



Recent work on intellectual humility: A philosopher's perspective

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ABSTRACT

Intellectual humility is commonly thought to be a mindset, disposition, or personality trait that guides our reactions to evidence as we seek to pursue the truth and avoid error. Over the last decade, psychologists, philosophers, and other researchers have begun to explore intellectual humility, using analytical and empirical tools to understand its nature, implications, and value. This review describes central questions explored by researchers and highlights opportunities for multi-disciplinary investigation.

ARTICLE HISTORY

Received 22 August 2019
Accepted 25 May 2021

KEYWORDS

Intellectual humility;
humility; interdisciplinary
research; philosophy

Intellectual humility (IH) is commonly thought to be a mindset, disposition, or personality trait that guides our reactions to evidence as we seek to pursue the truth and avoid error. IH helps us overcome problematic egoic and egoistic responses to our evidence. This mindset frees us up to seek out and evaluate evidence in such a way that we are less influenced by our own self-oriented motives and more oriented toward reality. IH appears to be valuable in many domains of life – from education to interreligious dialogue to civic discourse. It promises to help us avoid headstrong decisions and erroneous opinions, and it allows us to engage more constructively with our fellow citizens.

Over the last decade, psychologists, philosophers, and other researchers have begun to explore IH, using analytical and empirical tools to understand its nature, implications, and value. Although much of this work is in personality and social psychology, the issues invite many questions at the interface of psychology and philosophy.

This article describes central questions explored by researchers and highlights future opportunities for multi-disciplinary investigation of IH. The topic of IH is at once theoretically fascinating and significant for our practical lives, but progress depends on integrating knowledge across disciplinary boundaries. I offer suggestions for the next steps. My review of past research will focus on four main questions:

- (1) What is IH?
- (2) How do we recognize IH?
- (3) What factors underpin and undermine IH?
- (4) What are the benefits of IH?

1. What is intellectual humility?

We need an account, characterization, or definition of IH in order to examine IH. If we don't know – at least approximately – what IH is, we presumably cannot study it empirically, understand its connection to other traits and states, or design interventions for making people more intellectually humble. But characterizing IH has not proven to be straightforward. The literature on IH is in a state of conceptual disarray.

What have researchers said about the nature of IH? In a brief space, it is hard to summarize the wide range of proposals discussed in hundreds of articles and chapters, but I find it useful to identify four broad types of accounts found in the literature. Essentially, these accounts put forward different conceptual themes that have emerged in recent discussions. I will assume that these accounts, at a minimum, aim to capture what is necessary for IH. First, there are what I call *Attitude Management* accounts:

- IH is 'a trait that reflects the degree to which people are generally willing to reconsider their views' (Hoyle et al., 2016, p. 171).
- 'We operationally define [IH] as reduced defensiveness when one's beliefs are challenged' (Van Tongeren et al., 2014, p. 63).
- IH 'involves the ability to regulate one's need to appear "right" or "correct" in regard to one's beliefs or ideas' (Davis & Hook, 2014, p. 112).

Attitude Management accounts of IH endorse the following broad idea:

Attitude Management: IH is a mindset (or disposition or trait) that regulates¹ our attitude-forming practices and our responses to our attitudes.

According to this idea, IH might make our attitudes more sensitive to counterevidence we encounter; it might make our responses to attitude challenges less defensive; or it might make us less concerned to appear to be right. One division among Attitude Management accounts is fairly clear: some variants focus on *self-directed* attitudes whereas others focus on *other-directed* attitudes. For example, I noted one account on which IH is a trait reflecting whether people are willing to reconsider their views, but another one I mentioned says that IH is the ability to regulate our need to appear to be right about our beliefs and ideas. The former is a psychological trait that guides our deliberation about our own views whereas the latter is an interpersonal or self-presentational motive that's distinct from our private deliberation about our views. We can imagine someone who has the trait but fails to have the motive, and vice versa. There's diversity among Attitude Management accounts depending on what type of attitudes IH is supposed to regulate.

In contrast with Attitude Management accounts, consider what I call *Realistic Self-assessment* accounts:

- IH is 'a realistic evaluation of one's epistemic capacities' (Gregg & Mahadevan, 2014, p. 8).
- 'IH is the virtue of accurately tracking what one could nonculpably take to be the positive epistemic status of one's own beliefs' (Church & Barrett, 2016, p. 69).
- IH is a 'disposition not to adopt epistemically improper higher-order epistemic attitudes [that is, attitudes about the epistemic status of one's attitudes], and to adopt ... epistemically proper higher-order epistemic attitudes' (Hazlett, 2012, p. 220).

Realistic Self-assessment accounts embrace the following broad idea:

Realistic Self-assessment: IH is a mindset (or trait or disposition) that regulates accurate or normatively appropriate evaluations of our capacities, limitations, and attitudes as inquirers.

Whereas Attitude Management accounts focus on the regulation of attitude-forming activities broadly, Realistic Self-assessment accounts are concerned more narrowly with particular types of self-evaluation. Within this latter category of accounts, we find diversity. For example, some accounts propose that IH requires evaluating our epistemic capacities whereas others say it requires our having actual beliefs, or dispositions to

have beliefs, about the epistemic status of our beliefs. These are distinct objects of assessment. Someone could potentially assess her epistemic capacities even when those capacities have not produced actual beliefs, for example. Furthermore, some accounts treat IH as a *state* of evaluating one's capacities or, alternatively, as a *disposition* to evaluate one's beliefs in certain ways. These accounts highlight different ways to understand the ontology of IH, a topic I return to below. I should add that if Realistic Self-assessment proposals require 'an accurate view of self,' this may dramatically limit the number of people who have IH, granting the plausible assumption that accurate self-views are hard won (Dunning et al., 2004).

Third, there are *Low Self-concern* accounts:

- 'IH is in large part negative: aimed at avoiding self-importance ... we might say that IH opposes self-importance when it interferes with a pure and penetrating pursuit of intellectual goals' (Schellenberg, 2015, p. 220).
- 'The virtue of humility [of which IH is a subtype] is intelligent lack of concern for self-importance, where self-importance is construed as conferred by social status, glory, honor, superiority, special entitlements, prestige, or power ... We think the virtue of humility is just the absence of [pride]' (Roberts & Cleveland, 2016, p. 33).

These accounts embrace the following idea:

Low Self-concern: IH is a mindset (or trait or disposition) that regulates low concern for one's own intellectual self-importance.

Among Low Self-concern accounts, we find various ways to think about IH. One idea is that IH is an 'absence' of intellectual pride whereas another says that IH 'opposes' a range of factors that underlie intellectual self-importance. These are subtly different proposals, for it seems as though someone could have the 'absence' variety of IH without having anything that 'opposes' self-importance.

