Do People Have Insight Into Their Abilities? A Metasynthesis

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Abstract:

Having insight into one's abilities is essential, yet it remains unclear whether people generally perceive their skills accurately or inaccurately. In the present analysis, we examined the overall correspondence between self-evaluations of ability (e.g., academic ability, intelligence, language competence, medical skills, sports ability, and vocational skills) and objective performance measures (e.g., standardized test scores, grades, and supervisor evaluations) across 22 meta-analyses, in addition to considering factors that moderate this relationship. Although individual meta-analytic effects ranged from .09 to .63, the mean correlation between ability self-evaluations and performance outcomes across meta-analyses was moderate ($M = .29$, $SD = .11$). Further, the relation was stronger when self-evaluations were specific to a given domain rather than broad and when performance tasks were objective, familiar, or low in complexity. Taken together, these findings indicate that people have only moderate insight into their abilities but also underscore the contextual factors that enable accurate self-perception of ability.

Keywords: self-evaluation | self-concept | self-efficacy | accuracy | meta-analysis

Article:

Since antiquity, scholars and laypersons alike have recognized the inherent difficulty of acquiring self-knowledge. Indeed, both classic and modern perspectives in the behavioral sciences suggest that self-perception is susceptible to a variety of biasing influences (see Alicke & Sedikides, 2011; Dunning, 2005; Vazire & Wilson, 2012). Perhaps Benjamin Franklin (1750) said it best when he claimed that "there are three Things extreamely hard: Steel, a Diamond, and to know one's self" (p. 6). In this article, we focus on the accuracy of people's assessment of their own ability. That is, we examine whether people's perceptions of their ability to perform specific tasks match their actual ability to perform such tasks.

In thousands of studies across several disciplines (i.e., psychology, education, medicine, management, sports science, and language learning), researchers have explored the correspondence between self-evaluations of ability and more objective criteria, such as test performances and supervisor evaluations. Scholars have meta-analyzed (i.e., quantitatively aggregated) some of these findings within specific domains to explore the overall relation between self-evaluations and performance among students, employees, athletes, and other populations (e.g., Falchikov & Boud, 1989; Mabe & West, 1982). However, in existing meta-analyses, researchers typically focus on studies published within a single discipline or ability domain, lacking the breadth necessary to address the broader question of self-insight regarding abilities. The purpose of the present study was to synthesize current meta-analyses to reach one broad conclusion about the accuracy of self-evaluation. As of present, few researchers have linked these diverse meta-analyses despite their common theme (for exceptions, see Dunning, 2005; Dunning, Heath, & Suls, 2004). Therefore, the primary aims of the present article were to bridge the gap among findings across different disciplines and methods, to derive an overall estimate of the relation between ability self-evaluation and objective performance, and to identify which factors affect the accuracy of self-assessments regarding abilities.

A metasynthesis of self-evaluation research is essential for several reasons. First, by aggregating across thousands of individual studies and hundreds of thousands of participants, a metasynthetic approach can provide the most robust estimate of the accuracy of self-evaluations in the literature to date. Beyond the theoretical importance that understanding self-assessment accuracy carries for current perspectives on self and identity processes (Leary & Tangney, 2012; Marsh, Craven, & McInerney, 2008), our analysis should also be of considerable practical value, given that ability self-assessments predict important life choices (e.g., the selection of careers and academic majors; Bandura, 1997). Along these lines, people with inflated perceptions of competence pursue careers for which they are underqualified (Camerer & Lovallo, 1999), and people with deflated perceptions of competence fail to pursue careers in which they might succeed (Chipman, Krantz, & Silver, 1992; Ehrlinger & Dunning, 2003). Moreover, our article should serve as an important bridge between self-evaluation scholars of different disciplines. By aggregating findings across several independent domains, our analysis may call attention to the interdisciplinary nature of self-knowledge research.

Overview

In the upcoming pages, we first discuss previous theory and research on the correspondence between self-evaluations of ability and objective performance criteria, as well as factors that moderate this relationship. Second, we critique 22 meta-analyses in which the relation between self-evaluations and objective standards was examined. Along these lines, we present results from a *metasynthesis*, an aggregation of existing meta-analyses (Johnson, Scott-Sheldon, & Carey, 2010). In our synthesis, we estimated the overall relation between ability self-evaluations and objective performance across domains, and we evaluated potential moderators. Third, we highlight the limitations of our findings and avenues for future self-evaluation research. We also provide recommendations for better reporting in meta-analyses to enable future syntheses of meta-analytic findings.

Accuracy of Self-Perceptions

Intuitively, one would expect that people have relatively accurate perceptions of their abilities. Indeed, many would presume that "no one knows you like you know yourself." People have a lifetime of experience learning about their strengths and weaknesses, and they often receive clear and continual feedback about their performance in important domains (e.g., school and work). Further, prominent theories suggest that people seek to resolve uncertainty about the self by obtaining self-knowledge through comparisons with objective criteria, including relevant peers (Festinger, 1954) or past performances (Albert, 1977). Self-knowledge is extremely valuable in informing critical decisions that people make on daily basis, such as whom to marry and what jobs to pursue. Having inaccurate self-views would compromise these decisions, leading people to have unsatisfying careers and relationships. From an evolutionary standpoint (Buss, 2009), it could be argued that self-knowledge has survival value, in that early humans who overestimated their knowledge and abilities would have been less likely to survive in a dangerous environment.

