

CHAPTER 15

Meta-Accuracy

Do We Know How Others See Us?

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Trust not yourself, but your defects to know,
Make use of every friend and every foe.
—ALEXANDER POPE (1822)

Very early in life, we realize that others have minds, and we attempt to understand what is going in those minds. Perhaps more than anything else, what we often want to know is how others perceive us. Intuitively, forming beliefs about how others perceive us, called *metaperception* (Laing, Phillipson, & Lee, 1966), seems to require a great deal of mind reading and attention to social cues. Perhaps for this reason, the degree to which metaperceptions are correct, called *meta-accuracy* (Kenny & DePaulo, 1993), has generally been viewed as a form of *social* knowledge. However, in many ways, meta-accuracy is also a form of *self*-knowledge (Vazire & Carlson, 2010). As we show, meta-accuracy often reflects self-knowledge of one's own personality and behavior (Albright, Forest, & Reiser, 2001; Albright & Malloy, 1999; Kenny & West, 2008), and of how one's behavior differs across social contexts (Carlson & Furr, 2009; Malloy, Albright, Kenny, Agatstein, & Winquist, 1997).

In this chapter, we provide a summary of the findings for meta-accuracy and focus on factors that affect meta-accuracy. First, we define three different types of meta-accuracy and review the results from 26 studies that highlight the bright spots (i.e., when people are meta-accurate) and blind spots (i.e., when they are not) of meta-accuracy research. Next, we explore how people form metaperceptions, and in doing so, identify potential moderators that affect meta-accuracy. Finally, we consider the benefits and costs of meta-accuracy, speculate about how people might become better metaperceivers, and provide suggestions for future research.

Do People Know How They Are Seen by Others?

When examining meta-accuracy, a basic question is do *metaperceivers* hold accurate beliefs about how others, or *judges*, perceive them? Because meta-accuracy can be conceptualized as several conceptually independent questions (Fletcher & Kerr, 2010; Kenny & DePaulo, 1993), the answer is necessarily multifaceted. The first type of meta-accuracy, called *generalized meta-accuracy* (GMA; Kenny, 1994), assesses whether people know how they are perceived by others in general (i.e., do people know their reputation?). The second type, called *dyadic or differential meta-accuracy* (DMA; Carlson & Furr, 2009; Kenny, 1994), assesses whether people know the impression they make on a specific person (e.g., do people know how a romantic partner sees them differently than a best friend?). The third type, called *metaperception enhancement* (MPE), assesses whether people consistently over- or underestimate how positively others see them (i.e., do people assume that others see them more positively than they really do?).

Our summary focuses exclusively on meta-accuracy for traits and affect in adults' face-to-face interactions. Specifically, our summary includes studies that have assessed meta-accuracy in first-impression contexts (i.e., laboratory studies in which people meet for the first time) and acquainted contexts (i.e., naturalistic contexts, such as coworkers) but excludes studies that examined metastereotypes (i.e., beliefs of how others stereotype groups of persons; e.g., Frey & Tropp, 2006), hypothetical or computer-mediated interactions (e.g., Hebert & Vorauer, 2003), and studies of children (e.g., Malloy, Albright, & Scarpati, 2007). Based on these criteria, our summary included 26 studies that contain 174 estimates of meta-accuracy effects.¹ Table 15.1 summarizes the meta-analytic averages of generalized and dyadic meta-accuracy for the following traits: the Big Five, leadership, attractiveness, evaluative traits (positive and negative), well-being, needs, and likeability. Table 15.2 summarizes findings for MPE for both traits and affect based on the eight studies from Kenny and DePaulo (1993), and reflect the differences between metaperceptions and the judges' perceptions.

Generalized Meta-Accuracy: Do People Know Their Reputation?

Generalized meta-accuracy (GMA) reflects the degree to which people understand how others generally see them, or whether people know their reputation (Kenny, 1994). GMA is typically assessed in studies that employ a *round-robin* design, where each person in a small group provides ratings for every other group member (i.e., everyone serves both as a metaperceiver and a judge; e.g., Malloy & Janowski, 1992), or a *one-with-many* design, where a metaperceiver guesses how judges perceive him or her and then those judges rate his or her personality (e.g., Carlson & Furr, 2009). In both cases, GMA is measured as the degree to which metaperceivers' average metaperceptions corresponds to the average impression of their judges.

The left three columns of Table 15.1 summarize the GMA findings. GMA is strongest for the Big Five ($r = .38$), especially for Extraversion ($r = .58$), and weaker for evaluative traits (positive: $r = .18$; negative: $r = .20$) and needs ($r = .17$). For first-impression contexts, GMA is especially strong for observable traits, such as Extraversion ($r = .51$). For acquaintances (e.g., friends, family, and coworkers), GMA is strong for most traits

