick et al. found a marginally significant decrease of unadjusted empathic accuracy over time as well as a marginally significant increase in stereotype empathic accuracy. The importance of this marginal result lies in the possible meaning that this baseline score may represent. According to Kilpatrick et al.:

> If we assume that partners' "stereotype accuracy," or global understanding of one another's thought and feelings, is at least roughly tapped by our measure of baseline accuracy, it is noteworthy that this index did not decline over time; indeed, from a descriptive point of view, stereotype accuracy increased. (p. 338)

It is as if simulating how a messy kitchen would look to one's returning spouse or retrieving one's script for how the spouse would react to a surprise weekend getaway was as important—or more important—than monitoring the partner's actual reaction when couples tried to understand each other.

While Ickes et al. (1990) originally conceptualized "baseline" accuracy as a form of error, their conclusion that empathic accuracy taps a "general epistemic attempt to 'understand' another person" (p. 736) sounds quite similar to the way this construct was viewed by Kilpatrick and his colleagues. Once again, the results suggest that understanding another person's thoughts and feelings requires the construction and use of mental representations that go beyond the immediate information gathered from the interaction.

We think the important take-home message from the Gesn and Ickes (1999) study, the Kilpatrick et al. (2002) study, and other studies that have found predictors of empathic accuracy is that the use of mental representations appears to have contributed to a better understanding of the target person. Only in those few instances when reality severely deviated from perceivers' imagined understanding did they display major deficits in empathic accuracy.

Good Enough Accuracy

In this chapter, we described Cronbach's distinction between differential accuracy and stereotype accuracy. In our third point of the chapter, we return to this topic and consider how our understanding of these concepts should be reevaluated in light of the research described previously. While there are important differences between differential accuracy and stereotype accuracy, the reality is that people often use generalizations and representations when trying to understand another person. After Cronbach's articles were published, an assumption was made that differential accuracy was the most valid or true measure of social sensitivity. The other components identified by Cronbach, especially stereotype accuracy, were subsequently downgraded to either measurement artifacts or theoretically unimportant constructs. When stereotype accuracy was identified as a theoretically meaningful construct, the implication was that it was an inferior component of accuracy, masquerading as the more valued differential accuracy.

Furthermore, these terms were defined during a time when most person perception research focused on the accurate inference of personality traits, not the specific thoughts and feelings of another person. The meanings of differential accuracy and stereotype accuracy differ slightly when we apply them to the study of empathic accuracy. As highlighted by Kilpatrick et al.'s (2002) work, stereotype empathic accuracy may be a different kind of generalization than previously defined in trait perception. In terms of empathic accuracy, the generalization may be across multiple thoughts and feelings, but all within the same person, whereas in trait accuracy, stereotype

accuracy involves a generalization across multiple individuals. Thus, it is important to note the unit of analysis when talking about stereotyping: individuals versus individual thoughts and feelings within the same individual.

Of course, we still think that forms of differential accuracy can play an important role in empathic accuracy. Certainly, stereotype accuracy that generalizes across people can get us in trouble (for example, inferring that one's boss likes being called by her first name just because other people at work like to be called by their first names). In other instances, moment-by-moment differential accuracy may be important for the success of an interaction (e.g., "Uh-oh, I think my teasing is starting to get to her, and I should stop now"). Similarly, if a woman has correctly inferred in the past that her boyfriend will be excited to hear that they are going out for steaks, it would be a major mistake to continue making this same inference right after he announces that he has become a vegetarian.

In support of the importance of differential empathic accuracy, there is ample evidence in the literature to suggest that the ability to effectively gather information about the target person from the specific interaction is associated with better empathic accuracy (Barone et al., 2005; Ickes et al., 1990; Thomas, Fletcher, & Lange, 1997). This is particularly true when people are interacting with strangers and have very little beginning information (Stinson & Ickes, 1992). Thus, people are gathering information and generating impressions, modifying and revising their view of the other person as they incorporate additional information into their mental representations.

Misimagining Others: Would You Know, and Does It Matter?