Despite these converging perspectives on the utility of accurate ability perceptions, researchers over the last several decades have often found self-perceptions to be off the mark (see Ackerman, Beier, & Bowen, 2002; Davis et al., 2006; Dunning et al., 2004). For example, self-assessments of competence among medical trainees show low to moderate relations with their actual competence as measured by expert evaluations and performance on objective tests (Gordon, 1991; Haun, Zeringue, Leach, & Foley, 2000). Employees' evaluations of their job performance are only weakly related to evaluations of their performance by supervisors and coworkers (Shore, Shore, & Thornton, 1992; Thornton, 1980). Self-evaluations of ability among music students show weak relations with evaluations by music teachers (Hewitt, 2005). Athletes' perceptions of their sports ability conflict with the perceptions of their coaches (Felson, 1981). Finally, college students' perceptions of their course performance and degree of learning often bear weak resemblance to their actual level of performance and learning (Hacker, Bol, Horgan, & Ernest, 2000; Lew, Alwis, & Schmidt, 2010).

Moreover, just as there are reasons why people should have insight into their abilities, there are also reasons why people should not have perfect insight into their abilities. For example, although people desire accurate self-beliefs, they also desire flattering self-beliefs. In some contexts, the desire for accuracy can be trumped by the desire for flattering conclusions about one's abilities, especially among those who are dispositionally high in self-enhancement (Alicke & Sedikides, 2009; Sedikides & Gregg, 2008). Additionally, although there are some domains in which useful feedback is pervasive, in other domains feedback is more difficult to obtain (Caputo & Dunning, 2005) or is positively biased (DePaulo & Bell, 1996). Human-relations experts encourage people to dole out praise lavishly, and millions of people follow such advice (Carnegie, 1936/2012). The downside is that people typically accept such praise as an indicator of their ability rather than as an attempt to win favor (Fay, Jordan, & Ehrlinger, 2011). Some scholars have noted that a small degree of bias in self-perceptions of ability can be beneficial (Taylor & Brown, 1988): People with slightly inflated, illusory self-beliefs tend to be happier and have more friends than those without them (Taylor, Lerner, Sherman, Sage, & McDowell, 2003), but the direction of causality is unclear (Colvin & Block, 1994).

Ironically, people remain largely unaware of these biases in self-evaluation. Although people can accurately infer when others commit judgmental biases, they are largely "blind" to the biases they have themselves (Pronin, 2008; Pronin, Gilovich, & Ross, 2004). Moreover, biases in self-perception might arise because people do not have access to the nonconscious psychological processes that influence their emotions and behavior (Wilson, 2002; Wilson & Dunn, 2004). People usually rely on explicit, easily available information to evaluate their ability to perform specific tasks, without realizing that their performances may also be a function of nonconscious motives (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001; Custers & Aarts, 2010) or exposure to contextual cues that elude conscious awareness (Gendolla & Silvestrini, 2010; Mussweiler, Ruter, & Epstude, 2004). Finally, absences in self-insight are most prevalent among people who lack competence (e.g., Ehrlinger, Johnson, Banner, Dunning, & Kruger, 2008; Kruger & Dunning, 1999). Lacking competence in a given domain produces a "double burden" that undermines performance as well as people's ability to accurately assess their performance (see Dunning, 2011).

In sum, despite the practical value of accurate ability perceptions, converging perspectives suggest that self-perceptions may be somewhat askew. However, the degree of accuracy in self-perceptions is still largely a matter of debate. In several meta-analyses over the last 30 years, researchers have attempted to estimate the accuracy of ability self-evaluations. For example, in an early exploration, Mabe and West (1982) found that the mean correlation between ability self-evaluations and indices of objective performance was relatively weak (r = .29) and was highly variable (SD = .25) when aggregating across 55 studies and 267 effects in the psychology literature.[1] Around the same time, Hansford and Hattie (1982) found a mean correlation of .21 (SD = .23) after aggregating across 128 studies and 1,136 effects in the education literature. Thus, initial meta-analytic efforts were broadly consistent with the notion that ability self-perception is inherently challenging and is often flawed. Given the sheer magnitude of studies available, in later meta-analytic efforts, researchers began to explore the accuracy of ability self-perceptions in specific domains, such as memory ability (Beaudoin & Desrichard, 2011), intelligence (Freund & Kasten, 2012), and interpersonal sensitivity (Hall, Andrzejewski, & Yopchick, 2009). However, this leaves unresolved the fundamental question of the accuracy of ability self-evaluation across various domains and contexts, which relates to the critical question of how well people know their abilities in general.

Moderators of Self-Insight

Although the relation between ability self-evaluation and objective performance is broadly considered to be modest (*r*s typically ranging between .2 and .4), it is also recognized that several factors may affect this relationship (Davis et al., 2006; Dunning et al., 2004). Critical moderators of self-perception accuracy can be grouped into two categories: aspects of the performance task and aspects of the items used to measure self-perceptions of ability.

Perhaps the most studied moderator of the association between self-assessment and objective performance is the specificity of the items used to measure perceived ability (Ackerman et al., 2002). In specific self-report measures, participants are asked to evaluate their ability to perform a concrete task, which they later perform. Alternatively, in general self-report measures, participants are asked to evaluate their ability more broadly. Because specific measures are better matched to the performance domain, they tend to yield higher correlations with objective performance than general measures (Hertzog, Park, Morrell, & Martin, 2000; Swann, Chang-Schneider, & McClarty, 2007). For example, self-assessment of ability to shoot free throws should tether more strongly to free-throw-shooting performance than self-assessment of basketball skill or general athleticism. Furthermore, unlike specific abilities, general abilities are abstract and can be defined with self-serving criteria, which further weakens their validity (Dunning, Myerowitz, & Holzberg, 1989; Greve & Wentura, 2003). For example, people may selectively define athleticism by highlighting the sports in which they excel and by downplaying the sports in which they rank poorly.

