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Current Opinion in Psychology

Review

Do people know how others view them? Two approaches for identifying the accuracy of metaperceptions

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Abstract

Self-knowledge includes not only beliefs about one's own traits and abilities, but beliefs about how others view the self. Are such metaperceptions accurate? This article identifies two distinct standards used to determine meta-accuracy. The correlational approach tests whether metaperceptions correlate with an accuracy criterion (i.e. social perceptions). The mean-level approach instead asks whether metaperceptions tend to err in a systematic direction. This article reviews complementary lessons gleaned from research taking one approach or the other: whether metaperceptions merely reflect self-perceptions, whose metaperceptions are more or less accurate, and what psychological processes impede meta-accuracy, among others. Ultimately, neither approach is endorsed as unconditionally superior. Instead, which approach offers the proper accuracy standard should depend on the decisions those metaperceptions will guide.

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Current Opinion in Psychology 2022, **43**:119–124

This review comes from a themed issue on **People-Watching: Interpersonal Perception and Prediction**

Edited by **Kate Barasz** and **Tami Kim**

For a complete overview see the Issue and the Editorial

Available online 6 July 2021

https://doi.org/10.1016/j.copsyc.2021.06.018

Keywords

Metaperception, Meta-accuracy, Egocentrism, Self-perception, Social perception.

Know thyself. For Emerson, this command had spiritual connotations. But more generally, it has practical value: Knowing themselves can help people chart wiser, more traversable courses. Of course, given that one's fate is socially tied, it also matters what others know—or at least think they know—about the self. Indeed, social perceptions often serve as the normative benchmark for self-perceptions [1]. A person's confidence in their own agreeableness, for instance, will not foretell their social cachet if no one else shares this wisdom.

Holding accurate *metaperceptions*, beliefs about how others view the self, is necessary for understanding one's standing in the social world and navigating it optimally. After all, metaperceptions shape attitudes and guide behavior [2*,3,4,5]. For example, if you think your boss views you as extremely competent, you may decide it is time to negotiate a raise or pursue a promotion. But if you think that they view you as incompetent, you may decide to focus first on proving your value [2]. If such metaperceptions were inaccurate, this could result in a stinging rebuff or a missed opportunity, respectively.

And in fact, research has identified several ways that inaccurate metaperceptions beget negative consequences. For example, team members tend to underestimate how much their teammates like them, which can lead these metaperceivers to misguidedly avoid asking those teammates for help [6]. Furthermore, workers think that asking for a deadline extension will make them seem incompetent in their supervisors' eyes [7]. What they fail to appreciate is that supervisors tend to see such requests as positive signals of motivation. Workers' inaccurate metaperceptions can thus lead them to miss out on opportunities both to fully showcase their skills and to demonstrate their commitment to the job.

But for all of this discussion of accuracy, what does accuracy entail? This seemingly straightforward question has a nuanced answer. Metaperception researchers have adopted two different criteria but typically focus on just one or the other. We call these the *correlational* and *mean-level* approaches.[1] Each tests whether metaperceptions align with social perceptions. The correlational approach examines the association between meta- and social perceptions (e.g. with a regression slope or correlation coefficient). The mean-level approach tests whether metaperceptions tend to be systematically higher or lower than social perceptions (e.g. with a paired-samples *t*-test). Both approaches can be applied to an individual metaperceiver (e.g. with correlational, to test whether

[1] Evidence of correlational and mean-level accuracy are sometimes referred to as displays of good discrimination and the absence of bias, respectively [8].

the metaperceiver understands the distinct impressions they make on different people), but only the mean-level approach can identify a single metaperception as accurate or inaccurate.

These two criteria for *meta-accuracy* are, at least in theory, orthogonal. Their independence is most easily illustrated with concrete data. Figure 1 displays how metaperceptions can be high or low on correlational accuracy while being simultaneously high or low on mean-level bias. For example, the top-left quadrant shows metaperceivers who perfectly understand their relative standing (thus displaying high correlational accuracy) even as they systematically underestimate how social perceivers view them (thus displaying mean-level bias). Any such combination is possible.