Given the challenge of the other minds problem, people likely need to rely on both stereotypes and differentiating information at various times to make accurate, meaningful inferences about what others are thinking or feeling. Even when both are used, we are probably still frequently inaccurate in our inferences about the thoughts of others. Yet, most of us muddle by—how? We think there are three major qualities of everyday social interactions that help explain why errors in empathic accuracy are frequently benign. The first quality, foreshadowed in the previous discussion, is that perceivers generally do not need to have moment-by-moment, thought-by-thought accuracy in their inferences about another person's thoughts and feelings to be socially successful. For example, while Kilpatrick et al. (2002) found that empathic accuracy had an initial boost on accommodative behavior and couple well-being among newlyweds, the effect of empathic accuracy quickly lost strength after the first year of marriage. In other words, being more accurate (or inaccurate) about their spouse's thoughts and feelings did not seem to have long-term benefits for the status of the relationship (whereas other variables clearly do, such as simply being "nice" to each other; e.g., Gottman & Levenson, 1992). Sometimes, being "good enough" works just fine in real life.

Related to the first quality, perceivers may be able to function with relatively accurate stereotypes and simulations of what the other person is thinking even when their moment-by-moment inferences are inaccurate because the target person rarely has access to many of the perceiver's inferences. Thus, the target is frequently unaware of the perceiver's inaccuracies. In everyday interactions, we do not stop to share every inference about the other person's mental state by saying to that person, "So, now, based on what you've been saying and your behavior, I think you're thinking this … ." Such explicitly stated inferences are of course sometimes made, but outside of Rogerian therapy sessions and empathic accuracy experiments, they occur generally when the target person's thoughts and feelings are the specific focus of discussion or when the perceiver believes his or her comprehension of the interaction is directly impeded without a clarification of the target's mental state. So, if perceivers do not verbalize their inferences, then targets generally do not become aware of inaccurate inferences. Sometimes, the perceiver's behavior may reveal an incorrect inference without the perceiver explicitly stating it, but frequently the perceiver's subsequent behaviors are unrelated or too ambiguous and thus also do not betray incorrect inferences. Finally, empathic inaccuracies about issues that are tangential to the gist of an interaction may not really matter.

Let us use a real-life example from academia that we know actually occurred and nicely illustrates these first two qualities. A graduate student was presenting a poster at a conference when another conferee stopped by to talk to him about his work. The other conferee happened to mention that she would be interviewing at the graduate student's home university in the near future. The graduate student incorrectly assumed that she was a prospective student and, consequently, incorrectly inferred that she was nervous about visiting a place where she did not know anyone. In an attempt to ease her anxiety, the graduate student invited her to stay at his apartment when she visited. In truth, she was a prospective faculty member who was almost certainly expecting to be put up in a hotel during her interview. However, the conversation actually went remarkably smoothly despite this misunderstanding. Why?

First, even with the graduate student's incorrect inference about the reason for the visit, the conversation still could have continued along a path that never exposed the error. For example, instead of inviting the other conferee to stay with him, he could have said something entirely unrelated to his inference that she was an anxious prospective student like, "Well, be sure to bring your umbrella; it's rainy this time of year." Furthermore, many of the graduate student's utterances that were related to the incorrect inference could be ambiguously appropriate for multiple inferences, including either the prospective student or job candidate scenario, such as, "I'm really glad you're visiting, I'll look forward to seeing you again soon."

Notably, the graduate student never explicitly said anything about inferring that the other conferee was a prospective student, and the prospective faculty member never said anything to imply that things were amiss, perhaps because she simply assumed the student was joking about staying with him (we personally think it is pretty funny), or she politely assumed that the student was naive about how job candidates are treated, or (as we have been told is actually the case) she failed to encode that the student was inviting her to stay at his apartment, probably because it deviated so radically from her "script" for how conversations about interview visits go—she never even realized the mistaken inference was made.

Inevitably, there will be times when we are all exposed as having put that proverbial foot in our mouth because we have made and acted on an incorrect inference that is noticed by the other person. This brings us to the third and final quality of everyday interactions that make inaccurate inferences less of a problem than we might initially assume: Even when targets realize that we have made a mistake, most of the time they still tend to be fairly forgiving. They frequently simply correct the perceiver on their misinference ("No, you see, I'm interviewing for a job; I'm almost done with graduate school"), and they move on in the conversation. "Forgive and forget" would seem to be an apt description for the target person's behavior during most everyday interactions. When someone does explode because the other person made the wrong inference, these outbursts may have been triggered by factors within the target person that occurred outside the immediate interaction, perhaps due to the frustration of continued negative interactions with the perceiver ("You never take the time to find out what I really want!") or frustration from some previous event unrelated to the present interaction ("You made some crack about that last week, too; are you suggesting I'm racist?"). Moreover, there are examples of socially disastrous consequences that can occur because an isolated inference about another person's words turns out to be incorrect. Many of us can probably remember instances when someone made a huge social gaffe because he or she thought the other person was joking, when in reality the individual was completely serious. However, if people are relying on imperfect stereotype accuracy and mental simulation as much as we suggest, we think it is notable that these situations do not occur more often.