Finally, *Mixed* accounts of IH pull together elements from the accounts noted above, treating them as necessary but not alone sufficient for IH. For example, some Mixed accounts join variants of the Attitude Management and Realistic Self-assessment accounts:

- 'IH consists in proper attentiveness to, and owning of, one's intellectual limitations,' where 'owning ... consists in a dispositional profile that includes cognitive, behavioral, motivational, and affective responses to an awareness of one's limitations' (Whitcomb et al., 2017, pp. 520, 518).

- ‘We define specific IH as the recognition that a particular personal view may be fallible, accompanied by an appropriate attentiveness to limitations in obtaining and evaluating information relevant to it’ (Hoyle et al., 2016, p. 165).

The following Mixed account fuses versions of the Realistic Self-assessment and Low Self-concern accounts:

- IH is ‘a willingness to recognize the limits of one’s knowledge and appreciate others’ intellectual strengths’ (Porter & Schumann, 2018, p. 140).

The following three Mixed accounts appear to bring together variations of the Realistic Self-assessment, Low Self-concern, and Attitude Management accounts (as well as elements that do not fit within any of those three categories):

- ‘IH is a non-threatening awareness of one’s intellectual fallibility . . . Such a non-threatening awareness of one’s intellectual fallibility offers a healthy independence between one’s intellect and ego, meaning that a person will not feel threatened by intellectual disagreements, will not be overconfident about his or her knowledge, will respect the viewpoints of others, and will be open to revising his or her viewpoints when warranted’ (Krumrei-Mancuso, 2017, p. 14).
- ‘IH regarding religious beliefs is characterized, at least in part, by an awareness of the fallibility of one’s religious beliefs, discretion in asserting those beliefs, comfort keeping one’s religious beliefs private, and respect for others’ religious beliefs’ (Hopkin et al., 2014, p. 58).
- IH involves ‘the down-regulation of egoistic motives in favor of other-orientedness, as well as an accurate view of oneself. Down-regulating egoistic motives should include forgoing defensiveness when confronted about one’s beliefs, and being more other-oriented should translate to being less antagonistic toward the views of others that run counter to one’s own views or beliefs. Humility also involves accurate self-awareness of strengths and weaknesses, which allows humble individuals to acknowledge and take into account their limitations and inadequacies, especially when confronted by others who believe differently’ (Van Tongeren et al., 2014, p. 63).

These disparate accounts of IH strongly suggest there is no widely agreed upon ‘basic’ or ‘core’ notion of IH in the literature. Why haven’t researchers so far developed

a commonly shared notion of the phenomenon they are apparently studying? Here are two potential explanations.

First, researchers have different theoretical goals and naturally characterize IH differently. Psychologists characterize IH so that they can operationalize it and study it using psychometric tools (e.g. self- and other-reports). Philosophers articulate jointly necessary and sufficient conditions for IH or, if not conceptual analyses, informative descriptions. Psychologists’ characterizations do not typically display the conceptual unity and precision found in philosophers’ analyses. Psychologists lists qualities, some of which may or may not be independently necessary or jointly sufficient for IH; we are not always told how these qualities are logically related to IH. Sometimes researchers blend conceptualizations of IH with descriptions of the consequences of IH, without drawing distinctions between the two. Generally, it can be hard to know whether any two characterizations of IH are consistent or in conflict.

A second explanation for the lack of conceptual unanimity is that some researchers have assumed that IH is a subdomain of general humility whereas others have not. General humility has been studied much more extensively than IH (Tangney, 2009) and it factors into widely adopted measures of personality (the ‘Big Six’: see Ashton et al., 2004). Some IH researchers use characterizations of IH that, to various degrees, ‘piggyback’ on preexisting characterizations of general humility. These researchers have apparently assumed that general humility is a plausible starting point for understanding IH. Their basic thought is that general humility will reveal distinctive features in ‘intellectual’ contexts and *those features* constitute IH. For reasons I explain below, this way of characterizing IH faces problems.

For better or worse, it appears that researchers have not been focusing on the same phenomenon. The ‘IH’ label is a bit of language that can be used to describe many distinct features and states. But conceptual confusion – and the verbal disputes among researchers that may ensue – poses a challenge for the field to manage in the coming years.

The matter of conceptual diversity has been recognized. Nadelhoffer et al. (2016) observe concerning general humility: ‘one of the key issues when it comes to the on-going debate . . . is where we should begin – that is, which varieties of humility should we embrace and which should we eschew?’ (p. 15). The trouble is that researchers’ choices about ‘where we should begin’ are not constrained enough to lead everyone in roughly the same direction. But since everyone uses ‘IH’ to talk about their proposals, it isn’t obvious what we have learned thus far or what differences there are between different

proposals and approaches. One possibility is that we now know something about a variety of distinct mindsets or traits, which differ from each other in many respects aside from name. If that's so, researchers could design new labels that make clear which feature or features they are focusing on (e.g. 'lack-of-self-importance IH,' 'limitations-owning IH,' or the like). Then their alternate conceptualizations could duke it out in the marketplace of data. The crucial possibility I'm raising here is that there just is not any one thing that answers to the name 'IH' and so different concepts could prove useful for different theoretical, explanatory, and predictive purposes.²

In the present moment, the language of 'IH' has a resonance that lets researchers smile and nod along in conversation, feeling they know what others are talking about, presuming everybody's talking about the same phenomenon, more or less. They feel they intuitively grasp what IH is. As someone who has listened to both philosophers and psychologists talk about IH a fair bit, I doubt there is anywhere near as much shared ground as is sometimes assumed – inside either field or between fields. Here's the trouble: researchers are unlikely as a group to pursue joint investigation effectively when they lack a shared core concept of some phenomenon. A core concept can be revised as research advances, but researchers would benefit from a common point of departure for investigation – unless they opt to treat the conceptual diversity as stemming from the fact that IH simply comes in many varieties, a theoretical perspective I don't think is often represented in the discussion. But some have been pessimistic about the existence of a shared notion of IH. Dunnington (2016), for instance, argues that conflicting conceptions of human nature and flourishing underwrite different characterizations of IH, and that the degree to which 'agreement [about the nature of IH] seems attainable is correlative to the extent we are willing to allow [political] liberalism to determine the desiderata for an account of the virtues' (p. 95).