Not only does each approach define accuracy differently, but their corresponding statistical tests also begin with different null hypotheses. This has consequences for whether each approach emphasizes accuracy or bias. The correlational approach identifies gradations of accuracy, testing whether the null hypothesis of complete error can be rejected. The mean-level approach instead examines the magnitude of directional error by determining whether the null of no systematic bias can be rejected. Given complete error and perfect accuracy are each unlikely, the correlational and mean-level approaches are predisposed to detect accuracy and error, respectively.

This distinction has likely received little focus because the literatures that emphasize each type of accuracy have developed largely independently. Correlational accuracy has roots in the psychology of person perception [9], with more recent contributions disproportionately hailing from studies of individual differences [10]. In contrast, the mean-level approach is favored by social psychologists who examine whether people understand how specific actions are interpreted by others. The correlational approach typically embraces variation in metaperceivers' personalities and behavior as meaningful, thereby testing how well the variability in metaperceptions parallels the variability in actual social perceptions. In contrast, the mean-level approach typically sees such performance variation as a source of error to minimize, thereby making it easier to identify whether and how the implications of specific behaviors are systematically misunderstood. These distinct foci have led researchers toward different accuracy criteria, and consequently, the lessons produced from each research tradition vary.

Figure 1

***High* correlational accuracy, *High* mean-level bias**

Meta-Perception	Social Perception	Difference (Meta – Social)
5	7	-2
3	5	-2
1	3	-2
4	6	-2
2	4	-2

Correlation: +1 ***Mean bias:*** -2

***Low* correlational accuracy, *High* mean-level bias**

Meta-Perception	Social Perception	Difference (Meta – Social)
7	7	+0
6	5	+1
8	3	+5
8	6	+2
6	4	+2

Correlation: 0 ***Mean bias:*** +2

***High* correlational accuracy, *Low* mean-level bias**

Meta-Perception	Social Perception	Difference (Meta – Social)
7	7	+0
5	5	+0
3	3	+0
6	6	+0
4	4	+0

Correlation: +1 ***Mean bias:*** 0

***Low* correlational accuracy, *Low* mean-level bias**

Meta-Perception	Social Perception	Difference (Meta – Social)
4	7	-3
6	5	+1
7	3	+4
7	6	+1
1	4	-3

Correlation: 0 ***Mean bias:*** 0

A stylized example displaying the independence of correlational accuracy and mean-level bias. Note: In each quadrant, each row presents ratings of the same target. The correlational approach tests for the correlation between metaperceptions and social perceptions. The mean-level approach examines the average difference score of metaperceptions minus social perceptions.

General lessons

We next review some major themes that have emerged from research that has focused on correlational and mean-level accuracy. Whereas the former has examined *who* displays meta-accuracy under increasingly rigorous criteria, the latter has identified *what* psychological processes lead metaperceivers to misidentify what information social perceivers use, and how they use it, to make sense of metaperceivers' behavior.

From the correlational approach

Research that takes the correlational approach finds clear evidence of *meta-accuracy*—that is, correlations between metaperceptions and social perceptions are often significantly greater than 0 [11-15]. Making such meta-accuracy more impressive, metaperceivers do not merely lean on their own self-views to estimate how others view them. Instead, they display *meta-insight*: evidence of meta-accuracy even when self-perceptions are statistically controlled [12,16]. Moreover, such metaperceptions are not simply generalized to all social perceivers but are relationally distinct: metaperceivers understand that some people (e.g. coworkers) view them differently than do others (e.g. family members) [17,18*].