Like other domains in which people use heuristics, there are times when deleterious consequences follow from empathic inaccuracies. As a general rule, however, we believe that the use of mental simulation and stereotype accuracy typically improves empathic accuracy. First, as we stated at the outset of this chapter, they help solve the other minds problem by allowing us to fill in the gaps of information about the other person that are inaccessible or unavailable to the perceiver. Second, they reduce the amount of effort required in an interaction because the perceiver does not have to

spend as much energy detecting subtle (or unreadable) cues provided by the target person throughout the immediate interaction. Finally, even when the use of mental simulation and stereotypes leads to inaccurate perceptions, the consequences are often not nearly as negative as we might fear.

KNOWING THE MINDS OF OTHERS WHO EXIST ONLY IN OUR MINDS

In a more speculative vein, we end this chapter by looking at some parallels between the mundane and important social task of inferring others' thoughts and feelings and the fantasy-oriented endeavor of creating fictional others' thoughts and feelings (see also Green & Donahue, Chapter 16, this volume). Although the latter may be a more elaborated "recreational" version of the former, we believe that both draw on similar strategies: The same skills that allow us to flesh out and make sense of the inaccessible contents of others' minds may also allow us to imagine the minds of others who exist only in our minds.

Much can be learned from fiction writers and their process of creating imaginary characters. Taking a page from research on psychopathology, studying extreme cases of a particular behavior can often provide insight into the general, underlying processes of more typical behavior. Why do we believe that fiction writers engage in a more "extreme" version of everyday perspective taking? For one thing, similar to someone who can accurately understand what another person is thinking or feeling, a good fiction writer is able to create a fully formed and complex mental representation of a fictional character. Fiction writers are then able to use this mental representation to "understand" the unique thoughts and feelings of their character for any situation, including potential future events previously unimagined by the author. Being able to come up with a reasonable answer to the question "What was she thinking?" is as important for promoting smooth social interactions as it is for creating a compelling work of fiction.

Of course, one might point out that there is a fundamental difference between inferring the (independently existing) thoughts of a real person and "knowing" the thoughts of a fictional person who has no thoughts until the author writes them, along the lines of Harold Crick, Will Farrell's character in the movie *Stranger Than Fiction* (2006). Crick discovers that his whole life is being written by an author played by Emma Thompson. However, as preposterous as it may seem to suggest that the fictional character (and not the writer) may direct the plot of the book, there is growing evidence to suggest that fiction writers often view their fictional characters as independent and autonomous entities.

Interviews with authors and comments made by them about the writing process provide anecdotal evidence of writers who feel they have "personal relationships" with their characters and imagined conversations with them. These stories belie the reality that these characters are completely fabricated creations and instead paint them as "peers" whose wills are not easily bent by the wishes of the authors. For example, when J. K. Rowling, the author of the best-selling Harry Potter books, was asked in a National Public Radio interview why she made her main character a boy, she answered that she had tried to make him a girl:

> About 6 months into writing the book, I thought that I am female, and that he is a boy. But it was too late, it was too late to make Harry Harriet. He was very real to me as a boy, and to put him in a dress would have felt like Harry in drag. … I never write and say "OK, now I need this sort of character." My characters come to me in this sort of mysterious process that no one really understands, they just pop up. (Rowling, 1999)

Studies using more systematic approaches to examine the phenomenon of characters coming to life provide similar evidence. Taylor, Hodges, and Kohanyi (2003; see also Taylor, Shawber, & Mannering, Chapter 14, this volume) recruited writers who varied in their experience and success in fiction writing and interviewed them about the characters in their work. In particular, they were asked about the development of one of their characters and the extent that they experienced a phe-

nomenon that the researchers labeled the *illusion of independent agency* (IIA)—the sense that their characters were independent agents not directly under the author's control but rather have their own thoughts, feelings, and actions. One of the main results that emerged from this study was that the overwhelming majority of the sample (92%) reported experiencing IIA as a writer at least once. In fact, Taylor et al. (2003) reported that the fiction writers appeared to have no problem understanding and providing vivid responses to the questions related to IIA, such as whether they interacted with and heard the voices of their fictional characters. Thus, although fictional characters do not actually exist outside their authors' head, experienced authors have the sensation that they do, and that phenomenon may be what enables authors to apply the same arsenal of skills to their craft as the rest of us do to our everyday interactions.