TABLE 15.1. Summary of GMA and DMA

Trait	GMA			DMA		
	Overall impression	First Acquaintance	Acquaintance	Overall impression	First Acquaintance	Acquaintance
Big Five						
Extraversion	.58 ₍₁₈₎	.51 ₍₁₅₎	.63 ₍₁₃₎	.28 ₍₈₎	.21 ₍₂₄₎	.35 ₍₄₎
Agreeableness	.40 ₍₁₅₎	.17 ₍₂₎	.46 ₍₁₃₎	.22 ₍₉₎	.09 ₍₅₎	.40 ₍₁₎
Conscientiousness	.29 ₍₂₀₎	.06 ₍₅₎	.42 ₍₁₅₎	.19 ₍₉₎	.09 ₍₅₎	.32 ₍₁₀₎
Emotion stability	.38 ₍₁₈₎	.34 ₍₅₎	.42 ₍₁₃₎	.12 ₍₇₎	.01 ₍₃₎	.25 ₍₁₎
Openness	.24 ₍₁₁₎	-.02 ₍₂₎	.31 ₍₉₎	.37 ₍₁₀₎	.42 ₍₁₎	.34 ₍₃₎
Mean	.38	.22	.45	.24	.17	.33
Leadership						
Leadership	.30 ₍₅₎	.33 ₍₄₎	.20 ₍₁₎	.07 ₍₂₎	.07 ₍₁₎	
Assertive	.21 ₍₇₎	.16 ₍₁₎	.27 ₍₁₎			
Competent	.22 ₍₁₎	.22 ₍₁₎				
Good at public speaking	.12 ₍₁₎	.05 ₍₁₎	.20 ₍₁₎			
Confident				.19 ₍₁₎	.19 ₍₁₎	
Likes to be the center of attention	.41 ₍₃₎	.31 ₍₁₎	.51 ₍₁₎			
Mean	.25	.22	.30	.13	.13	
Attractiveness						
Physically attractive	.32 ₍₁₁₎	.28 ₍₆₎	.37 ₍₅₎	.20 ₍₅₎	.11 ₍₃₎	.42 ₍₂₎
Sexy	.16 ₍₂₎	.16 ₍₂₎		.12 ₍₂₎	.12 ₍₂₎	
Mean	.24	.22	.37	.16	.12	.42
Evaluative—positive						
Intelligent	.18 ₍₁₄₎	.11 ₍₅₎	.23 ₍₂₎	.18 ₍₅₎	.14 ₍₄₎	.31 ₍₁₎
Funny	.17 ₍₂₎	.02 ₍₁₎	.31 ₍₁₎	.25 ₍₂₎	.20 ₍₁₎	.30 ₍₁₎
Honest	.18 ₍₂₎	.04 ₍₁₎	.33 ₍₁₎	.11 ₍₂₎	-.03 ₍₁₎	.23 ₍₁₎
Mean	.18	.06	.29	.18	.10	.28
Evaluative—negative						
Exaggerates his or her skills	.14 ₍₂₎	.18 ₍₁₎	.09 ₍₁₎	.19 ₍₂₎	.24 ₍₁₎	.15 ₍₁₎
Arrogant	.22 ₍₂₎	.13 ₍₁₎	.31 ₍₁₎	.27 ₍₂₎	.21 ₍₁₎	.33 ₍₁₎
Impulsive	.16 ₍₂₎	.18 ₍₁₎	.14 ₍₁₎	.25 ₍₂₎	.15 ₍₁₎	.34 ₍₁₎
Personality pathology	.26 ₍₁₀₎		.26 ₍₁₀₎			
Mean	.20	.16	.20	.24	.20	.28
Well-being						
Happy	.30 ₍₃₎	.11 ₍₁₎	.42 ₍₂₎			
Depressed	.10 ₍₂₎	-.07 ₍₁₎	.27 ₍₁₎			
Lonely	.34 ₍₃₎		.34 ₍₃₎			
High self-esteem	.28 ₍₁₎	.09 ₍₁₎	.35 ₍₁₎			
Mean	.26	.04	.35			
Needs						
Strong drive to achieve	.19 ₍₂₎	.02 ₍₁₎	.36 ₍₁₎			
Strong need to be around others	.06 ₍₂₎	-.04 ₍₁₎	.16 ₍₁₎			
Values power in self and others	.25 ₍₂₎	.12 ₍₁₎	.38 ₍₁₎	.17 ₍₂₎	.13 ₍₁₎	.20 ₍₁₎
Mean	.17	.03	.30	.17	.13	.20
Likeability						
Interesting	.45 ₍₁₎		.45 ₍₁₎	.45 ₍₁₎		.45 ₍₁₎
Tends to be liked by others	.20 ₍₂₎	.12 ₍₁₎	.28 ₍₁₎			
Likeable	.26 ₍₃₎	.29 ₍₂₎	.24 ₍₃₎	.25 ₍₂₎	.13 ₍₁₎	.35 ₍₃₎
Tends to like others	.22 ₍₂₎	.04 ₍₁₎	.40 ₍₁₎			
Mean	.29	.15	.35	.35	.13	.40

Note. Meta-accuracy for individual traits reflects the meta-analytic average correlation (i.e., the Hunter-Schmidt method; Field & Giller, 2010). Estimates were based on the number of correlations contained in the subscript. Mean correlations for trait categories were computed by first averaging the Fisher r -to- z -transformed meta-analytic average correlations and then transforming the averages back into correlations. In addition to computing an overall index of GMA and DMA for each trait (i.e., Overall), we also computed indices of GMA and DMA for first impression and acquaintance (e.g., friends, family, and coworkers) contexts.

TABLE 15.2. MPE and Self-Enhancement for Affect and Traits

Study	MPE		Self-enhancement	
	Affect	Trait	Affect	Trait
Anderson (1984)		0.34		0.80
Curry & Kenny (1974)	0.08			
DePaulo et al. (1987)	-0.38	-0.08		
Kenny & DePaulo (1990)	-0.18	-0.08	0.23	0.10
Malloy & Albright (1990)		0.03	0.26	
Malloy & Janowski (1992)		0.27		0.41
Oliver (1988)	-0.11	0.10	0.04	0.21
Reno & Kenny (1992)	-0.22	0.15	-0.02	0.41
Mean	-0.16	0.11	0.13	0.39

Note. MPE reflects the mean difference between metaperceptions and the judges' actual perceptions. A positive difference indicates overestimation or enhancement whereas a negative difference indicates underestimation or depreciation. Measures are transformed to be on a 7-point scale.

but notably weaker for undesirable traits ($r = .20$). Finally, GMA tends to be weaker in first-impression contexts than among acquaintances, and the differences between contexts are especially strong for internal traits such as well-being (first impression: $r = .04$; acquainted: $r = .35$) and needs (first impression: $r = .03$; acquainted: $r = .30$).

Dyadic Meta-Accuracy:

Do People Know the Unique Impressions That They Make?