Another critical moderator is the timing of the self-assessment procedure. Specifically, self-evaluation of ability can be obtained either before or after the performance criterion. Researchers have presumed that assessing ability after the criterion should yield stronger effects because the task itself should provide feedback that informs judgments of ability and self-efficacy (Ackerman & Wolman, 2007; Bandura, 1997). Conversely, when people provide self-assessments before the criterion, their judgments are likely based on memories of past experiences with the task, which may be biased by memory decay and the desire to remember one’s performances positively (Gramzow & Willard, 2006; M. Ross & Wilson, 2003). In addition, self-assessments in advance of performance may be unduly influenced by one’s intentions or planned effort regarding performance, rather than past performance outcomes themselves (Oettingen & Mayer, 2002). However, it is also possible that providing self-evaluations before tasks strengthens the relation between self-evaluations and performance outcomes. Desires for self-consistency may lead people who evaluate themselves favorably to devote more effort to the task than people who evaluate themselves unfavorably (Festinger, 1957).

Other moderators of the relation between self-evaluation and performance outcomes may include aspects of the performance task, such as its familiarity and complexity. Specifically, the relation between self-evaluation and objective performance should be stronger for familiar than unfamiliar tasks, given that familiar tasks provide more opportunities to receive diagnostic feedback. When people have little experience with the performance domain, they have no basis to form self-judgments, which should weaken their validity (Bandura, 1977). Additionally, people may lack competence in unfamiliar domains, which should further undermine accuracy of self-evaluations (Ehrlinger et al., 2008). Consistent with this perspective, self-assessment accuracy for a given individual increases as familiarity with a task increases over time (Hertzog, Saylor, Fleece, & Dixon, 1994; Rebok & Balcerak, 1989).

Moreover, the relation between self-evaluation and objective performance should be stronger for low-complexity tasks (e.g., running) as opposed to high-complexity tasks (e.g., playing tennis). High-complexity tasks often require greater knowledge, ability, effort, and persistence to complete than do low-complexity tasks (Bandura, 1986). In addition, complex tasks often require several abilities rather than a single ability to carry out effectively and, therefore, require a broader range of skills (Bandura, 1997). Adequately adjusting for each of these factors during self-evaluation is a challenging exercise that might undermine self-evaluation accuracy.

Finally, the relation between self-evaluation and objective performance outcomes may depend on whether the performance task is evaluated with an objective or subjective scoring process. Some performance tasks yield relatively objective outcomes, such as the number of items answered or recalled correctly. Other performance outcomes are more subjective in nature and require the interpretation of performance by another person (e.g., evaluations by supervisors, teachers, or coaches). Subjective evaluations may thus entail a greater degree of error than objective evaluations, as external raters may be unintentionally biased by social comparisons and stereotypes (Biernat, 2003;Dunning & Hayes, 1996). Therefore, the accuracy of self-perceptions should be higher when performance outcomes are objective rather than subjective.

Metasynthesis Method

To estimate the relation between self-evaluations of ability and objective performance criteria across domains, we first identified all relevant meta-analyses in which this relationship was examined. Then, we estimated the overall mean relationship between ability self-evaluations and objective performance across meta-analyses. Finally, we tested whether critical factors—such as self-evaluation specificity and timing, as well as task familiarity, complexity, and objectivity—moderated the relation between self-perceptions of ability and performance outcomes across meta-analyses. Going beyond prior work in which the relation between self-evaluations and objective performance was examined in specific contexts (Beaudoin & Desrichard, 2011; Freund & Kasten, 2012), in the current analysis, we examined self-knowledge of ability across settings, answering the broader question of how well people evaluate their abilities.

Literature search

Meta-analyses were obtained through searches of computerized databases. To qualify for inclusion, meta-analyses had to include (a) studies sampling participants with a mean age more than 13 years; (b) a measure of self-perceived ability to perform specific tasks including direct evaluations of performance, ability, skill, or knowledge as well as domain-specific self-concept, self-efficacy, self-esteem, or self-confidence; (c) an external criterion for ability including standardized test performances, grades, teacher evaluations, or supervisor evaluations; and (d) the overall mean effect size indexing the relation between ability self-evaluation and external criteria (*r*). This search yielded a total of 22 meta-analyses in which self-evaluations were compared with objective performance outcomes (see Table 1).

Table 1. Meta-Analyses in Which Ability Self-Evaluations Were Compared With Objective Performance, Listed by Domain

Citation	Domain	*n*	*k*	*r*
Falchikov and Boud (1989)	Academic ability	3,958	45	.39
Hansford and Hattie (1982)	Academic ability	20,283	1,136	.21
Huang (2011)	Academic ability	12,406	32	.24
Moller, Pohlmann, Koller, and Marsh (2009)	Academic ability	125,308	69	.39
Multon, Brown, and Lent (1991)	Academic ability	4,998	38	.38
Richardson, Abraham, and Bond (2012)	Academic ability	46,570	67	.31
Robbins et al. (2004)	Academic ability	9,958	18	.38
Freund and Kasten (2012)	Intellectual ability	22,546	154	.33
Ross (1998)	Language competence	2,492	60	.63
Blanch-Hartigan (2011)	Medical skills	4,057	30	.22
Beaudoin and Desrichard (2011)	Memory ability	24,897	169	.15
Hall, Andrzejewski, and Yopchick (2009)	Nonverbal skills	1,717	20	.09
Sitzmann, Ely, Brown, and Bauer (2010)	Perceived knowledge	16,951	137	.27
Moritz, Feltz, Fahrbach, and Mack (2000)	Sports ability	3,055	102	.38
Woodman and Hardy (2003)	Sports ability	2,808	42	.24
Mabe and West (1982)	Various	14,811	267	.29
Bowling, Eschleman, Wang, Kirkendall, and Alarcon (2010)	Vocational skills	2,020	12	.23
Conway and Huffcutt (1997)	Vocational skills	10,359	50	.22
Harris and Schaubroeck (1988)	Vocational skills	3,957	36	.22
Judge and Bono (2001)	Vocational skills	1,122	10	.19
Sadri and Robertson (1993)	Vocational skills	1,658	16	.36
Stajkovic and Luthans (1998)	Vocational skills	21,616	157	.34

Note: n and k represent the number of participants and studies from each analysis; r represents the mean correlation between self-evaluations and

objective performance across studies.