However, the fact remains that empathic accuracy involves focusing on a real person, while fiction writing is an act of fantasy that focuses on an imaginary person. As a result, during real-world interactions one has an objective standard (i.e., the actual target person) to compare against one's mental simulation and can determine how correct it is, while with fiction writing there is no objective standard against which to evaluate the accuracy of the mental simulation. That said, we hope it has become clear from this chapter that *accuracy* as it has been traditionally defined (i.e., differential accuracy) may not be the last word in understanding the thoughts and feelings of another person. In other words, in spite of being able to measure empathic accuracy against an objective standard in the form of specific thoughts and feelings, "successful" perceivers may not always track 100% on those individual thoughts and feelings. They may instead be generating a "good story." If something akin to stereotype accuracy is more important when we are trying to imagine what another person is thinking, how different is this process from fiction writing? Maybe there are the makings of a fiction writer deep down in all of us.

CONCLUSION

Researchers and laypeople alike continue to be interested in the question, What makes someone a good mind reader? so we suspect that the study of empathic accuracy will remain a thriving field for many years to come. After almost 20 years of research, empathic accuracy researchers have been able to provide some tentative (and often-surprising) answers to this question. In spite of theoretical and intuitive reasons to expect a relationship between self-reported measures of dispositional empathy and empathic accuracy, individual differences in self-reported empathic ability and other related constructs have consistently shown to be poor predictors. We do not want to go on record claiming that there is no connection among these constructs; however, the connections do appear to be much more complex than originally thought. One possible reason for this deficit has been mentioned already—perceivers rarely receive explicit feedback from their interaction partner that they have mistakenly inferred the target person's thoughts and feelings. Most of the time, the perceiver's errors are still "close enough" to promote a fluid social interaction, so the target person either does not discover the perceiver's mistake or has no need to make a correction.

In hindsight, perhaps we should be more surprised that we are not asking ourselves, What was she thinking? more often. Given the complexity and variety of people's thoughts and the limited resources perceivers have at their disposal to accurately infer those thoughts, it is amazing that people are as successful interacting with each other as they are. In the realm of fiction writing, there are clear examples of authors who are experts in the creation of complex, interesting, and above all, realistic characters, but it might be a challenge to identify even a handful of people in the real world who could be identified as expert mind readers. There may be master forensic scientists or prosecutors out there who are able to reconstruct the specific sequence of thoughts and meta-thoughts of the other person based on a cursory glance at the evidence, but it should be noted that *CSI* is just a TV show and not reality.

Luckily, reality is much more forgiving than a TV show or movie. We do not need mystic levels of empathic accuracy to achieve success interacting with and understanding others. Of course, there

may be some professional domains in which empathic accuracy is a key to success. Negotiators and diplomats could surely benefit from knowing how the other side really feels about the proposal on the table. Similarly, generals and coaches who can read their opponents' minds to outmaneuver them should be successful. Those in service occupations who anticipate and deliver their clients' desires will likely see repeat business. The salesperson who can distinguish between an uninterested customer and the one who is simply too shy to ask about prices will do well.

The most accurate perceiver may simply be someone who is (a) motivated and (b) able to create a consistent schema or representation of the other person. Granted, there are many instances when people are still unable to perform these skills, but this is at least a more attainable standard of success for most of us. In the end, we do not need to be experts; we just need to be good enough when it comes to understanding another person.