Dyadic or differential meta-accuracy (DMA) reflects the degree to which people can detect how others uniquely see them. There are two ways to conceptualize DMA: a trait-centered approach and a person-centered approach.² The trait-centered approach conceptualizes DMA as the degree to which people can detect who sees them as particularly high or low on a given trait. Like GMA, trait-centered DMA is often assessed using a round-robin or a one-with-many design. The right three columns of Table 15.1 summarize results for trait-centered DMA. As shown, DMA is stronger for likeability ($r = .35$) than for other traits, such as the Big Five ($r = .24$). Interestingly, DMA appears to be stronger for agentic, or “get ahead” traits (Extraversion: $r = .21$; Openness: $r = .42$), than for communal, or “get along” traits (Agreeableness: $r = .09$; tends to like others: $r = .04$), for new acquaintances in a first-impression context. However, the opposite is true for acquaintances (e.g., friends, family, and coworkers)—DMA is somewhat stronger for communal traits (Agreeableness: $r = .40$; tends to like others: $r = .40$) than for agentic traits (Extraversion: $r = .35$; Openness: $r = .34$).

Person-centered DMA reflects the degree to which people can detect which traits a judge perceives as more characteristic of their personality and is generally measured as the profile correlation between metaperceptions and actual impressions across a set of traits (Campbell & Fehr, 1990; Carlson, Furr, & Vazire, 2010; Ohtsubo, Takazawa, & Fukuno, 2009; Snodgrass, 2001). For instance, person-centered DMA reflects people's ability to guess whether a particular friend sees them as more extraverted than agreeable and anxious. After a short conversation with a new acquaintance, people

achieve DMA for the Big Five and other traits, such as “honest” (Carlson et al., 2010; Carlson, Vazire, & Furr, 2009; Ohtsubo et al., 2009). Even more impressive, people’s confidence in their metaperceptions correlates positively with their meta-accuracy for a new acquaintance, as well as for close others (Carlson et al., 2009, 2010). In other words, people seem to have some self-knowledge about their meta-accuracy or lack thereof.

Metaperception Enhancement: Do People Over- or Underestimate How Others See Them?

MPE reflects the degree to which people over- or underestimate how others see them. For example, do people think they are perceived more positively than they actually are? MPE reflects the mean difference between metaperceptions and the judges’ actual perceptions. A positive difference indicates *overestimation*, or *enhancement*, whereas a negative difference indicates *underestimation*, or *deprecation*. Thus, MPE is similar to measures of self-enhancement (SE; Taylor & Brown, 1988) that compare the mean difference between self-perceptions and some measure of personality.

The positive illusions literature generally shows that most people view themselves in overly positive ways (i.e., self-enhancement). Thus, we might expect that metaperceptions are also positively biased. Table 15.2 summarizes the results for MPE. For affect, metaperceptions are less positive than the judges’ perceptions (mean MPE = -0.16), suggesting that people underestimate how much others like them. For traits, metaperceptions were more positive than the judge’s perceptions (mean MPE = 0.11), suggesting that people overestimate how positively they are seen by others. However, trait MPE was much less than self-enhancement (mean SE = 0.39). Thus, it appears that people’s metaperceptions are closer to judges’ perceptions than are their self-perceptions.

Summary

Our review revealed several bright spots and blind spots in meta-accuracy. On the bright side, people have insight into how they are generally seen by others on core personality traits: They know who especially likes them, they can detect which traits others perceive as especially characteristic of their personality, and they seem to have some self-knowledge about when their metaperceptions are accurate. On the darker side, people struggle to detect their reputation on evaluative traits and, to some extent, hold overly positive metaperceptions relative to others’ impressions. Next, we examine the sources of information that people use to form metaperceptions and how each source might be responsible for the bright spots and blind spots in meta-accuracy that we have just reviewed.

Causes of Metaperception: Searching for Moderators of Meta-Accuracy

Kenny and his colleagues (Kenny, 1994; Kenny & DePaulo, 1993) have discussed three potential sources of information people use to form metaperceptions: feedback

from others, self-perceptions of personality, and self-observation of behavior. We propose a fourth source: the use of heuristics. In this section, we review the extent to which each of the four sources is used to form metaperceptions and how each source might aid or hinder meta-accuracy.

Feedback from Others

Intuitively, perceptions of verbal or nonverbal feedback from the other should provide the most diagnostic information about others' actual impressions (Cooley, 1902; Jussim, Soffin, Brown, Icy, & Kohlhepp, 1992; Kenny & DePaulo, 1993; Mead, 1934). For feedback to lead to meta-accuracy, at least two things must occur: (1) The judge must provide valid feedback, and (2) the metaperceiver must detect and correctly utilize that information. However, both processes are far from perfect. People often fail to provide feedback (Blumberg, 1972), or they provide feedback that is ambiguous or deceptive (e.g., Swann, Stein-Seroussi, & McNulty, 1992). People also have a difficult time detecting or utilizing feedback even when it is available and unambiguous (Shechtman & Kenny, 1994). For example, generating conversation topics and responding to others prevents people from observing feedback (Kenny & DePaulo, 1993; Liberman & Rosenthal, 2001), and even when people do observe feedback, the motivation to make a desirable impression, to be seen in a positive way, or to be seen as they see themselves, may prevent people from correctly interpreting diagnostic feedback (Kwang & Swann, 2010). These informational and motivational barriers might explain why people who base their metaperceptions primarily on their perceptions of feedback are often less meta-accurate than are people who base their metaperceptions on their self-perceptions (Kaplan, Santuzzi, & Ruscher, 2009). Thus, despite the intuitive appeal of feedback, basing metaperceptions on the feedback from judges seems to hurt more than help meta-accuracy.

Self-Perceptions of Traits

Metaperception seems to require that people somehow peer into the minds of others. In fact, symbolic interactionists call metaperceptions *reflected appraisals* (Felson, 1980), which refers to the process of looking through the eyes of significant others to form self-perceptions (Cooley, 1902; Mead, 1934). Yet several researchers have concluded that people assume others see them as they see themselves, instead of the other way around.