But let's just assume that researchers are interested in a common phenomenon. Thus, they need something like a core concept of IH. Before I suggest what that could be, let me describe some further disputes about IH. First, the ontology of IH is controversial. There is no consensus over whether IH is a mindset, a disposition, a personality trait, an intellectual virtue, a set of self-regulatory abilities, a cluster of attitudes, or an absence of intellectual vice. I don't know whether these ontological disagreements can be resolved easily. They may trace back to genuinely incompatible conceptual frameworks for modelling human cognition and intellectual virtue. Alternatively, some of the disputes may be merely

verbal or only apparent at first sight. For example, perhaps what some researchers mean by 'self-regulatory abilities' can be understood in terms of bundles of personality traits or mindsets. To take another example, Tanesini (2018) contends that IH is a cluster of attitudes 'involved in the evaluation of aspects of one's own cognitive agency' (p. 410) and then argues that sometimes strong attitudes can be properly identified as intellectual virtues (pp. 416–18). Another ontological dispute concerns whether IH is a mindset, disposition, or personality trait, or, alternatively, a *state* that is brought about by some such mindset, disposition, or trait (Zachry et al., 2018). Of course, we can think of IH as both a state and a trait, because there's a difference between how intellectually humble a person is right now (a state) compared to how intellectually humble they tend to be across time and in different situations (a trait). Once again, when some researchers focus on the trait and others focus on the state, they may not genuinely disagree even when it seems they do, given that traits together with circumstances normally produce particular states.

Here is a further disagreement about the characterization of IH. Is IH a general disposition (or trait or mindset) relevant to certain intellectual activities, or is IH a way for us to hold specific attitudes, or both? Some researchers have suggested distinct psychometric measures for *general IH* and *specific IH*, where the former is IH spanning all relevant attitudes and intellectual activities, and the latter is IH concerning particular attitudes (Hoyle et al., 2016). Hoyle et al. (2016) observe that 'measures of general IH tell us only how intellectually humble or arrogant people are overall but may say little about their stance toward any particular view' (p. 171). Someone can have high levels of general IH and be intellectually arrogant with respect to specific attitudes, or she can have low levels of general IH and high levels of IH with respect to specific attitudes. In other words, being high (or low) in general IH does not necessarily predict high (or low) specific IH, or vice versa.

The contrast between general and specific IH should be joined by another one: *domain IH*. Although this notion does not appear in the literature, the idea is that domain IH involves a set of attitudes or activities that are relevant in a particular domain or context.³ One example of a domain could be someone's thinking about a particular subject matter – biology, say. Someone's domain IH concerning biology is significantly broader than her specific IH concerning her belief in evolution by natural selection, but still narrower than the scope of her general IH. Alternatively, the domain could also be fixed by her purposes or goals in some situation. For example, domain IH could be fixed by her

attitudes and intellectual activities when she's taking an academic test, in contrast to an informal social setting, such as skeet shooting with her friends. Domain IH could be broader than specific IH, but narrower than general IH. If psychologists could devise measures of domain IH, we might learn more about the factors that influence the promotion of IH in specific settings.⁴

Thus, there are important and unsettled questions about the appropriate level of generality or specificity at which IH is most fruitfully studied. Researchers should study IH with greater sensitivity to this issue, because IH is always found in specific contexts 'in the wild.' Doubtless, a better understanding of distinct categories of IH (e.g., general, specific, and domain) would allow for a deeper understanding of IH and the ways in which it can be promoted. The connections between general, specific, and domain IH are important for understanding the nature of IH, and those connections are a central but underexplored topic. I return to that theme below, as it bears on how IH can be promoted and what benefits it brings.

Before I conclude my discussion of the nature of IH, let me turn to a subtle terminological issue. Some theorists conceive of IH as having a sort of 'public face,' in much the way that general humility does. The idea is that IH helps to regulate social relations and behavior; it acts as a kind of 'lubricant' between people, helping them get along. As McElroy et al. (2014) put it, 'a key function of IH is to prevent relational wear-and-tear, like oil prevents an engine from overheating' (McElroy et al., 2014, p. 21). But characterizing IH as a *socially-oriented* mindset, disposition, or trait – something that's essentially expressed in social contexts – is a mistake. That's a somewhat controversial position, but I will try to argue for it.

Whatever else it is, IH is a way for people to manage evidence and information that is relevant to their inquiry or intellectual life – roughly, whichever attitudes, processes, and activities are implicated in seeking truth and avoiding error. This is not at all to deny that the social world shapes intellectual life in many respects. To take just one example, we must determine when to trust the word of others. But IH does not seem to be an essentially social mindset, disposition, or trait. Even when IH has salient social consequences, those consequences should not be confused with the essential features of IH itself.

Notice why that point is important. Suppose someone has (general, domain, or specific) IH to a high degree. She may receive new evidence indicating she is prone to err. She will often respond to that evidence in ways that are characteristic of IH. More specifically, she may respond to that evidence by managing her attitudes in appropriate ways; by coming to have a more

realistic assessment of her limitations and epistemic capacities; by having low self-focus in light of challenges to her views; or by doing some combination of these things. To begin to think clearly about the function of IH here, we must distinguish between the person and her social world. IH should be seen as primarily about the person herself, not her social world. IH is a feature of human cognition that may have interpersonal consequences.

By contrast, one fairly commonplace idea in the recent literature, noted above, is that both general humility and IH involve

the down-regulation of egoistic motives *in favor of other-orientedness*, as well as an accurate view of oneself. Down-regulating egoistic motives should include foregoing defensiveness when confronted about one's beliefs, and *being more other-oriented should translate to being less antagonistic toward the views of others that run counter to one's own views or beliefs.* (Van Tongeren et al., 2014, p. 63; emphasis added; cf. Davis et al. 2011 and 2013)

On such conceptions of IH, the flipside of egoistic or egoic behavior is other-oriented behavior. One assumption here may be that self-orientation and other-orientation are inversely related. But they aren't – an egoless person could be totally indifferent to others.⁵ Leaving that issue aside, the important question is whether 'the down-regulation of egoistic motives in favor of other-orientedness' represents a useful way to model IH. While that idea may help to make sense of general humility – a concept imbued with social meaning – it seems to mischaracterize IH. Again, IH is way for us to manage information that's relevant to our pursuit of truth and avoidance of error. The essence of IH, then, is not a matter of how we react to other people, but how we react to information relevant to our inquiry. It is about how we respond to evidence concerning reality. IH involves private mental states and processes, not publicly observable states or interpersonal processes. We might put the idea, suggestively, as follows: IH 'down-regulates' egoic and egoistic motives in favor of *reality-orientedness*.⁶

The slogan is meant to be evocative, but I should try to express the idea slightly differently – maybe more clearly. We are motivated by all sorts of self-focused considerations. Will this or that belief or belief-forming method make me feel good? Will it make me successful or popular? Is this what people who share my values accept? We can be moved by such considerations as we make up our minds. But there's always the question of whether a belief is actually correct and whether a method reliably produces true beliefs, independent of what the belief or method does for us personally. IH

reduces the role of self-focused motives in our inquiry, making us more concerned to figure things out, period.