NOTES

1. One factor that determines which strategy an observer will use is the extent that he or she feels similar to the target person (Ames, 2004). Recent advances in social neuroscience have provided additional evidence for this claim. For example, Mitchell, Macrae, and Banaji (2006) found that mentalizing about a similar target was associated with greater activation of the ventral medial prefrontal cortex (an area also implicated in processing information about the self), while mentalizing about a dissimilar target led to greater activation of the dorsal medial prefrontal cortex. According to the authors, these results suggest that observers may use simulation when they are mentalizing about a similar target but tend to use a different strategy—such as stereotyping—to understand a dissimilar target.
2. It is important to note that Cronbach's argument was based on studies examining personality traits that generalized across people; in the realm of empathic accuracy, generalizations could also be made across thoughts and feelings within a particular person, a point we return to in this chapter.
3. One limitation of the methodology is that it assumes that the targets can both accurately recall and describe their thoughts and feelings. While it is generally agreed that people know their emotional states much better than their self-reported personality traits, people sometimes are unaware that they are expressing emotions that are reliably different from the emotional response they later recounted (Malatesta, Izard, Culver, & Nicolich, 1987; Zebrowitz, 1990).
4. *Stereotype* in this case refers to generalization in general and not specifically to generalizations about a group of people.

Please substitute throughout another word for "mentalizing," which has an unclear meaning. Or, provide a definition here.

REFERENCES

Ames, D. R. (2004). Inside the mind reader's tool kit: Projection and stereotyping in mental state inference. *Journal of Personality and Social Psychology, 87*, 340–353.

Barone, D. V., Hutchings, P. S., Kimmel, H. J., Traub, H. L., Copper, J. T., & Marshall, C. M. (2005). Increasing empathic accuracy through practice and feedback in a clinical interviewing course. *Journal of Social and Clinical Psychology, 24*, 156–171.

Batson, C. D., Early, S., & Salvarani, G. (1997). Perspective taking: Imagining how another feels versus imagining how you would feel. *Personality and Social Psychology Bulletin, 23*, 751–758.

Batson, C. D., Lishner, D. A., Cook, J., & Sawyer, S. (2005). Similarity and nurturance: Two possible sources of empathy for strangers. *Basic and Applied Social Psychology, 27*, 15–25.

Batson, C. D., Sager, K., Garst, E., Kang, M., Rubchinsky, K., & Dawson, K. (1997). Is empathy-induced helping due to self-other merging? *Journal of Personality and Social Psychology, 73*, 495–509.

Chapin, F. S. (1942). Preliminary standardization of a social insight scale. *American Sociological Review, 7*, 214–225.

Cialdini, R. B., Brown, S. L., Lewis, B. P., Luce, C., & Neuberg, S. L. (1997). Reinterpreting the empathy-altruism relationship: When one into one equals oneness. *Journal of Personality and Social Psychology, 73*, 481–494.

Cronbach, L. J. (1955). Processes affecting scores on understanding of others and assuming "similarity." *Psychological Bulletin, 52,* 177–193.

Davis, M. (1980). A multidimensional approach to individual differences in empathy. *Catalog of Selected Documents in Psychology, 10*, 85.

Davis, M. H., Conklin, L., Smith, A., & Luce, C. (1996). Effect of perspective taking on the cognitive representations of self and other. *Journal of Personality and Social Psychology, 70*, 713–726.

Davis, M. H., & Kraus, L. A. (1997). Personality and empathic accuracy. In W. J. Ickes (Ed.), *Empathic accuracy* (pp. 144–168). New York: Guilford Press.

Dunning, D., Johnson, K., Ehrlinger, J., & Kruger, J. (2003). Why people fail to recognize their own incompetence. *Current Directions in Psychological Science, 12,* 83–87.

Dymond, R. F. (1948). A preliminary investigation of the relation of insight and empathy. *Journal of Consulting Psychology, 12,* 228–233.

Dymond, R. F. (1949). A scale for the measurement of empathic ability. *Journal of Consulting Psychology, 13*, 127–133.

Eisenberg, N. (1986). *Altruistic emotion, cognition, and behavior.* Hillsdale, NJ: Erlbaum.

Epley, N., Keysar, B., Van Boven, L., & Gilovich, T. (2004). Perspective taking and egocentric anchoring and adjusting. *Journal of Personality and Social Psychology, 87*, 327–339.

Gage, N. L., & Cronbach, J. L. (1955). Conceptual and methodological problems in interpersonal perception. *Psychological Review, 62,* 411–422.

Gesn, P. R., & Ickes, W. (1999). The development of meaning contexts for empathic accuracy: Channel and sequence effects. *Journal of Personality and Social Psychology, 77*, 746–761.

Gottman, J. M., & Levenson, R. W. (1992). Marital processes predictive of later dissolution: Behavior, physiology, and health. *Journal of Personality and Social Psychology, 63,* 221–233.