Forty-nine related meta-analyses were located but were excluded because they failed to meet one or more of the inclusion criteria. For example, several meta-analyses were excluded because the researchers examined the correspondence between self-ratings of personality (e.g., extraversion, neuroticism) and either informant ratings of personality (Connolly, Kavanagh, & Viswesvaran, 2007; Kenny & West, 2010) or behavioral outcomes that are theoretically related to personality

(Bogg & Roberts, 2004; Fleeson & Galagher, 2009). Although important in their own right, these articles are oriented toward testing the accuracy of self-perceptions of personality and not self-perceptions of ability (for reviews, see Vazire & Carlson, 2010, 2011). In other meta-analyses, researchers compared self-reported attitudes with behavioral criteria (Glasman & Albarracín, 2006; Kraus, 1995) or implicit attitudes (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005; Krizan & Suls, 2008). Although these articles demonstrate the potential insight people have into their own attitudes, they do not have direct relevance to the accuracy of ability self-evaluation. Finally, meta-analyses were excluded if the researchers reported the relation between ability self-evaluation and objective performance only after controlling for other factors, such as prior performance (e.g., Valentine, DuBois, & Cooper, 2004).

Coding of moderators

Meta-analyses were coded to examine several potential moderating factors. The coding was done by two undergraduate research assistants who were unaware of the specific purpose of the metasynthesis. Disagreements between coders were resolved by the first author. Meta-analyses were coded with respect to the following factors: domain of study ($\kappa = .94$), self-evaluation term ($\kappa = .94$), academic discipline ($\kappa = .88$), and subjectivity of the performance outcome ($\kappa = .84$). Details of the coding categories are provided in the Results section.

When multiple meta-analyses (m) provided data indicating the size of the effect (r) across specific coding categories (e.g., global vs. specific self-evaluation measure), we calculated an unweighted average correlation between ability self-evaluation and objective performance across meta-analyses for each condition. This yielded moderation tests for the following factors: self-evaluation specificity ($m = 7$), self-evaluation timing ($m = 4$), task complexity ($m = 2$), and task familiarity ($m = 2$). We relied on the authors' original coding in these instances, rather than recoding all of the original articles.

Finally, we coded whether the individual meta-analytic effects were derived from a fixed-effect (e.g., Hedges & Olkin, 1985), random-effect (e.g., Hunter & Schmidt, 2004), or an unweighted model. This allowed us to explore whether self-evaluation accuracy estimates were affected by the statistical approach used in prior meta-analyses. In one meta-analysis, both fixed- and random-effect models were used, and, therefore, the meta-analysis could not be clustered into any of provided categories (Hall et al., 2009).

Study treatment and analyses

In most meta-analyses, the researchers provided a single effect size; however, if more than one was provided (Moller, Pohlmann, Koller, & Marsh, 2009), we averaged these effects (see Table 1). When possible, we used the uncorrected, unweighted mean correlation between ability self-evaluation and external criteria as an estimate of effect size (r). However, in some meta-analyses, the researchers reported only weighted (Beaudoin & Desrichard, 2011) or corrected (Harris & Schaubroeck, 1988; Richardson, Abraham, & Bond, 2012; Stajkovic & Luthans, 1998) values.

To estimate the overall effect size across domains, we calculated an unweighted mean of the 22 meta-analytic effects. Positive relations indicate stronger correspondence between self-evaluations and objective performance and, therefore, greater accuracy of self-evaluation.

Results and Discussion

Before reporting our results, it is important to note that there were several limitations to the use of metasynthesis in this context. Some of the limitations are due to the particular content of these meta-analyses; others are due to general methodological problems that could occur with any meta-analysis. We discuss these limitations in the final section of this article (see the Appendix for more specific details).

In this section, we first describe the correspondence between self-evaluations and objective performance outcomes across meta-analyses. Then, we examine whether self-evaluation measurement factors moderated this relationship. Finally, we examine whether aspects of the domain and performance task moderated self-insight of ability.

Overall effect

When considering the entire collection of 22 meta-analyses, the overall correlation between ability self-evaluation and objective performance was .29, typically regarded as a moderate effect (Cohen, 1992). There was some dispersion in the individual effects (SD = .11). However, in all of the meta-analyses, the researchers reported an effect that was positive in direction; in addition, in 21 out of 22 meta-analyses, the researchers reported an effect ranging between .09 and .39 (see Table 2). There was one potential outlier, with an effect size of .63 (S. Ross, 1998); removing this effect, however, did not alter the observed pattern of results (M = .28, SD = .09). In sum, there appears to be a consistent, moderate relationship between self-perceptions of ability and measures of performance across a variety of domains and operationalizations of these constructs.

Table 2. Stem and Leaf Display of Meta-Analytic Effects

Stem	Leaf								
.6	3								
.5									
.4									
.3	1	3	4	6	8	8	8	9	9
.2	1	2	2	2	3	4	4	7	9
.1	5	9							
.0	9								

Self-evaluation measurement moderators

Self-evaluation term

Effect sizes were mostly moderate in size regardless of the particular operationalization of ability self-evaluation (e.g., self-concept, self-efficacy; see Table 3). For example, seven meta-analyses in which performance/skill evaluations were examined yielded an effect size of .29, and seven meta-analyses in which self-efficacy was examined yielded an effect size of .30.