As I have observed, there is a great deal of disagreement over the definition of IH and this poses obstacles for effective multidisciplinary research, on the assumption that everyone is in fact hunting the same quarry. Here are some suggestions for moving forward. First, researchers should be as explicit as possible about their conceptions of IH, striving to distinguish between the nature of IH and its consequences. That goal has been pursued admirably by Leary et al. (2017), who develop a ‘unidimensional’ measure of IH, designed not to be conflated with the behavioral upshots of IH. The rigorous analytical work by Whitcomb et al. (2017) lays out a principled account of what to treat as IH and what to treat as consequences of IH. Philosophers can assist psychologists with the work of conceptual clarification, as has been the case with a few recent collaborations – see, for example, Haggard et al. (2018) and Leary et al. (2017, note 1). Second, researchers could work to create a shared ‘core’ concept of IH. That concept couldn’t possibly encompass all of the conceptual diversity that has so far been labeled ‘IH,’ it seems to me, but it could at least capture one phenomenon that many researchers have sought to understand. The core concept would be a common target for researchers, though they may devise different models and explanations of it, thus unifying the rapidly expanding field of IH research. A core concept is not an analysis or definition. It is an elucidation of a target phenomenon that may be subject to different kinds of analysis or definition.

I have already hinted at one sketch of a possible core concept of IH: IH down-regulates self-oriented motives in information processing in favor of reality-orientedness. To further clarify the idea, we would need to say considerably more about the types of information processing that IH is supposed to help to manage, the nature of ‘reality-orientedness,’ and the types of self-oriented factors that prevent us from getting things right. Leaving more elucidation aside, an important question remains: according to the core concept, how does IH work? By design, the core concept remains silent. But it can be fleshed out using the kind of characterizations of IH that researchers have developed already. Some researchers may say that IH regulates attitude-forming tendencies, making people high in IH more likely to reconsider their views, more likely to fairly consider sources of evidence that threaten their prior opinions, and so on. Other researchers could say that IH helps people accurately or appropriately evaluate their beliefs and intellectual limitations, or that IH reduces people’s concern for their own intellectual self-importance. Researchers could also join together these

features in various ways. Crucially, all these ways of fleshing out the idea of IH assume that different mechanisms regulate egoic or egoistic responses to information. Each one suggests that IH helps people become better attuned to their evidence and less oriented toward their egoic and egoistic motives. IH is a ‘hypoegoic’ concept (Leary & Terry, 2012) in the sense that it suppresses or regulates particular kinds of self-centeredness in inquiry.⁷

In any event, a widely recognized core concept should make disagreements among researchers more productive and more tractable. A lack of such a core concept could be the source of the conceptual diversity found in the literature on IH. Whether some posited mechanism underlies IH in the broad sense specified by the core concept seems to be something researchers could discover. We may also find that apparently inconsistent approaches to modeling IH are in fact compatible because they highlight different aspects of the operation of IH in cognition. At any rate, if the core concept described above is a decent sketch, researchers can find greater agreement about the type of phenomenon under investigation as well as a better understanding of what evidence could adjudicate between competing models and explanations.

2. How do we recognize intellectual humility?

Even supposing that researchers eventually agree about the correct characterization of IH, or at least some core concept of IH, that does not necessarily mean they will be able to tell us who has IH or how IH functions in cognition and the social world. So, how can researchers measure IH effectively? Furthermore, outside the laboratory, how do people perceive (and misperceive) it? This review continues by noting some answers discussed in the literature. Although I hope future treatments of IH move past basic definitional disorder, in what follows I ignore conceptual differences among different proposals, only occasionally noting conflicts.

Researchers seeking to study IH empirically have devised measurement techniques. Their views about the nature of IH guide where they look for it. For example, if they conceptualize IH as an essentially social trait or virtue, they expect to find it in interpersonal engagements. But people need not explicitly conceptualize IH in order to try to identify it in everyday life. We make judgments about IH, in others and ourselves, using naïve theories. One central focus of research, then, is how researchers and lay persons alike can recognize IH and how they can do so more effectively.

A recent survey article on measures of humility noted that over 150 empirical samples concerning humility

exist, as well as around twenty different measures (Davis et al., 2016).⁸ One commonplace lament in the psychological literature is that measuring general humility and IH is not straightforward. There is currently no 'gold standard' for measuring IH, even though the field has developed several new measures (see, e.g. Zachry et al., 2018; Haggard et al., 2018; Leary et al., 2017; Alfano et al., 2017; Krumrei-Mancuso & Rouse, 2016; McElroy et al., 2014). The lack of consensus about measurement seems to follow from the fact that researchers have used different definitions of IH to construct their items. Comparative work needs to be done on existing measures.

Psychologists routinely deploy self-report measures for studying all kinds of constructs, but in the case of humility and IH, some researchers have worried about the value of self-reports. The concept of general humility is typically connected to an accurate assessment of the self and low self-focus. That construct is essentially about the self. But this means that people may self-enhance when completing self-reports, claiming to have more humility than they really do. The so-called modesty effect predicts that actual humility is inversely related to the self-enhancement of humility (Tangney, 2009). Humble people will be modest in their reporting of their humility, leading to lower self-ratings, whereas people who are low in humility will self-enhance, inflating their self-ratings. If there is a modesty effect, self-reports will be systematically biased and presumably represent a flawed method for studying humility. Is there any evidence for a modesty effect on self-reports of humility or IH? The matter is controversial.

In a review of measures of humility and IH, Hill et al. (2016) note that 'there is little evidence to date that self-reports of humility are, in fact, biased' by the modesty effect (p. 121). Leary et al. (2017) developed a measure of IH that's not correlated with social desirability, meaning that respondents do not tend to answer questions in a manner that is viewed favorably by others. If IH is not socially desirable, we can set aside the idea that people tend to seek to self-enhance by claiming greater IH than they have. On the other hand, Davis et al. (2013) found a negative correlation between self- and other-reports of humility among a group of acquaintances. They observed that as self-reports of humility increase, other-reports of humility for the same target tend to decrease. Given that self- and other-ratings can diverge in this way, it is possible that genuinely humble people self-report lower levels of humility than they really have and that somewhat arrogant people exaggerate their level of humility. Meagher et al. (2015) found that 'high IH self-reports are driven in large part by socially desirable responding' (p. 43). Their studies found a strongly

positive association between high self-reported IH and self-enhancement on socially valued attributes. Meagher et al. (2015) note that while it is possible that subjects high in IH are, as a matter of fact, better leaders, more competent, and so forth, it is unlikely that subjects' high self-appraisals are correct across a wide range of desirable attributes. The researchers suggest that a more plausible hypothesis is that high IH self-reports are fueled by socially desirable responding, in keeping with Vazire's (2010) influential proposal that people's self-ratings on highly evaluative traits are less accurate than the ratings of others. In addition, Wright et al. (2017) say in passing that at least one measure of humility is problematic in part 'because it relies on direct self-report, which makes it more likely that participants will self-enhance (or otherwise misreport)' (p. 8). In favor of the accuracy of self-reports, however, Krumrei-Mancuso and Rouse (2016, p. 210) note two earlier studies of general humility. One study (Rowatt et al., 2006) found that self-reported humility was similar to an implicit assessment of humility, and presumably the implicit test would not be subject to a modesty effect; another study (Landrum, 2011) found that self-report measures of humility were not correlated with social desirability.