Hodges, S. D. (2005). Is how much you understand me in your head or mine? In B. F. Malle & S. D. Hodges (Eds.), *Other minds: How humans bridge the divide between self and others* (pp. 298–309). New York: Guilford Press.

Hodges, S. D., & Klein, K. J. K. (2000, February). *Getting what you pay for: Empathic accuracy and empathic concern*. Poster presented at the first annual Society of Personality and Social Psychology Conference, Nashville, TN.

Hodges, S. D., & Myers, M. W. (in press). Empathy. In R. Baumeister and K. Vohs (Eds.), *Encyclopedia of social psychology.* Thousand Oaks, CA: Sage.

Please update.

Ickes, W. (1993). Empathic accuracy. *Journal of Personality, 61*, 587–610.

Ickes, W. (2001). Measuring empathic accuracy. In J. A. Hall & F. J. Bernieri (Eds.), *Interpersonal sensitivity: Theory and measurement* (pp. 219–241). Mahwah, NJ: Erlbaum.

Ickes, W. (2003). *Everyday mind reading*: *Understanding what other people think and feel.* Amherst, NY: Prometheus Books.

Ickes, W., Buysse, A., Pham, H., Rivers, K., Erickson, J. R., Hancock, M., et al. (2000). On the difficulty of distinguishing "good" and "poor" perceivers: A social relations analysis of empathic accuracy data. *Personal Relationships, 7*, 219–234.

Ickes, W., Stinson, L., Bissonnette, V., & Garcia, S. (1990). Naturalistic social cognition: Empathic accuracy in mixed-sex dyads. *Journal of Personality and Social Psychology, 59*, 730–742.

Kilpatrick, S. D., Bissonnette, V. L., & Rusbult, C. E. (2002). Empathic accuracy and accommodative behavior among newly married couples. *Personal Relationships, 9*, 369–393.

Klein, K. J. K., & Hodges, S. D. (2001). Gender differences, motivation, and empathic accuracy: When it pays to understand. *Personality and Social Psychology Bulletin, 27*, 720–730.

Kohler, W. (1929). *Gestalt Psychology.* New York: Liveright.

Kruger, J., & Dunning, D. (1999). Unskilled and unaware of it: How difficulties in recognizing one's own incompetence lead to inflated self-assessments. *Journal of Personality and Social Psychology, 77*, 1121–1134.

Laurent, S. M., & Hodges, S. D. (2007). [Individual difference variables related to empathic accuracy]. Unpublished raw data.

Malatesta, C. Z., Izard, C. E., Culver, C., & Nicolich, M. (1987). Emotion communication skills in young, middle-aged, and older women. *Psychology and Aging, 2*, 193–203.

Marangoni, C., Garcia, S., Ickes, W., & Teng, G. (1995). Empathic accuracy in a clinically relevant setting. *Journal of Personality and Social Psychology, 68*, 854–869.

Mead, G. H. (1934). *Mind, self, and society.* Chicago: University of Chicago Press.

Mitchell, J. P., Macrae, C. N., & Banaji, M. R. (2006). Dissociable medial prefrontal contributions to judgments of similar and dissimilar others. *Neuron, 50*, 655–663.

Rowling, J. K. (1999, October). Radio interview, *The Diane Rehm Show,* NPR.

Simpson, J. A., Ickes, W., & Blackstone, T. (1995). When the head protects the heart: Empathic accuracy in dating relationships. *Journal of Personality and Social Psychology, 69*, 629–641.

Simpson, J. A., Oriña, M. M., & Ickes, W. (2003). When accuracy hurts, and when it helps: A test of the empathic accuracy model in marital interactions. *Journal of Personality and Social Psychology, 85*, 881–893.

Stinson, L., & Ickes, W. (1992). Empathic accuracy in the interactions of male friends versus male strangers. *Journal of Personality and Social Psychology, 62*, 787–797.

Taylor, M., Hodges, S. D., & Kohanyi, A. (2003). The illusion of independent agency: Do adult fiction writers experience their characters as having minds of their own? *Imagination, Cognition and Personality, 22*, 361–380.

Thomas, G., Fletcher, G. J. O., & Lange, C. (1997). On-line empathic accuracy in marital interaction. *Journal of Personality and Social Psychology, 72*, 839–850.

Zebrowitz, L. A. (1990). *Social perception*. Pacific Grove, CA: Brooks/Cole.