Metaperceptions are strongly correlated with self-perceptions ($r = .87$; Kenny, 1994), which suggests that meta-accuracy might largely depend on the extent to which others actually share one's self-views (i.e., self-other agreement). There is, we believe, strong evidence for the role of self-perception in the formation of metaperceptions. First, self-other agreement is strong for close others and weaker for new acquaintances (Connelly & Ones, 2010; Vazire & Carlson, 2010). GMA and DMA show the same pattern, perhaps because people (correctly) assume that the ones they are closest to see them as they see themselves. Second, self-other agreement is stronger for observable traits but weaker for evaluative traits (John & Robins, 1993). GMA is also stronger for observable traits and weaker for evaluative traits, which provides further evidence that meta-accuracy is strong when self-other agreement

is also strong. Together, these results suggest that people rely heavily on their self-perceptions of their personality when forming metaperceptions and that this reliance leads to meta-accuracy.

In general, self-perception appears to be a valid source of information, especially for close others and for observable, nonevaluative traits. However, basing metaperceptions on self-perceptions of personality also explains some inaccuracies of meta-perception in several domains. First, even if our global self-perception reflects how we are generally seen, some people are particularly harsh or lenient judges of personality (Srivastava, Guglielmo, & Beer, 2010; Wood, Harms, & Vazire, 2010). Thus, basing metaperceptions on self-perceptions prevents people from detecting the unique impressions they make (Kenny & DePaulo, 1993). This might also explain why DMA is generally weaker than GMA. Second, self–other agreement is often weaker for internal traits because others do not have access to thoughts and emotions, suggesting that meta-accuracy should also be weaker for internal traits than for observable traits when metaperceptions are based on self-perceptions. This might explain why meta-accuracy is relatively weak for traits such as depression and emotional stability. Third, people are generally motivated to see themselves in a positive light, especially on evaluative traits (John & Robins, 1993; Vazire, 2010). This might explain why GMA is weaker for personality pathology than for the Big Five traits.

Self-Observation of Behavior

Although self-perceptions are strongly correlated with metaperceptions, metaperceptions and meta-accuracy are not entirely due to self-perceptions. Specifically, people make valid distinctions between how they see themselves and how others see them, a form of self-knowledge called *meta-insight* (Carlson, Vazire, & Furr, 2011). Moreover, if people relied exclusively on self-perception, they would never detect the unique impressions they made (i.e., there would be no DMA). Instead, it appears that people also use self-perceptions of their behavior to guess how they are seen by others (Felson, 1980). Given that judges generally base their personality judgments on their observations of metaperceivers' behavior, and that judges tend to agree about which behaviors reflect which traits (Funder & Sneed, 1993; Mehl, Gosling, & Pennebaker, 2006), metaperceptions are likely to be correct if they are also based on observing one's own (i.e., the metaperceiver's) behavior. Indeed, there is strong evidence that when we attend to our behavior (Albright et al., 2001) or when we have special access to our behavior (e.g., videotape feedback; Albright & Malloy, 1999), meta-accuracy is strong.

Self-observation of behavior might explain why GMA and DMA are strong for observable traits like extraversion. Self-observation might also explain an interesting pattern of findings for DMA not reported in Table 15.1. Specifically, DMA tends to be weak when assessed for judges who know metaperceivers from a single social context (e.g., roommates; Malloy & Albright, 1990) but stronger when assessed for judges who know metaperceivers from different social contexts (e.g., college friends vs. hometown friends vs. parents; Carlson & Furr, 2009). People tend to behave differently in different situations (Furr & Funder, 2004) and make different impressions on those who know them from different social contexts (Funder, Kolar, & Blackman, 1995). Carlson and Furr (2009) found that people can detect the unique impressions

they make across social contexts, suggesting that perhaps people understand how their behavior varies across social contexts. However, the research examining meta-insight discussed earlier found that people do not base their metaperceptions exclusively on their behavior or on context-specific self-perceptions (Carlson et al., 2011). In other words, metaperceptions incorporate valid information other than self-perception of personality and self-observation of behavior.

Despite the apparent boost in meta-accuracy, self-observation of behavior might not always be a path to meta-accuracy because people do not always know very well how they behave (Gosling, John, Craik, & Robins, 1998; Leising, Rehbein, & Sporberg, 2006; Vazire & Mehl, 2008). Metaperceivers and judges have unique perspectives, such that metaperceivers tend to notice and remember more information about their internal experiences (e.g., feelings of nervousness), past behavior, or the judge's behavior, than about their own current behavior (Albright et al., 2001; Chambers, Epley, Savitsky, & Windschitl, 2008; DePaulo, 1992; Malle & Pearce, 2001). For example, a shy person might assume that others perceive his or her lack of talkativeness as shyness when others actually perceive him or her as cold. Thus, we often mistakenly assume that the thoughts and intentions underlying our behavior are apparent to others (Cameron & Vorauer, 2008; Gilovich, Savitsky, & Medvec, 1998; see also Hansen & Pronin, Chapter 21, this volume). We also often fail to notice the extremity of our behavior because we have become accustomed to our own behavioral style (Leising et al., 2006). Additionally, our ability to accurately observe our behavior may also be hindered by self-enhancement motives (Gosling et al., 1998; Hall, Murphy, & Mast, 2007).

Heuristics

A fourth source of information that might drive metaperceptions is the use of heuristics or assumptions that the perceiver makes to guess the judge's metaperception. We discuss three heuristics that drive metaperception: assumed reciprocity, assumed similarity, and normativeness. *Assumed reciprocity* reflects the tendency to assume that others see us as we see them, and it probably has mixed effects on meta-accuracy. Assumed reciprocity should have positive effects for DMA, specifically for traits that tend to show actual reciprocity, such as likeability (e.g., if I think that you are likeable, you are more likely to see me as likeable as well). Yet, for the same traits, assumed reciprocity may have negative effects for GMA because actual reciprocity of liking at the group level tends to be low or even negative (Eastwick, Finkel, Mochon & Ariely, 2007; Kenny, 1994).

Assumed similarity reflects the tendency to assume that others share our personality traits. This can affect meta-accuracy in two ways. First, it can affect the positivity of metaperceptions: If we think that others are similar to us, we assume that others will like us (Newcomb, 1953), and that others will rate us positively. This might explain why mutual liking tends to result in meta-accuracy (Ohtsubo et al., 2009)—the positivity of metaperceptions and judges' actual ratings probably covary with liking. Second, assumed similarity might increase the chance that people base their metaperceptions on self-perceptions: If we think others are like us, we assume that others see us as we see ourselves. Because close others are actually likely to see us similarly to how we see ourselves, assumed similarity likely has positive effects for

meta-accuracy among close others but may hinder meta-accuracy in first-impression contexts.