If we are armed exclusively with self-reports, we can't directly test the hypothesis that self-reports of humility are subject to a modesty effect. That is because, for any given group of people, we do not have a known baseline of *non-self-report* humility data against which to compare self-report data. For example, if we could know – independently of self-reports – that you are high in IH and I am low in IH, relative to each other, then we could see how well-calibrated our self-reporting is with the facts. After studying a large enough number of subjects, we could draw a conclusion about the presence of a modesty effect in our sample. So, the crucial question is: aside from self-reports, what sources of information can we draw on to recognize IH?

We could study widely reputed 'exemplars' of IH, but this assumes that social perception of IH is accurate. That assumption is not obviously correct, as I suggest below. Other-reports of IH are not a silver bullet and it is frequently assumed that people are not good at judging a target's internal traits unless they have considerable familiarity with the target. Generally, what we need is a source of information about IH that is not itself unproven or in doubt. One possibility is that some measures of humility and IH succumb to the modesty effect while others do not, and so we could rely on the latter type of measures to proceed. For example, Krumrei-Mancuso and Rouse (2016) assume that implicit assessments of humility will not run into trouble with the effect. Although one implicit test for humility and arrogance is

noted by Hill et al. (2016) in a review of humility measures, I don't believe an implicit assessment of IH exists at the time of writing. In any event, I suspect implicit measures risk overlooking the explicit, slow, and effortful cognitive processing sometimes involved in manifesting IH in many ordinary contexts; and as Samuelson and Church (2015, pp. 1107–1108) suggest, IH often seems to involve precisely that sort of cognitive processing. Furthermore, implicit measures often work because they assess a belief, such as someone's prejudicial belief about a group of people. But if IH is not a belief, as some researchers claim, it isn't clear how implicit measures will help at all.

Faced with the potential of bias on self-reporting for humility and IH, some researchers have adopted alternative methodologies. Two significant trends in the literature attest to this point.

First, some researchers have assumed that general humility is easier to assess in other people than in ourselves. Their idea is that if we want to know whether people are humble, don't ask them – ask people who know them. This may be a promising way to study general humility. As I noted above, though, IH is most plausibly found in private mental states, not in the social world, and so this approach to measurement has crucial limitations. Even so, using other-reports sidesteps potential measurement problems related to self-enhancement. Davis et al. (2010, 2011, 2013) have developed a measure of 'relational humility,' which is a kind of social judgment, as opposed to a mindset, disposition, or trait. Measures of relational humility have had significant uptake in the literature, in part because they comport with influential findings in social and personality psychology. Vazire (2010) has proposed that self/other knowledge asymmetries mean that ratings by other people tend to be more accurate than self-assessments *when the target traits are both desirable and behavioral*, such as extraversion. Since humility and IH are presumably desirable, researchers have thought they are subject to self/other knowledge asymmetries, too – though note, as I argued above, it is problematic to think of IH as a behavioral trait.⁹

Second, researchers have used measures of relational humility to assess consensus among raters (Davis et al., 2013). Rather than just ask one judge about a target person's humility, researchers have developed methods for finding consensus among multiple judges. Consensus among judges on relational humility can indicate what Davis et al. (2013) call 'trait humility,' which picks out a target's reputational features. In brief periods of time (twenty-minute sessions), researchers did not find that consensus would develop among unacquainted participants; but researchers have observed

that over the course of several months, a group can reach consensus about the IH of a target (Meagher et al., 2015). McElroy et al. (2014) also created an other-reporting measure of IH. They theorized that IH is social in nature, given that it helps to regulate social interactions concerning one's beliefs and worldview. When people face the give-and-take of debate and discussion, they manifest their level of IH. The other-report measure from McElroy et al. includes items that capture observable behaviors that presumably reflect IH or intellectual arrogance.

While the shift to relational humility is interesting, especially for the study of general humility, it raises problems for the study of IH. Consider one issue. Are people often well positioned by their evidence to recognize IH in a target? Even if they have evidence that tracks IH in a target, do they have good epistemic norms to help them interpret their evidence effectively? In typical social situations, there are inevitable gaps in our evidence concerning other minds, and the norms we use to understand our evidence are sometimes flawed. Our ignorance of other people's minds seems especially salient if we characterize IH as involving a hypoegeic mindset (Leary & Terry, 2012). If IH positions people to overcome tendencies toward self-oriented cognition in order to be better oriented toward reality, gaining knowledge of that feature of cognition may be difficult. Given our limited knowledge of others' minds, how can we expect to determine whether others have the relevant hypoegeic mental states?

We are imperfect judges of how other people's outward behavior reflects their minds. We may be inclined to attribute high levels of IH to other people who agree with us or who share our values. After all, we'll often think that intellectually humble people are the ones who are oriented toward reality – *just like us!* We may also overestimate how much other people's observable behaviors are explained by their character traits as opposed to situational influences (the fundamental attribution error), which may lead us to over-attribute intellectual arrogance or dogmatism when making sense of others' behavior. In fact, we tend to make stronger dispositional attributions for undesirable traits, such as intellectual arrogance, than desirable ones. In view of the psychological principle that 'bad is stronger than good' (Baumeister et al., 2001), we can expect that signs of arrogance will often be more salient than signs of humility, leading to skewed perception of IH.

Some biases on judgments of IH in others comport with what Davis and Hook (2014) call the 'humility-values' hypothesis, according to which constructs such as values and 'moral foundations' (Graham et al., 2013) influence the information that people deem relevant to

judgments of humility. Given the apparent risks of self-enhancement for IH self-reports, we should be wary of the possibility that *indirect* forms of self-enhancement influence other-reporting, too. Potentially, people tend to attribute higher levels of IH to people who are similar to them in value-relevant respects (e.g., ingroup members) and lower levels of IH to those who are different.