Although metaperceptions are empirically distinct from self-perceptions, might they both stem from individual differences in people's capacity for self-knowledge? Consistent with this possibility, both self-perceptions and metaperceptions mature over time: older children hold deeper and more stable self-perceptions than younger children [19] and have more accurate metaperceptions to boot [11]. Furthermore, individuals with schizophrenia tend to have less accurate self-perceptions than do healthy controls [20,21], and at least on some dimensions, hold less accurate metaperceptions [22]. Though consider that those who display markers of psychological adjustment (e.g. high self-esteem, few depressive symptoms; [23]) have inaccurate (overly self-aggrandizing) self-views [24], it is those who struggle with self-esteem and depressive affect who display more accurate self-views. Despite their *depressive realism*, individuals with depression show no better meta-accuracy than matched controls [25,26]. Moreover, the psychologically well adjusted (as indexed by, for example, high self-esteem) show greater meta-accuracy, though this stems from understanding that they are viewed positively, not from any specific insight into the distinct ways that particular others view the self [27] (see also [28]).

Whereas meta-accuracy's association with individual markers of self-knowledge is mixed, there is clearer evidence that meta-accuracy varies as a function of dyadic properties. This is perhaps unsurprising given that meta-accuracy is itself an interpersonal phenomenon. For instance, dyads characterized by a high degree of liking show higher meta-accuracy [29]. Meta-accuracy is stronger for friends than for acquaintances [17,18*], and stronger still for family members compared to friends [30]. This continuum may reflect that certain relationships—especially those in which people feel more comfortable (or are at least more likely) to give unfiltered feedback—may facilitate meta-accuracy. There are only so many Thanksgiving dinners that can go by before people let each other know what they really think of them. Meta-accuracy, even if not family harmony, likely improves.

From the mean-level approach

Examining meta-accuracy through a lens that is more focused on bias, the mean-level approach has identified properties of social–cognitive processing that can directionally distort metaperceivers' understanding of how they are viewed. One general challenge is egocentrism, a pervasive difficulty in escaping the self's own perspective. Egocentrism can skew metaperceptions in multiple ways. First, metaperceivers can fail to internalize that social perceptions cannot be informed by overt behaviors a social perceiver did not witness [31]. Second, even when social perceivers do see a behavior, metaperceivers often overestimate how much of their accompanying *internal* experience is detectable. Metaperceivers often inflate how much their evaluation anxiety [32], romantic interest [33], and even their goals and intentions [34] are transparent to others. Third, metaperceivers also exaggerate how much social perceivers will notice, much less remember, that which is directly observable about the self [35]. In short, metaperceivers egocentrically think that their lives are lived in the spotlight.

Metaperceivers' egocentrism leads them not only to misjudge what information social perceivers use, but to overlook social perceivers' overt cues that may reveal what impressions they have formed. Consider the finding that metaperceivers often underestimate how much social perceivers like them following an initial interaction [36,6*], even as outside observers can accurately detect social perceivers' attitudes [36]. What are metaperceivers missing? Is it that metaperceivers—whose egocentric spotlight may cast social perceivers in the shadows—fail to notice (detectable) signals of the social perceiver's interest and engagement, or might metaperceivers—who can only see themselves "from the inside"—fail to understand how they come across from an outside perspective? After all, anyone shocked by the sound of their voice on a recording can understand how different the self can seem when perceiving it from afar. But additional evidence is more consistent with the former possibility. When metaperceivers watch a video of their interaction, they better understand how they were viewed [37]. But crucially, other research has found that letting

metaperceivers watch only *themselves* on video—thus, from the vantage point of another person—does not improve their meta-accuracy [38]. Thus, a parsimonious explanation is that metaperceivers—cognitively taxed and egocentrically focused during a live interaction ("What am I going to say next?!")—often fail to detect cues emitted by the social perceiver that reveal what they think of the metaperceiver.