Normativeness reflects information about the typical person. For example, before meeting someone for the first time, we might assume that he or she is more kind than cruel, which is true of most people. Normativeness likely has its greatest effect on meta-accuracy in first-impression contexts because people have little information about judges and believe that judges have little information about them (Arnes, 2004; Biesanz, West, & Millevoi, 2007; Kenny, 1994). One way to assess the role of normativeness is to remove the average rating from all observations (i.e., meta-perceptions and actual impressions) before computing meta-accuracy, which removes any potential agreement about what the typical person is like (Cronbach, 1955; Furr, 2008; Kenny & Acitelli, 1994). In first-impression contexts, person-centered DMA decreases substantially when normativeness is removed, suggesting that information about the typical person is a major source of information driving metaperceptions in these situations (e.g., Carlson et al., 2010; Kenny, Smook, Boucher, & Hancock, 2010). We hope that future work will investigate the role of normative information in metaperceptions for close others.

Summary

Overall, it appears that we rely heavily on self-perceptions when forming metaperceptions, and that this strategy seems to help more than hurt meta-accuracy. Yet self-perception is not the whole story, suggesting that self-observations of behavior, feedback, and heuristics are also paths to meta-accuracy. Regardless of the source of information, the two major obstacles we face when it comes to learning how others see us are informational and motivational barriers. For instance, we do not always have access to a judge's reaction to us or to our own behavior (informational barriers), and our desire to be seen in certain ways often lead us to look for certain types of feedback, to see our personality and behavior in certain ways, and to assume that others feel the same way about us as we feel about them (motivational barriers). In summary, the path to meta-accuracy is much more complicated than we might naively think.

Improving Meta-Accuracy: Implications and Future Directions

How might we become better metaperceivers? Given that meta-accuracy is mostly hindered by informational and motivational barriers, improving meta-accuracy might simply require that we process (more) information in an unbiased and nonjudgmental manner. A recent study provides initial support for this possibility. Specifically, people high in trait mindfulness had better meta-accuracy for evaluative traits such as attractiveness and agreeableness (Carlson, Vazire, & Livingston, 2011). *Mindfulness* refers to awareness and attention to the present moment, and nonjudgmental observation of one's experience (Brown & Ryan, 2003). Why might individuals higher in mindfulness be more meta-accurate? One possibility is that these individuals pay more attention in social interactions and, consequently, notice more of their own or others' behavior. Another possibility is that these individuals respond to observations

of themselves or others in less defensive or ego-protective ways (see Leary & Toner, Chapter 25, this volume). Future research might identify other moderators of meta-accuracy by taking an approach similar to Funder's (1995) realistic accuracy model (RAM) of personality; that is, like mindfulness, there may be other types of "good metaperceivers," as well as "good judges" (e.g., individuals who are easy to read), "good information" (e.g., less ambiguous feedback), or "good traits." There may also be important interactions between these moderators (e.g., interactions between metaperceivers and traits). For example, narcissists are aware that others see them as narcissistic (Carlson, Vazire, & Oltmanns, 2011) suggesting that perhaps certain types of metaperceivers are skilled at detecting the impressions they make about certain traits.

Interestingly, one relatively unexplored empirical question is whether meta-accuracy is beneficial or costly. There are a few reasons to believe that meta-accuracy is beneficial. First, meta-accuracy probably improves our ability to make important decisions. For example, DMA allows us to select the best person for a professional recommendation and to pursue relationships with people who see us positively, or see us as we see ourselves (Kwang & Swann, 2010). Second, meta-accuracy provides an opportunity to improve self-knowledge. Others know more than we know about certain aspects of our personality (e.g., evaluative traits; Vazire, 2010). Thus, one way to learn more about what we are like is to learn more about how others see us (Vazire & Carlson, 2011; Wilson & Dunn, 2004). This type of self-knowledge allows us to make positive changes in our behavior (e.g., learning that others see us as cold and aloof might prompt us to show more warmth). Of course, meta-accuracy about negative information might initially be costly. For example, the sociometer theory of self-esteem argues that we experience low self-esteem when we believe that we have made negative impressions (Leary, 2005). However, the temporary blow to one's ego is likely outweighed by the fact that meta-accuracy protects us from larger, more negative consequences (e.g., asking the wrong person for a letter of recommendation).

Despite these potential benefits, there are some situations in which people might benefit more from being inaccurate about the impressions they make. We can think of two such examples. First, in many cases, it may be best for people to use role prescriptions to guess how they are seen by others than to be accurate (e.g., a supervisor may be better off using a role prescription when guessing how subordinates see him or her; Steiner, 1955). Indeed, individuals in a supervisor role are less meta-accurate than individuals in a subordinate role (Snodgrass, 1992). Second, several findings in the close relationships literature suggest that knowing too well what is going on in one's partner's mind can be harmful to the relationship. For instance, accurately perceiving relationship-threatening thoughts during discussions about relationship problems or accurately inferring romantic partners' thoughts about alternative dating partners results in reduced feelings of closeness (Simpson, Ickes, & Grich, 1999; Simpson, Oriña, & Ickes, 2003; see also Simpson, Fillo, & Myers, Chapter 14, this volume). In fact, being deluded about how much a partner cares about the self (i.e., inferring that he or she cares more than he or she does) is associated with greater relationship satisfaction, as well as more positive thoughts and emotions, and these consequences may actually bolster the partner's caring over time (Lemay & Clark, 2008; Lemay, Clark, & Feeney, 2007). We hope that future research will explore the short- and long-term consequences of meta-accuracy.