But, presumably, we are sometimes able to accurately judge IH. For example, college teachers are sometimes confident they can know an intellectually arrogant undergraduate student when they see one in action over the course of a semester. How does this work? One suggestion, due to Davis et al. (2011), is that general humility is best revealed to other people in four distinctive types of situations: (1) during interpersonal conflict; (2) when receiving praise or recognition; (3) while interacting in hierarchical relationships (e.g., a boss and an employee); and (4) during cross-cultural interactions, where people guided by divergent norms engage with each other. Davis et al. focus on general humility and so we can presume that the 'revelatory' situations which apparently give us evidence that tracks facts about IH will be different than (1) through (4). The point, though, is that insofar as our judgments about IH are based on evidence furnished by 'revelatory' situations, our judgments will often be accurate. But how any of this actually works is uncertain. Obviously, social judgment can sometimes be presumed to track features of IH. What does it track, exactly? Does it track properties concerning how a target manages her attitudes, or her self-assessments, or her low self-concern, or some mix of these things? If so, how reliable is social judgment of IH, in the sense of being accurate over a large run of trials? What are the circumstances that make people (un)reliable judges? And what rules or heuristics could judges follow to boost their reliability as evaluators of others' IH?

Davis et al. (2013) note that people often assess humility in others by considering expressed emotions. People gather that information through verbal and non-verbal communication, but also by learning about others' impressions of a target. They develop an understanding of a target's 'humility reputation,' which allows them either to forge and deepen social bonds with the target or to steer clear of trouble. All of that may hold for general humility, but it isn't so obvious how emotions track facts about IH. Inquiry-disrupting emotions are presumably part of what IH helps people overcome. Take an example to illustrate. When you learn of a serious objection to one of your beliefs, you may at first show outward signs of embarrassment or frustration. Your emotional state is one form of egoic cognition and it may influence your response to the objection.

Observers could naturally treat your expression of emotion as an indicator that you are intellectually arrogant. But you could in fact overcome or offset the emotion and become better oriented toward reality by assimilating the objection to your viewpoint. The expressed emotion does not reveal what you actually do with the new information. Clearly, expressed emotions can sometimes provide evidence concerning someone's IH, but how that happens is a subtle, context-sensitive matter.

I am thus in agreement with Meagher et al. (2015) who say that 'a primary goal for future work must be to better theorize and assess how IH is revealed to others' (p. 44). Let me add that a closely related goal is to better understand how IH is revealed to the self. The matter of how humility is disclosed raises fascinating questions sometimes touched on in early modern treatments of humility. La Rochefoucauld (1678/2007) noted, for instance: 'Humility is often merely a pretence of submissiveness, which we use to make other people submit to us. It is an artifice by which pride debases itself in order to exalt itself; and though it can transform itself in thousands of ways, pride is never better disguised and more deceptive than when it is hidden behind the mask of humility' (p. 73, V.254). La Rochefoucauld thought people live with considerable ignorance and obscurity about their actual motives and intentions, meaning that actors may be oblivious to the artifice of their own humble pretense. Recently, Sandage et al. (2015) pointed out that religious practices can induce 'delusional humility,' where arrogant people believe they are humble (p. 214). That phenomenon is not confined exclusively to religious believers, of course. In general, I expect that self-recognition of IH ordinarily reaches us through engagement with others in circumstances that mirror the 'revelatory' situations noted by Davis et al. (2011).

To figure out how IH is revealed to others, Meagher et al. (2015) underline the need to think more rigorously about the contexts and settings where IH is found. They note that a general 'lack of research at the level of situations reflects a general dearth within social psychology and a failure to fully develop taxonomic understanding of the settings and interactions that characterize human life' (p. 44). What can be done to understand better the situations where IH and intellectual arrogance are observed? Psychologists have begun to say more about these matters (Zachry et al., 2018; Grossmann, 2017). But the field would benefit greatly from new work on IH from researchers who study the fine-grained elements of inquiry and our intellectual worlds. I have in mind philosophers and historians of science, social epistemologists, intellectual historians, anthropologists, and sociologists of knowledge. These researchers are sometimes interested in themes such as credibility,

trust, rational deference, expertise, arrogance, dogmatism, pseudoscience, and other notions and evaluations that could bear on people's assessment of IH. In my view, the toolbox of ideas and techniques that is available to understand the dynamics of (mis)recognizing IH in real-world contexts could be significantly upgraded by new theoretical contributions and case studies from researchers outside of psychology.

Learning how we recognize IH, both in the laboratory and everyday life, is an important challenge for IH researchers. One starting point for future work could be established models of personality judgment, such as David Funder's (2012) Realistic Accuracy Model. Although people can readily generate judgments about IH, in others and themselves, it remains unclear how accurate those judgments tend to be. If researchers agree that IH is a hypoegoic concept, one involving a lack of self-centeredness in intellectual life, then they should think more about designing measures that do not rely as much on the social world. Doubtless, IH manifests in the social world in particular patterns and knowing more about that is valuable. But, plausibly, IH has its 'deep' basis in cognition and metacognition and so we must look for it there.

3. What factors support and undermine intellectual humility?

So far, I have focused on the nature of IH and how it is recognized. Questions about the conditions for IH and its identification are distinct from questions about what tends to encourage and discourage its development in people. In the case of IH, there are many psycho-social factors that encourage and discourage its manifestation. These factors are related intimately to questions about promoting IH through educational programs, training regimens, and other interventions. In other words, the topic of the present section is one key for converting theoretical ideas about IH into practical methods for helping people develop IH.¹⁰

Whenever we are thinking about factors that encourage or discourage IH, we should focus on a particular category of IH. As I noted in Section 1, general IH spans relevant attitudes and intellectual activities broadly; specific IH concerns particular attitudes (Hoyle et al., 2016); and domain IH concerns a set of attitudes or intellectual activities that are relevant in some specific context, whether topical (e.g., our thinking about biology) or functional (e.g., our thinking while taking a test). A further distinction concerns whether IH is a trait, in the sense that it's a relatively stable mindset or disposition, or a state at a particular time. People can be encouraged to be high or low in IH for any particular

category and so their IH can be either a trait or a state. When we think about factors that influence IH, we need to be aware of which varieties of IH may be relevant. For example, a given factor may temporarily move people into a state of low or high IH while leaving intact their degree of trait IH.

What makes people differ in their degree of IH? Researchers have investigated various sources of individual differences and I will discuss three broad categories of explanation found in the literature: (1) metacognitive abilities, (2) personal security and threats to meaning and values, and (3) self-views.