Table 3. Self-Evaluation Measurement Moderators

Moderator	*m*	*r*	Range
Self-evaluation term			
Self-concept	1	.39	
Self-efficacy 7	.30	.15–.38	
Performance/skill evaluation	7	.29	.09–.63
Perceived knowledge	1	.27	
Self-confidence	1	.24	
Domain self-esteem	1	.23	
Self-evaluation specificity			
Specific self-evaluation	7	.28	.13–.42
Global self-evaluation	7	.18	.09–.26
Self-evaluation timing			
After criterion	4	.29	.15–.40
Before criterion	4	.27	.05–.49

Note: m represents the number of meta-analyses that contributed to each effect; r represents the mean correlation between self-evaluations and objective performance across studies.

Self-evaluation specificity

The relation between ability self-evaluation and objective performance was descriptively larger when self-evaluations were measured with specific (.28) as opposed to global (.18) indices of perceived ability. This finding bolsters prior claims that specific self-perceptions are more accurate because they are better matched to the performance domain (Ackerman et al., 2002; Hertzog et al., 2000). Additionally, this finding is consistent with prior research showing that the attitude–behavior relation is stronger when specific rather than general attitudes are assessed (Swann et al., 2007). However, although specific self-perceptions tethered more strongly to performance outcomes than general self-perceptions, the relation was only moderate in both circumstances (*r*s < .30).

Self-evaluation timing

Scholars have argued that self-evaluations of ability should be more accurate when they are measured after tests, given that the experience of taking tests may provide useful feedback for self-evaluation (Ackerman & Wolman, 2007; Bandura, 1997). On the contrary, results from four meta-analyses (Beaudoin & Desrichard, 2011; Blanch-Hartigan, 2011; Falchikov & Boud, 1989; Moritz, Feltz, Fahrbach, & Mack, 2000) showed little difference in effect size depending on whether self-assessments were made before (.27) or after (.29) the criterion.

It is somewhat surprising that the completion of performance tasks does not benefit self-assessment accuracy. Logically, one would expect that taking a test should provide some useful information on how skilled one is at this test. However, recent findings suggest that biased self-perceptions may fuel how people experience performance tasks (Critcher & Dunning, 2009; Ehrlinger & Dunning, 2003). That is, people with negative self-perceptions experience tasks to be more difficult than people with positive self-perceptions, despite equivalent performance outcomes. Therefore, biased perceptions of performance may negate any benefits derived from evaluating the self after rather than before performance tasks.

Domain and task moderators

Performance domain

There was some variation in self-evaluation accuracy by domain (see Table 4). Seven meta-analyses in which self-perceptions of academic ability were examined yielded an overall effect size of .33. Similarly, six meta-analyses in which self-perceptions of vocational skill were examined yielded an effect size of .26, and two meta-analyses in which self-perceptions of sports ability were examined yielded an effect size of .31. The largest effect was observed in the domain of language competence (.63), and the weakest effect was observed for nonverbal skills (.09).

Table 4. Domain and Task Moderators

Moderator	*m*	*r*	Range
Performance domain			
Language competence	1	.63	
Academic ability	7	.33	.21–.39
Intellectual ability	1	.33	
Sports ability	2	.31	.24–.38
Vocational skills	6	.26	.19–.36
Medical skills	1	.22	
Memory ability	1	.15	
Nonverbal skills	1	.09	
Academic discipline			
Language	1	.63	
Education	3	.33	.21–.39
Sports science	2	.31	.24–.38
Psychology	14	.27	.09–.38
Management	1	.27	
Medicine	1	.22	
Task objectivity			
Objective test	4	.30	.09–.63
Subjective test	4	.22	.19–.23
Task familiarity			

High familiarity	2	.32	.25–.39
Low familiarity	2	.26	.18–.34
Task complexity			
Low complexity	2	.32	.10–.53
Medium complexity	2	.21	.14–.28
High complexity	2	.20	.15–.24

Note: m represents the number of meta-analyses that contributed to each effect; r represents the mean correlation between self-evaluations and objective performance across studies.

It is likely that features of these domains contributed to variations in self-perception accuracy. Language competence is a domain in which feedback is ubiquitous, and skill is objectively defined. The highly concrete and verifiable nature of skills within this domain provides little latitude for self-enhancement biases that thrive when domains are more ambiguous (Dunning et al., 1989). Alternatively, nonverbal skill is a domain in which people receive little to no direct feedback. Although people often make judgments about whether others are telling the truth or lying from nonverbal cues (e.g., eye gaze), they rarely receive objective feedback indicating whether others are actually telling the truth or lying as they would in a typical experiment (Bond & DePaulo, 2008). This lack of feedback may lead people to remain ignorant of their true nonverbal skill for most of their lives. Consistent with this argument, research suggests that clear and continual feedback about one's performances and judgments over time is an essential antidote to self-knowledge deficits (Butler & Winne, 1995).

Academic discipline

With the exception of language learning (.63), effect sizes were largely constant across academic disciplines. Fourteen meta-analyses were published in psychology journals, and these studies yielded a combined effect size of .27. Three meta-analyses published in education (.33) and two meta-analyses published in sports science (.31) yielded comparable findings.

Task objectivity

In four meta-analyses, researchers used only objective performance measures, whereas in four other meta-analyses, researchers used only subjective performance measures. Self-perception accuracy appeared to be greater for tasks that were evaluated with an objective process (.30) as opposed to a subjective process (.22). Evaluating task performance with an objective process (e.g., the number of items answered correctly) may eliminate judgment biases that create error in the measurement of performance during subjective tasks (Biernat, 2003; Dunning & Hayes, 1996). Therefore, differences in self-insight as a function of task objectivity may occur because subjective tests contain greater measurement error than objective tests.

Moreover, differences in self-insight as a function of task objectivity may help explain differences in self-insight across domains (e.g., language competence, academic ability).