In conclusion, although meta-accuracy is often considered to be a form of social knowledge, we suggest that understanding how others perceive us reflects a form of self-knowledge. Our review has revealed that although we have a great deal of self-knowledge about how our personality manifests itself in different contexts, meta-accuracy is far from perfect. Given the role meta-accuracy might play in shedding light on the blind spots in self-knowledge, we hope that future research will explore how meta-accuracy might be improved.

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NOTES

1. Studies included in the review are noted in the reference section (*).
2. As discussed in Kenny and Winquist (2001), what we call *person-centered* DMA is essentially the same as trait-centered DMA. We also note that GMA correlations tend to be larger than DMA correlation because GMA correlations benefit from the aggregation across judges.

REFERENCES

Asterisks (*) indicate papers included in Tables 15.1 and 15.2.

- Albright, L., Forest, C., & Reiserer, K. (2001). Acting, behaving, and the selfless basis of metaperception. *Journal of Personality and Social Psychology*, *81*, 910–921.
- Albright, L., & Malloy, T. F. (1999). Self-observation of social behavior in metaperception. *Journal of Personality and Social Psychology*, *77*, 726–734.
- Ames, D. R. (2004). Inside the mind reader's tool kit: Projection and stereotyping in mental state inferences. *Journal of Personality and Social Psychology*, *87*, 340–353.
- Anderson, R. D. (1984). *Measuring social self-perception: How accurately can individuals predict how others view them?* Unpublished doctoral dissertation, University of Connecticut, Storrs. (*)
- Back, M. D., Krause, S., Hirschmüller, S., Stopfer, J. M., Egloff, B., & Schmukle, S. C. (2009). Unraveling the three faces of self-esteem. A new information-processing sociometer. *Journal of Research in Personality*, *43*, 933–937. (*)
- Biesanz, J. C., West, S. G., & Millevoi, A. (2007). What do you learn about someone over time?: The relationship between length of acquaintance and consensus and self–other agreement in judgments of personality. *Journal of Personality and Social Psychology*, *92*, 119–135.
- Blumberg, H. H. (1972). Communication of interpersonal evaluations. *Journal of Personality and Social Psychology*, *23*, 157–162.
- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: Mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, *84*, 822–848.
- Cameron, J. J., & Vorauer, J. D. (2008). Feeling transparent: On metaperceptions and miscommunications. *Social and Personality Psychology Compass*, *2*, 1093–1108.

- Campbell, J. D., & Fehr, B. (1990). Self-esteem and perceptions of conveyed impressions: Is negative affectivity associated with greater realism? *Journal of Personality and Social Psychology, 58*, 122–133.
- Carlson, E. N., & Furr, R. M. (2009). Evidence of differential meta-accuracy: People understand the different impressions they make. *Psychological Science, 20*, 1033–1039. (*)
- Carlson, E. N., Furr, R. M., & Vazire, S. (2010). Do we know the first impressions we make?: Evidence for idiographic meta-accuracy and calibration of first impressions. *Social Psychological and Personality Science, 1*, 94–98.
- Carlson, E. N., Vazire, S., & Furr, R. M. (July, 2009). *Moderators of differential meta-accuracy*. Poster presented at the 1st Annual Conference for the Association for Research in Personality, Chicago.
- Carlson, E. N., Vazire, S., & Furr, R. M. (2011). Meta-insight: Do people really know how others see them? *Journal of Personality and Social Psychology, 101*, 831–846.
- Carlson, E. N., Vazire, S., & Livingston, J. (2011). Mindfulness as a path to self-knowledge. In C. Carlson & S. Vazire (Chairs), *Minding the self: How mindfulness improves self-reflection and self-knowledge*. Symposium conducted at 12th annual meeting of the Society of Personality and Social Psychology, San Antonio, TX.
- Carlson, E. N., Vazire, S., & Oltmanns, T. F. (2011). You probably think (his paper's about you: Narcissists' perceptions of their personality and reputation. *Journal of Personality and Social Psychology, 101*, 185–201. (*)
- Chambers, J. R., Epley, N., Savitsky, K., & Windschitl, P. D. (2008). Knowing too much: Using private knowledge to predict how one is viewed by others. *Psychological Science, 19*, 542–548.
- Christensen, P. N., Stein, M. B., & Means-Christensen, A. (2003). Social anxiety and interpersonal perception: A social relations model analysis. *Behaviour Research and Therapy, 41*, 1355–1371. (*)
- Connelly, B. S., & Oles, D. S. (2010). An other perspective on personality: Meta-analytic integration of observers' accuracy and predictive validity. *Psychological Bulletin, 136*, 1092–1122.
- Cooley, C. H. (1902). *Human nature and the social order*. New York: Scribner.
- Cronbach, L. J. (1955). Processes affecting scores on "understanding of others" and "assumed similarity." *Psychological Bulletin, 52*, 177–193.
- Curry, T., & Kenny, D. A. (1974). The effect of perceived and actual similarity in value and personality in the process of interpersonal attraction. *Quantity and Quality, 8*, 27–44.
- DePaulo, B. M. (1992). Nonverbal behavior and self-presentation. *Psychological Bulletin, 111*, 203–243.
- DePaulo, B. M., Kenny, D. A., Hoover, C. W., Webb, W., & Oliver, P. (1987). Accuracy of person perception: Do people know what kinds of impressions they convey? *Journal of Personality and Social Psychology, 52*, 303–315. (*)
- Eastwick, P. W., Finkel, E. J., Machon, D., & Ariely, D. (2007). Selective versus unselective romantic desire: Not all reciprocity is created equal. *Psychological Science, 18*, 317–319.
- Felson, R. B. (1980). Communication barriers and the reflected appraisal process. *Social Psychology Quarterly, 43*, 116–126.
- Field, A. P., & Gillet, R. (2010). How to do a meta-analysis. *British Journal of Mathematical and Statistical Psychology, 63*, 665–694.
- Fletcher, G. J. O., & Kerr, P. S. G. (2010). Through the eyes of love: Reality and illusion in intimate relationships. *Psychological Bulletin, 136*, 627–658.
- Froy, F. E., & Tropp, L. R. (2006). Being seen as individuals versus as group members: Extending research on metaperception to intergroup contexts. *Personality and Social Psychology Review, 10*, 265–280.