First, differences in metacognitive ability between people may help to explain differences in IH. Deffler et al. (2016) say that 'individual differences in IH may partly reflect how people process information and judge what they do and do not know' (p. 255). As Leary et al. (2017) note, IH 'has an obvious metacognitive component that involves thinking about the accuracy of one's beliefs, the evidence on which those beliefs are based, and one's ability to evaluate relevant evidence' (p. 810). Variances in the metacognitive ability to discriminate between what one knows and doesn't know can encourage or discourage IH. In addition, Lockhart et al. (2016) and Fisher and Keil (2016) report that greater knowledge about a topic can, ironically, lead to greater metacognitive ignorance because people cannot always accurately evaluate their knowledge within areas of their expertise. This research found that highly educated people 'overestimate their ability to explain topics related to their formal expertise' (Fisher & Keil, 2016, p. 1264). Though expertise boosts people's confidence in their ability to explain phenomena, they systematically overestimate the quality of their explanations (Fisher & Keil, 2016). This suggests that someone's metacognitive ability to recognize her knowledge about a topic may be linked to her (domain) IH. As Lockhart et al. (2016) point out, a metacognitive perspective that shows someone the difference between what one can know firsthand versus what one can know secondhand 'may be a critical component ... of knowing when one needs to defer and where to allocate cognitive effort' (p. 490). The metacognitive ability at issue is thus connected to whether and when people rely on testimony from others.

In addition to metacognitive abilities for evaluating knowledge, metacognitive abilities for recognizing biases are relevant for understanding individual differences in IH. Hansen et al. (2014) observe that subjects recognize the serious potential for bias *in their judgmental strategies* but, troublingly, they fail to recognize a related potential for bias *in judgments based on those strategies*. In other words, subjects noticed that their judgmental strategies were not objective while still

maintaining that judgments arrived at through those strategies were objective. Doubts about the source of judgments didn't stick to the judgments themselves. Hansen et al. (2014) note that if recognizing the potential for bias in one's judgments is a necessary step for debiasing, then biases may pose challenges we cannot overcome on our own. That's because seeing potential bias in our strategies does not 'trigger' the recognition of potential bias in our judgments. What subjects are apparently missing is a metacognitive perspective that reveals the implications of using biased strategies to reach their judgments. If we knowingly use a biased method to reach a belief, we should think that belief is probably biased. Thus, it is plausible that people who suffer from metacognitive 'gaps' will also lack IH to some extent, due to the fact they are unable to accommodate information revealing their intellectual limits.

Second, individual differences in IH have been explained by appeal to facts about personal security and threats to meaning and values. Researchers suggest that general humility can be strengthened by security, secure attachment to others, and affirmation of meaning. These factors help a person overcome egocentrism and self-focus. For example, Hill et al. (2016) note that humility 'requires a sense of security and enduring personal worth' (p. 119). Sandage et al. (2015) note some earlier research on 'healthy attachment' shows that attachment can 'prepare a person to transcend the ego' (p. 209). Interestingly, general humility is also thought to be a basis for security and meaning: humility has been called a 'quiet virtue' (Lavelock et al., 2014), in the sense that it provides a foundation for self-acceptance as well as freedom from harmful social comparison and concern for status.

Researchers have also noted how IH is connected to personal security and threats to meaning. Van Tongeren et al. (2014) study how relationship affirmation, in the sense of 'recalling and affirming valuable relationships in one's life' (p. 64), can lead to reductions in worldview defense. They assume that belief systems provide answers to existential questions and thus are connected to human well-being. They conceptualize humility as reduced defensiveness in light of challenges to beliefs (a notion that may fail to capture a private mental state of IH). The researchers found that people can come to see worldview conflicts and disagreements as an existential threat, and people's reactions to such threats will manifest their humility or arrogance as the case may be. For instance, people may respond to disagreement with prejudice and distrust toward others as well as increased defensiveness about their own beliefs. Psychologists have theorized that such ego-defensive responses maintain or restore psychological security in the face of

threats, because increased confidence in beliefs imparts meaning. Van Tongeren et al. (2014) found that by affirming various aspects of meaning for experimental subjects, they could reduce defensiveness and increase openness to alternative viewpoints. In other words, subjects' defensiveness can be mitigated, and IH can be encouraged, by affirming meaning.

In a similar vein, research by Van Tongeren, Davis et al. (2016) examines what they call 'growth-focused' and 'security-focused' orientations toward religious belief. (These constructs come out of the 'quest religiousness' paradigm and are related to 'dwelling' and 'seeking' religious belief noted by Sandage et al., 2015). On one hand, religious believers who are growth-focused aim to 'span ideological differences' and engage in 'questioning, doubt, and tentativeness' about their own ideas (Van Tongeren, Davis et al. 2016, p. 78). On the other hand, believers who are security-focused treat their beliefs as a source of personal comfort, clarity, and safety (2016, p. 78). Van Tongeren, Davis et al. (2016) propose that each orientation forces 'tradeoffs' between existential security and tolerance of others. In essence, people's worldviews typically optimize either security or tolerance at the cost of the other. The researchers say that some people may be able to '[express] certainty about various beliefs while remaining open to change others' (Van Tongeren, Davis et al., 2016, p. 85). In other words, there can be intrapersonal differences regarding specific IH. A point worth underlining: we should not assume that a growth-focused orientation is merely IH or that a security-focused orientation is merely intellectual arrogance. Instead, these two constructs capture ways in which IH can be influenced by the functional roles that beliefs play in people's emotional, moral, and intellectual lives. These orientations suggest one source of individual differences in IH. They also hint at potential 'dark sides' of IH. 'Doubt,' wrote Lichtenberg, 'must be no more than vigilance, otherwise it can become dangerous' (1765–99/2000, p. 89). Likewise, we may wonder when IH becomes dangerous. Supposing people need to sacrifice security on the altar of growth in order to manifest IH, we might discover that the intellectually humble are less healthy or more unhappy than the arrogant. The possibility I'm gesturing at is reminiscent of so-called positive illusions (Taylor & Brown, 1988).

Third, researchers have proposed explaining differences in IH by looking at differences in self-views. Ottati et al. (2015) found that self-perceived expertise encourages closed-minded thinking – that is, a tendency to process information in ways that reinforce prior opinions or expectations. Ottati et al. presume that 'social norms' dictate when it is appropriate for someone to be closed- or open-minded and that experts are often

regarded as having ‘earned’ the privilege of being dogmatic in virtue of their backgrounds. As a result, people who view themselves as low in expertise tend to be less closed-minded than those who view themselves as high in expertise. Staats et al. (2018) found that U.S. cardiologists with longer experience in the field were less open-minded toward the U.S. Food and Drug Administration’s warning about a type of stent procedure. And Atir et al. (2015) observed that greater self-attribution of expertise predicted people’s claims to know what could not possibly be true. All of this suggests that IH may be subject to related effects. Similarly, Hoyle et al. (2016) note that specific views were held with greater IH when they were *not* based on ‘personal exploration or study.’ Subjects who investigated issues for themselves tended to have lower specific IH than subjects whose views were held on some other basis (e.g., personal intuition or testimony). A related finding comes from Lockhart et al. (2016) and Fisher and Keil (2016): highly educated people overestimate their ability to explain topics about which they have formal training and expertise, compared to people who lack training on these topics. Self-perceptions of expertise can breed arrogance.