Performance in some domains may be assessed with highly objective performance criteria. For example, language competence is typically measured with objective tests, such as whether people can identify the meaning of a word or can speak a word with the correct pronunciation. Conversely, other domains incorporate tasks that have more subjective outcome indices, such as performance evaluations by supervisors or coaches. Therefore, it is possible that differences in self-perception accuracy by performance domain are at least partly explained by the objectivity of tasks within each domain.

Task familiarity

Aggregating across two meta-analyses (Beaudoin & Desrichard, 2011; Moritz et al., 2000), the correspondence between ability self-evaluations and objective performance was slightly larger among studies in which familiar tasks (.32) rather than unfamiliar tasks (.26) were used. These findings suggest that self-perception accuracy may improve as experience with tasks grows over time.

Task complexity

Data from two meta-analyses (Beaudoin & Desrichard, 2011; Stajkovic & Luthans, 1998) demonstrated that self-insight of ability was greater for low-complexity (.32) than medium-complexity (.21) or high-complexity (.20) tasks. These findings indicate that simple, straightforward tasks may facilitate accurate self-evaluations more than complex, multiskill tasks. Just as complex personal attitudes are open to a variety of self-serving construals, feedback from tasks that involve complex skills (e.g., academic ability) may also be more open to self-serving interpretations than feedback from simple tasks (e.g., note taking; Dunning et al., 1989). However, it is also possible that performance on complex tasks is measured with greater error, given that complex tasks involve a weighting of multiple performance criteria, which may weaken their relationship with self-evaluations.

Meta-analytic method moderators

Self-perception accuracy fluctuated somewhat as a function of the meta-analytic model used (see Table 5). Specifically, in 14 meta-analyses, researchers used a random-effect model and obtained an average effect of .28. In two meta-analyses, researchers used an unweighted model and obtained an average effect of .30. In five meta-analyses, researchers used a fixed-effect model and obtained an average effect of .37. These findings suggest that fluctuations in self-insight across meta-analyses can be partly attributed to differences in the statistical model used to aggregate individual effects.

Table 5. Meta-Analytic Method Moderators

Moderator	*m*	*r*	Range
Model type			
Fixed-effect	5	.37	.22–.63

Unweighted	2	.30	.21–.39
Random-effect	14	.28	.15–.39
Measurement error			
Corrected	10	.35	.23–.50
Uncorrected	10	.27	.19–.40

Note: m represents the number of meta-analyses that contributed to each effect; r represents the mean correlation between self-evaluations and objective performance across studies.

Additionally, the relation between self-perceptions and objective performance varied as a function of whether effect sizes were corrected for measurement error. Across 10 meta-analyses in which both corrected and uncorrected values were provided, the average effect was descriptively larger when examining corrected values (.35) than uncorrected values (.27). Because our primary model relied on uncorrected values, we may have slightly underestimated the magnitude of self-insight of ability. Nonetheless, self-insight was only moderate even after accounting for measurement error.

Limitations and Future Directions

In the present synthesis of 22 meta-analyses, the relation between ability self-evaluations and objective performance outcomes across several domains was found to be moderate. Additionally, self-insight of ability fluctuated as a function of self-evaluation measurement and task moderators. However, there were limitations to the current approach that necessitate future study. In the next two sections, we discuss methodological and theoretical issues that are deserving of future research attention. We elaborate on some of these specific issues in the Appendix.

Methodological issues

First, we used a descriptive approach that focused on a comparison of effect sizes across different conditions. This approach did not influence conclusions regarding the overall effect, in which we simply observed the size of the relation between self-evaluations and objective performance measures across domains. However, our descriptive approach did make it challenging to interpret results from some of the moderation tests in which differences between conditions were relatively small (e.g., task familiarity). Future research is needed to formally test the impact of currently considered moderators on self-insight of ability and whether self-insight is significantly greater in some conditions than others.

Second, we used an unweighted average of the individual meta-analytic effects to estimate the population effect. Although previous research suggests that unweighted averages outperform averages that weight by sample size in traditional meta-analyses of individual studies (Bonett, 2008; Krizan, 2010; Shuster, 2010), future work is needed to examine whether unweighted averages are superior to weighted averages in metasynthesis.

Third, we found that self-insight of ability was somewhat higher when examining effects that were corrected for measurement error. However, we were only able to examine the effect of measurement error among a subset of the meta-analyses because in several meta-analyses, corrected effects were not reported. Future study is needed to further explore the degree to which measurement error affects estimates of self-insight. Additionally, in future studies, researchers should explore the degree to which measurement error accounts for differences in self-insight as a function of critical moderators, including domain, task objectivity, and task complexity.

Fourth, because in most meta-analyses researchers did not specify whether they incorporated studies in which absolute, comparative, or both types of rating scales were used, we were unable to examine whether self-insight of ability fluctuated as a function of measurement scale. Some research suggests that self-insight is greater when assessed with comparative rather than absolute rating scales (Goffin & Olson, 2011). If authors of prior meta-analyses incorporated data from absolute rating scales, it is possible that they underestimated self-insight of ability. Future research is needed to examine this possibility more directly, and it is advised that in future meta-analyses, researchers report the types of scales they used with greater precision.

Fifth, a key issue in the use of metasynthesis is the overlapping of samples across meta-analyses. Because of missing or incomplete information, we were unable to quantify the degree of sample overlap in the current article. Future researchers may consider more precise reporting of the samples used in each of their meta-analytic effects.