- Funder, D. C. (1995). On the accuracy of personality judgment: A realistic approach. *Psychological Review*, 102, 652–670.
- Funder, D. C., Kolar, D. C., & Blackman, M. C. (1995). Agreement among judges of personality: Interpersonal relations, similarity, and acquaintanceship. *Journal of Personality and Social Psychology*, 69, 656–672.
- Funder, D. C., & Sneed, C. D. (1993). Behavioral manifestations of personality: An ecological approach to judgmental accuracy. *Journal of Personality and Social Psychology*, 64, 479–490.
- Furr, R. M. (2008). A framework for profile similarity: Integrating similarity, normativeness, and distinctiveness. *Journal of Personality*, 76, 1267–1316.
- Furr, R. M., & Funder, D. C. (2004). Situational similarity and behavioral consistency: Subjective, objective, variable-centered, and person-centered approaches. *Journal of Research in Personality*, 38, 421–447.
- Gilovich, T., Savitsky, K., & Medvec, V. H. (1998). The illusion of transparency: Biased assessments of others' ability to read one's emotional states. *Journal of Personality and Social Psychology*, 75, 332–346.
- Gosling, S. D., John, O. P., Craik, K. H., & Robins, R. W. (1998). Do people know how they behave? Self-reported act frequencies compared with on-line codings by observers. *Journal of Personality and Social Psychology*, 74, 1337–1349.
- Hall, J. A., Murphy, N. A., & Mast, M. S. (2007). Nonverbal self-accuracy in interpersonal interaction. *Personality and Social Psychology Bulletin*, 33, 1675–1685.
- Hebert, B. G., & Vorauer, J. D. (2003). Seeing through the screen: Is evaluative feedback communicated more effectively in face-to-face or computer-mediated exchanges? *Computers in Human Behavior*, 19, 25–38.
- John, O. P., & Robins, R. W. (1993). Determinants of interjudge agreement on personality traits: The Big Five domains, observability, evaluativeness, and the unique perspective of the self. *Journal of Personality*, 61, 521–551.
- Jussim, L., Soffin, S., Brown, R., Fey, J., & Kohlhepp, K. (1992). Understanding reactions to feedback by integrating ideas from symbolic interactionism and cognitive evaluation theory. *Journal of Personality and Social Psychology*, 62, 402–421.
- Kaplan, S. A., Santuzzi, A. M., & Ruscher, J. B. (2009). Elaborative metaperceptions in outcome-dependent situations: The diluted relationship between default self-perceptions and metaperceptions. *Social Cognition*, 27, 603–614.
- Kenny, D. A. (1994). *Interpersonal perception: A social relations analysis*. New York: Guilford Press.
- Kenny, D. A., & Acitelli, L. K. (1994). Measuring similarity in couples. *Journal of Family Psychology*, 8, 417–431.
- Kenny, D. A., Snook, A., Boucher, E. M., & Hancock, J. T. (2010). Interpersonal sensitivity, status, and stereotype accuracy. *Psychological Science*, 21, 1735–1739.
- Kenny, D. A., & DePaulo, B. M. (1990). [Applicant–interviewer study]. Unpublished raw data. (*)
- Kenny, D. A., & DePaulo, B. M. (1993). Do people know how others view them?: An empirical and theoretical account. *Psychological Bulletin*, 114, 145–161.
- Kenny, D. A., & West, T. V. (2008). Self-perception as interpersonal perception. In J. V. Wood, A. Tesser, & J. G. Holmes (Eds.), *The self and social relationships* (pp. 119–137). New York: Psychology Press.
- Kenny, D. A., & Winquist, L. (2001). The measurement of interpersonal sensitivity: Consideration of design, components, and unit of analysis. In A. Hall & F. J. Bernieri (Eds.), *Interpersonal sensitivity: Theory and measurement* (pp. 265–302). Mahwah, NJ: Erlbaum.
- Kwang, T., & Swann, W. B., Jr. (2010). Do people embrace praise even when they feel

- unworthy?: A review of critical tests of self-enhancement versus self-verification. *Personality and Social Psychology Review*, 14, 263–280.
- Taing, R. D., Phillipson, H., & Lee, A. R. (1966). *Interpersonal perception: A theory and a method of research*. New York: Springer-Verlag.
- Leary, M. R. (2005). Sociometer theory and the pursuit of relational value: Getting to the root of self-esteem. *European Review of Social Psychology*, 16, 75–111.
- Leising, D., Rehbein, D., & Sporberg, D. (2006). Does a fish see the water in which it swims?: A study of the ability to correctly judge one's own interpersonal behavior. *Journal of Social and Clinical Psychology*, 25, 963–974.
- Lemay, E. P., Jr., & Clark, M. S. (2008). "Walking on eggshells": How expressing relationship insecurities perpetuates them. *Journal of Personality and Social Psychology*, 95, 420–441.
- Lemay, E. P., Jr., Clark, M. S., & Feeney, B. C. (2007). Projection of responsiveness to needs and the construction of satisfying communal relationships. *Journal of Personality and Social Psychology*, 92, 834–853.
- Levesque, M. J. (2007, October). On being a good judge: Gender as a moderator of interpersonal accuracy and meta-accuracy in mixed gender dyads. In J. Spain (Chair), *Interpersonal perception and the eye of the beholder: Understanding the role of personality, gender, and relationship variables in perceiver judgments*. Symposium conducted at the meeting of Society of Southeastern Social Psychologists, Durham, NC. (*)
- Levesque, M. J. (1997). Meta-accuracy among acquainted individuals: A social relations analysis of interpersonal perception and metaperception. *Journal of Personality and Social Psychology*, 72, 66–74. (*)
- Liberman, M. D., & Rosenthal, R. (2001). Why introverts can't always tell who likes them: Multitasking and nonverbal decoding. *Journal of Personality and Social Psychology*, 80, 294–310.
- Malle, B. F., & Pearce, B. E. (2001). Attention to behavioral events during interaction: Two actor-observer gaps and three attempts to close them. *Journal of Personality and Social Psychology*, 81, 278–294.
- Malloy, T. E., & Albright, L. (1990). Interpersonal perception in a social context. *Journal of Personality and Social Psychology*, 58, 419–428. (*)
- Malloy, T. E., Albright, L., Diaz-Loving, R., Dong, Q., & Lee, Y. T. (2004). Agreement in personality judgments within and between nonoverlapping social groups in collectivist cultures. *Personality and Social Psychology Bulletin*, 30, 106–117. (*)
- Malloy, T. E., Albright, L., Kenny, D. A., Agatstein, U., & Winquist, L. (1997). Interpersonal perception and metaperception in nonoverlapping social groups. *Journal of Personality and Social Psychology*, 72, 390–398. (*)
- Malloy, T. E., Albright, L., & Scarpati, S. (2007). Awareness of peers' judgments of oneself: Accuracy and process of metaperception. *International Journal of Behavioral Development*, 31, 603–610.
- Malloy, T. E., & Janowski, C. L. (1992). Perceptions and metaperceptions of leadership: Components, accuracy, and dispositional correlates. *Personality and Social Psychology Bulletin*, 18, 700–708. (*)
- Mead, G. H. (1934). *Mind, self, and society*. Chicago: University of Chicago Press.
- Mehl, M. R., Gosling, S. D., & Pennebaker, J. W. (2006). Personality in its natural habitat: Manifestation and implicit folk theories of personality in daily life. *Journal of Personality and Social Psychology*, 90, 862–877.
- Miller, S., & Malloy, T. E. (2003). Interpersonal behavior, perception, and affect in status-discrepant dyads: Social interaction of gay and heterosexual men. *Psychology of Men and Masculinity*, 4, 121–135. (*)