Finally, much as metaperceivers neglect cues from social perceivers themselves, they often neglect the full context that will be used to make sense of their own behavior. This can lead metaperceivers to overestimate the extent to which others see their actions as straightforward reflections of their traits and abilities. First, they assume that social perceivers focus narrowly on the behavior and neglect the situational forces that produced it. As a result, metaperceivers over-anticipate correspondence bias [39], the tendency to judge someone's personality by behavior that can actually be explained away by a situational cause [40]. Second, metaperceivers also neglect the relevance of their own intentions, even when those intentions are fully transparent to perceivers. For example, metaperceivers underestimate how much their obviously good-faith (but ultimately unsuccessful) efforts to help will earn them positive evaluations [41]. Third, metaperceivers underappreciate how charitably observers evaluate metaperceivers who fail at a tough task. Especially when observers can personally resonate with the tough spot metaperceivers were in, metaperceivers fail to appreciate observers' empathy [42]. Fourth, metaperceivers exaggerate the likely scope of observer inferences, expecting that their own skills and deficiencies will be seen as more broadly informative than they end up being. For example, people overestimate the extent to which observers use evidence of a narrow ability (e.g. knowledge of trivia) to draw conclusions about a broader competency (e.g. intelligence [43*]).

General discussion

Metaperception researchers have tested for accuracy and error using two general methods: by probing for either correlations or systematic mean-level differences between metaperceptions and social perceptions. Though some researchers have taken both approaches when analyzing a single data set [12,44,45], such efforts remain more the exception than the rule. These dual approaches—in part due to their predispositions to detect accuracy (correlational) or error (mean-level)—have led to different research questions and takeaways. The correlational approach has documented meta-accuracy under increasingly stringent criteria and explored how individual-level and dyadic characteristics are associated with such meta-accuracy. The mean-level approach has focused on psychological processes (e.g. egocentrism, neglect of the broader context) that push metaperceivers to err in predictable ways.

Consistent with the idea that meta-accuracy can be high by one standard while being low by the other, the meta-accuracy tested by each approach is susceptible to different sources of error. Given its sensitivity to *relative* judgments (e.g. one's standing compared to others), the correlational approach is comparatively immune to sources of systematic error. For instance, suppose members of a high school gymnastics team understood the relative skill they displayed during their floor routines. This type of meta-accuracy would remain even if the judges unexpectedly used Olympic-level standards, a scoring bias that would render the gymnasts' metaperceptions overly optimistic. And given the mean-level approach's interest in *absolute* judgments (and whether they systematically deviate from an accuracy criterion), pure noise can masquerade as perfect insight. If, for instance, the team members had zero intuition about their performance, they might each guess that they performed at the 50th percentile. But because the average percentile for any group is always 50, the team would show no systematic bias in the aggregate and thus appear to exhibit perfect mean-level 'accuracy.' Of course, this would not mean that each individual displayed mean-level accuracy. Given that only the mean-level approach can identify *specific* metaperceptions as correct or incorrect, debiasing efforts that aim to identify metaperceivers most in need of corrective feedback would typically rely on evidence of mean-level biases.

This article's purpose is not to identify one accuracy approach as unconditionally superior. Instead, the applicability of the correlational and mean-level approach depends on the reason metaperceptions are recruited. For instance, knowing which mentors see them as more or less able allows an applicant to identify the ideal set of recommenders for graduate school, even if the applicant generally under- or overestimates how positive each letter will be. Conversely, knowing how positively committee members will evaluate a drafted dissertation could inform a graduate student's decision about whether it is ready for review, whereas knowing which committee members will greet it most positively may be less relevant. In summary, we expect that metaperception researchers will continue to glean complementary insight from examinations of correlational and mean-level accuracy, but to answer, "Do people know how others view them?," one should consider what metaperceivers ultimately hope to achieve from attempting to see themselves through another's eyes.

Conflict of interest statement

Nothing declared.

Acknowledgment

This work was supported in part by U.S. National Science Foundation award 1749608 awarded to Clayton R. Critcher.

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