Theoretical issues

Although the present metasynthesis showed that self-insight of ability is moderated by several factors, future research is needed to uncover additional moderators. One potential moderator is the importance of the self-evaluation domain. Past research suggests that self-evaluation accuracy is higher for unimportant than important domains (John & Robins, 1993; Vazire, 2010). Assessment of self in important domains (e.g., physical attractiveness and intelligence) is clouded by motivational factors, such as a desire to perceive oneself positively, which undermines self-evaluation accuracy. Most of the domains studied in the present article would typically be regarded as important (e.g., academic and vocational skills), and thus it is possible that self-evaluation accuracy is higher in other domains. Nonetheless, domain importance is highly subjective and specific to the population being studied (Crocker & Wolfe, 2001), making it inappropriate to assign post hoc ratings of domain importance needed for moderation tests.

Future research is also needed to identify why people sometimes have inaccurate perceptions of their abilities and to develop interventions aimed at increasing self-evaluation accuracy. Bolstering feelings of self-worth via self-affirmation manipulations (e.g., writing about important values or a personal triumph) may be one pathway toward more balanced and ultimately more accurate self-perceptions. For example, the common tendency for people to be overly optimistic about the future subsides after self-affirmation (Klein et al., 2010). Another avenue may involve raising interpersonal accountability, which can lead people to assess themselves with more scrutiny (Tetlock & Kim, 1987).

Finally, in future studies, researchers who seek to determine the overall relation between self-evaluations and external criteria may benefit from cross-disciplinary collaborations. For example, researchers could explore when and why self-insight varies across different domains and tasks. Additionally, in future studies, researchers could examine whether some individuals consistently have better self-knowledge across domains than others, and whether personality factors (e.g., intelligence, self-consciousness, or narcissism) contribute to global differences in self-knowledge. It is our hope that the present article increases awareness of the interdisciplinary nature of self-knowledge research and ultimately spurs productive collaborations among scholars of different research traditions. Now that researchers are beginning to resolve the basic question of how well people evaluate their abilities, future study is needed to explore the benefits and costs of accurate self-evaluations, and whether accurate self-evaluations are more important in some contexts than others.

In our critique of the literature, we found that in prior meta-analyses, researchers sometimes failed to adequately report critical information, such as the samples that contributed to each meta-analytic effect, the type of self-evaluation measures used, and the potential role of measurement error in the performance criterion (see the Appendix for more details). In raising awareness of these omissions, it is our hope that in future meta-analyses, researchers are more careful in their reporting to better enable subsequent metasyntheses. Going beyond the specific focus of this research, the metasynthesis approach advocated here could be used to address a variety of different research questions in psychological science. Meta-analytic techniques are becoming more common, and as this trend continues, there will inevitably be research questions that have been examined by multiple, related meta-analyses. Researchers in these situations may consider adopting a metasynthetic approach to derive a robust estimate of population effects. To our knowledge, we are among the first in psychological science to use metasynthesis, and the present article could serve as a template for later researchers using this analytic technique.

Appendix

Measurement and reporting concerns

There were several limitations to the use of metasynthesis for evaluating self-insight of ability across domains. These limitations are due to aspects of the methodology used in prior meta-analyses, missing information, and conceptual ambiguities associated with aggregating results of studies in which different operationalizations of key constructs were used. In the following sections, we give details on each of these concerns.

Accuracy versus bias

In each of the meta-analyses, researchers indexed self-insight by reporting the correlation (*r*) between self-evaluations and an external criterion. Correlations are useful in providing information about the *accuracy* of self-evaluations of ability, that is, whether people who evaluate themselves favorably actually perform well, and whether people who evaluate themselves unfavorably actually perform poorly. However, correlations cannot be used to specify the direction or magnitude of *bias* in ability self-evaluations. Thus, it remains unclear whether deviations in self-evaluations versus objective performance are best captured by an overrating of ability, underrating of ability, or a combination of both processes under different circumstances. Both overrating and underrating have been observed in several contexts (Kruger, 1999;Moore & Healy, 2008). However, existing self-evaluation research suggests that overrating may be more prevalent than underrating (Alicke & Sedikides, 2009;Sedikides & Gregg, 2008).

Absolute versus comparative judgments

Absolute self-evaluations are made without an explicit reference point (e.g., "How good are you at math?"). Conversely, comparative self-evaluations are made in relation to other people (e.g., "How good are you at math in comparison to the average student at your school?"). With one exception (Freund & Kasten, 2012), none of the meta-analyses examined in the present study tested the effect of this moderator, and most authors did not specify whether they used absolute, comparative, or both types of measures. Some research suggests that comparative self-evaluations are more accurate than absolute self-evaluations (see Goffin & Olson, 2011). For example, comparative self-ratings of intelligence predict intelligence test performance better than absolute self-ratings (Freund & Kasten, 2012). However, people often neglect comparative reference points, leading them to interpret comparative self-evaluation items in an absolute manner (Chambers & Windschitl, 2004; Kruger, 1999). Additionally, absolute self-evaluations often reflect implicit social comparisons (Dunning, 2000). Thus, there are presently mixed findings with regard to whether absolute self-evaluations yield greater accuracy than comparative self-evaluations. Because most of the meta-analyses studied in the current article did not report the types of self-evaluation measures they used, in our analysis, we were unable to test whether absolute self-evaluations predict performance outcomes better than comparative self-evaluations.