- Newcomb, T. M. (1953). An approach to the study of communicative acts. *Psychological Review*, 60, 393-404.
- Oliver, P. V. (1989). Effects of need for social approval on first interactions among members of the opposite sex. (Doctoral dissertation, University of Connecticut) *Dissertation Abstracts International*, 50(3-B), 1155. (*)
- Ohtsubo, Y., Takezawa, M., & Fukuno, M. (2009). Mutual liking and metaperception accuracy. *European Journal of Social Psychology*, 39, 707-718. (*)
- Oliver, P. V. (1988). *Effects of need for social approval on first interaction among members of the opposite sex*. Unpublished doctoral dissertation, University of Connecticut, Storrs. (*)
- Oltmanns, T. B., Gleason, M. E., Klonsky, E. D., & Turkheimer, E. (2005). Metaperception for pathological personality traits: Do we know when others think that we are difficult? *Consciousness and Cognition*, 14, 739-751. (*)
- Peters, S., Kinsey, P., & Malloy, T. E. (2004). Gender and leadership perceptions among African Americans. *Basic and Applied Social Psychology*, 26, 93-101. (*)
- Reno, R., & Kenny, D. A. (1992). Effects of self-consciousness on self-disclosure among unacquainted individuals: An application of the social relations model. *Journal of Personality*, 60, 79-94. (*)
- Shechtman, Z., & Kenny, D. A. (1994). Metaperception accuracy: An Israeli study. *Basic and Applied Social Psychology*, 15, 451-465. (*)
- Simpson, J. A., Ickes, W., & Grich, J. (1999). When accuracy hurts: Reactions of anxiously-attached dating partners to a relationship-threatening situation. *Journal of Personality and Social Psychology*, 76, 754-769.
- 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.
- Snodgrass, S. E. (2001). Correlational method for assessing interpersonal sensitivity within dyadic interaction. In J. A. Hall & F. J. Bernieri (Eds.), *Interpersonal sensitivity: Theory and measurement* (pp. 201-218). Mahwah, NJ: Erlbaum.
- Snodgrass, S. E. (1992). Further effects of role versus gender on interpersonal sensitivity. *Journal of Personality and Social Psychology*, 62, 154-158.
- Srivastava, S., Guglielmo, S., & Beer, J. (2010). Perceiving others' personalities: Examining the dimensionality, assumed similarity to the self, and stability of perceiver effects. *Journal of Personality and Social Psychology*, 98, 520-534.
- Steiner, I. D. (1955). Interpersonal behavior as influenced by accuracy of social perception. *Psychological Review*, 62, 268-274.
- Swann, W. B., Stein-Seroussi, A., & McNulty, S. E. (1992). Outcasts in a white-lie society: The enigmatic worlds of people with negative self-concepts. *Journal of Personality and Social Psychology*, 62, 618-624.
- Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin*, 103, 193-210.
- Vazire, S. (2006). *The person from the inside and outside*. Unpublished doctoral dissertation, University of Texas at Austin. (*)
- Vazire, S. (2010). Who knows what about a person?: The Self-Other Knowledge Asymmetry (SOKA) model. *Journal of Personality and Social Psychology*, 98, 281-300.
- Vazire, S., & Carlson, E. N. (2011). Others sometimes know us better than we know ourselves. *Current Directions in Psychological Science*, 20, 104-108.
- Vazire, S., & Carlson, E. N. (2010). Self-knowledge of personality: Do people know themselves? *Social and Personality Psychology Compass*, 4, 605-620.
- Vazire, S., & Mehl, M. R. (2008). Knowing me, knowing you: The accuracy and unique

- predictive validity of self and other ratings of daily behavior. *Journal of Personality and Social Psychology*, *95*, 1202–1216. (*)
- Vazire, S., Naumann, L. P., Rentfrow, P. J., & Gosling, S. D. (2008). Portrait of a narcissist: Manifestations of narcissism in physical appearance. *Journal of Research in Personality*, *42*, 1439–1447. (*)
- Wilson, T. D., & Dunn, E. W. (2004). Self-knowledge: Its limits, value, and potential for improvement. *Annual Review of Psychology*, *55*, 493–518.
- Wood, D., Harms, P., & Vazire, S. (2010). Perceiver effects as projective tests: What your perceptions of others say about you. *Journal of Personality and Social Psychology*, *99*, 174–190.