Definition of constructs

To facilitate inclusion of as much data as possible, we incorporated meta-analyses in which several different measures of ability self-perception were used, including self-evaluations of ability and knowledge as well as domain-specific measures of self-concept, self-efficacy, self-confidence, and self-esteem. Self-evaluations of ability involve an explicit assessment of one's skill in a given domain (e.g., "How would you rate your math ability?") and, thus, are the most direct measure of ability self-perceptions. In domain-specific self-concept measures, people are asked to rate how good or bad they are in a given domain (Moller, Pohlmann, Koller, & Marsh, 2009; e.g., "How good are you at math?"). In domain-specific self-efficacy measures, people are asked to assess their ability to reach a performance goal or exert control over an important life event (Bandura, 1997; e.g., “Will you perform well on this math test?”). In domain-specific self-confidence measures, people are asked to assess how confident they are that they can accomplish a given task (Woodman & Hardy, 2003; e.g., “How confident are you that you will perform well on the math test?”). In domain-specific self-esteem measures, people are asked to indicate how satisfied they are with themselves in a given domain (Bowling, Eschleman, Wang, Kirkendall, & Alarcon, 2010; e.g., “How satisfied are you with your math ability?”). Finally, self-evaluations of knowledge involve an explicit assessment of one’s knowledge in a given domain (Sitzmann, Ely, Brown, & Bauer, 2010; e.g., “How knowledgeable are you about math?”). Regardless of the particular definition of self-evaluation, in all meta-analyses, self-perceptions regarding a construct based on ability (e.g., math or verbal ability) were compared with an objective criterion assessing that ability (e.g., standardized math or verbal tests).

Although it was beyond the scope of the current article to compare and contrast these different operational definitions of self-perception (see Leary & Tangney, 2012; Marsh, Craven, & McInerney, 2008), it is important to note that each judgment involves an evaluation of one’s knowledge, skill, or ability in a specific domain. Furthermore, each judgment can be differentiated from broader measures of personality—such as those of the Big Five personality traits (John, Naumann, & Soto, 2008) or global self-esteem (Rosenberg, 1965)—that involve evaluations of one’s global emotional and behavioral tendencies as opposed to one’s ability to perform tasks within a specific domain. Although domain-specific self-judgments of ability that involve valenced aspects of the self may reflect personality traits (e.g., neuroticism; Judge, Erez, Bono, & Thoresen, 2002), they still focus on perceived ability or competence in a given domain rather than broad personality tendencies or global self-evaluations (see Freund & Kasten, 2012, for similar reasoning).

Measurement error

Although the goal of this project was to estimate the relation between self-perceptions of ability and objective performance outcomes, measures of self-evaluation and objective performance likely contain some degree of measurement error. Along these lines, objective tests of people’s abilities may not be perfect estimates of people’s actual abilities, especially when these tests involve a complex or subjective scoring process. Therefore, our results should be interpreted as showing the relation between measures of self-perceived ability and measures of actual ability, rather than showing the relation between these actual constructs.

As we reported earlier, in several of the meta-analyses, researchers corrected for error in the measurement of objective performance in their effect size estimates. This allowed us to test the effect of such statistical corrections on the relation between ability self-evaluations and performance outcomes. Further, whereas in some of the meta-analyses researchers provided both corrected and uncorrected values (10), others provided only uncorrected (11) or corrected (1) values. We did not disattenuate the single corrected meta-analytic effect (Stajkovic & Luthans, 1998), as the specific procedure that was used to correct for attenuation in this article was not specified. Alternatively, we simply incorporated the corrected effect into our model. As a result, our final model included a combination of corrected (1) and uncorrected (21) effects.

Finally, some of the theoretical moderators we have discussed may be related to measurement error; performance tasks that are measured with less error should yield greater agreement with self-perceptions than tasks that are measured with more error. For example, tasks in which a subjective scoring process is used (e.g., teacher or supervisor evaluations) may yield lower agreement with self-perceptions because they contain greater measurement error than tasks in which an objective scoring process is used (e.g., the number of items answered correctly). It is important to note the potential role of measurement error in the interpretation of our results.

Type of statistical model

Another limitation of metasynthesis in this context is that in some of the meta-analyses, researchers used different statistical models when aggregating individual effects (e.g., fixed-effect or random-effect models). For this reason, the standard errors of the individual meta-analytic effects are not comparable and thus cannot be aggregated to yield meaningful confidence intervals or enable conclusions of statistical significance (see Hedges & Vevea, 1998). In light of these concerns, we focus only on aggregate estimates and their ranges, without formal computation of relevant confidence intervals or standard errors. However, given the extremely large pool of respondents and studies, all of the observed effects should be precise, and their differences should be meaningful.

Furthermore, the model we employed used an unweighted average of the individual meta-analytic effects as an estimation of the population effect. Researchers have yet to discern whether unweighted averages outperform averages weighted by sample size in metasynthesis. In more traditional meta-analyses of individual studies, however, unweighted meta-analytic averages are robust and tend to outperform averages that weight by study sample size (see Bonett, 2008; Krizan, 2010; Shuster, 2010; see alsoSweeny & Krizan, 2013).

Finally, some meta-analytic procedures transform effects into Fischer's *z* scores prior to aggregation, and then *z* scores are converted back into standard effect size metrics for the purpose of interpretation (see Johnson & Eagly, 2000; Rosenthal, 1991). We did not transform the individual meta-analytic effects into *z* scores because transformation is used to facilitate formal tests of statistical significance that were inappropriate in this instance.

Overlapping samples

A potential limitation of metasynthesis is the overlapping of samples across meta-analyses (Johnson, Scott-Sheldon, & Carey, 2010). We inspected the meta-analyses for shared samples. In two meta-analyses, the researchers did not provide information on samples used (Hansford & Hattie, 1982; S. Ross, 1998), and 10 meta-analyses did not have any overlapping of samples.

There was some overlap among the remaining 10 meta-analyses; however, each of the individual meta-analytic effects contained unique data that were not shared by other meta-analyses. Further, it was not possible to quantify the degree of sample overlap because of missing information. In most of the meta-analyses, researchers tested multiple effects without specifying which samples contributed to which effects. Nonetheless, because the metasynthesis approach used here was descriptive in nature, it did not assume independence of observations that would be required in formal meta-analytic computations.

Article Notes

- **Declaration of Conflicting Interests** The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

Notes

1. All reported correlations represent the mean correspondence between self-evaluations and objective performance outcomes aggregating across numerous primary studies.

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