I’ve just described three factors that influence IH: (1) metacognitive abilities, (2) personal security and threats to meaning and values, and (3) self-views. These are by no means the only important factors. Others may include differences in first-order cognitive processing, motivation, accountability, embodied cognition, role-modeling, instruction, and tolerance of ambiguity. For researchers to determine how to promote IH effectively, they must better understand a wide array of factors that support and undermine IH. For now, I offer a few observations concerning metacognitive abilities, personal security, and self-views.

First, if metacognitive abilities influence the possession of IH, we need to investigate which metacognitive perspectives enable IH and how those can be acquired. Krumrei-Mancuso (2017) found that IH could be induced by asking people to think about issues from ‘a psychologically distanced perspective.’ Similarly, Lockhart et al. (2016) note one ‘possible way to leverage’ subjects into ‘metacognitive insights’ involved imagining a scenario from a third-person perspective (p. 489). All of this highlights a connection with philosophy. Epistemologists who study rational belief and knowledge sometimes articulate principles and norms for good reasoning that guide people to metacognitive insights about their beliefs, knowledge, and intellectual capacities (for more see Ballantyne, 2019a). Potentially, philosophers and psychologists could work together to articulate and study IH-promoting metacognitive perspectives and

techniques. Work on IH in this critical but underdeveloped space would reveal a fascinating point of contact between philosophy and psychology: *good intellectual character*. Most epistemologists who are interested in character work within the philosophical subfield of virtue epistemology, but traditional and ‘mainstream’ epistemologists, who study principles and norms of good reasoning, can also contribute to our understanding of good intellectual character. Since good intellectual character calls for metacognitive perspectives, we need to know what those are, how they can be acquired, and how they can be promoted.

Second, if personal security and threats to meaning influence IH, we need to investigate which values encourage, or are at least not in tension with, IH. One dismal possibility is that training programs could aim to encourage IH while simultaneously undermining gains in IH by threatening students’ security or promoting values at odds with IH. In other words, inculcating IH can backfire. Imagine training students to become intellectually humble while at the same time making them feel insecure or existentially threatened in subtle or not so subtle ways. For concreteness, imagine the atheist Richard Dawkins teaching a course on IH at a conservative religious college in the United States. Here is a point of comparison. Lavelock et al. (2014) developed a workbook intervention to encourage general humility. They found that positive outcomes could be chalked up to the fact that ‘the participants were humbled enough to increase their humility during the intervention . . . It took humility to get humility’ (p. 107). Similarly, the effective promotion of IH may require particular values – possibly including valuing IH itself – as well as personal security. Plausibly, it takes values and security to get IH, underscoring the crucial link between emotional learning and epistemic training (Porter, 2015). The challenges here are presently unclear. One underexplored topic concerns the idea that growth- and security-focused orientations toward personal beliefs involve tradeoffs of existential security and tolerance of others (Van Tongeren, Davis et al., 2016). Such tradeoffs appear to raise a puzzle. Suppose you must have some degree of security to grow in IH, but growing in IH requires you to tolerate others’ perspectives. Imagine further that your security is threatened when you tolerate different perspectives. Then IH-promoting efforts will face resistance. Ironically, IH-promoting interventions could sometimes discourage IH. The possibility of tradeoffs between security and tolerance, and their impact on the promotion of IH, deserves more attention. The topic appears essential for studying the functioning of IH in highly polarized debates and crisis situations.

Third, if self-views influence the possession of IH, researchers must consider the perils of accurate self-evaluation (Dunning et al., 2004). That topic is closely related to the promotion of IH. Given that IH is often linked to someone's having an accurate grasp of her intellectual limits, researchers need to think more about how people acquire self-views that bear on their having IH. A great deal of recent work in psychology has been devoted to self-judgment and it would be advantageous to draw more on existing paradigms in the study of IH. Furthermore, work in psychology and philosophy on the topic of *epistemic expertise* connects directly with one type of self-attribution that apparently influences IH – namely, the self-attribution of expertise. It's plausible to expect that interventions that help people to grasp their own lack of expertise in a domain could induce IH. Thus, new work on self-evaluation and recognition of expertise could naturally be brought to bear on the study of IH, deepening our understanding of techniques to promote IH.

At the moment, there is little work on interventions that promote IH. Lavelock et al. (2014) designed a workbook to encourage general humility, as I noted above, and found that participants' humility increased significantly over time. Wright et al. (2017) describe a 'writing therapy' intervention, using techniques from computational linguistics. Briefly, they suggest that the 'semantic signature' of humility can be identified and taught to learners through writing exercises, teaching them 'to write and think in ways that align with how humble people write and think' (p. 9). Meagher et al. (2019) found that an IH lesson delivered to undergraduate students taking five-week courses led to greater perceptions of IH in others and greater compromise-seeking in cultural conflict as judged in students' writing assignments. Such interventions merit further investigation. Concurrently, researchers should develop theoretical perspectives to help assess which type of techniques could plausibly contribute to successful interventions. What sort of pedagogical models could be used for teaching IH? One possibility is that promoting IH is akin to promoting mental health through cognitive behavioral therapy. Another possibility is that the long tradition of cognitive regimens and practices associated with philosophical and ethical viewpoints, such as Stoicism, reveal potential avenues for dialogue between IH researchers in the sciences and humanities (see Ballantyne, 2019a, chapter 3). Even if the goal of promoting IH is clear enough, researchers need to reflect carefully on the ways and means available to do so.

Trying to promote IH raises many more questions, a few of which follow. How does IH develop in people

over time? At what stage of development can we first recognize individual differences in people's IH? Does IH have a genetic component? Are there relevant cross-cultural and gender differences? What is the relationship between IH and general intelligence? A multidisciplinary perspective seems essential for making sense of these sorts of issues, as exhibited in Danovitch et al. (2019). Children are egoistic and self-focused, but some of them will eventually have IH. Researchers should ask whether there are crucial periods in human development when IH can grow and how it is sustained or threatened over the course of a life. Ideally, IH-promoting efforts will target the optimal times and circumstances where IH can take root, and this calls for longitudinal studies. To make progress here, researchers need to know more about how IH is influenced by cognitive development, culture, economic security, and gender.

Second, when researchers seek to understand how IH can be promoted, what are the ideal categories of IH for them to examine? General IH may be hard to develop during short-term interventions (e.g., during a college semester), but developing specific IH may be a better bet. Some techniques may be good for inducing general IH but not specific IH, and vice versa. It may be that general IH is not typically correlated with the type of domain IH (e.g., religious or political IH) that's most important to us, meaning that we can make people higher in general IH without giving them more IH where it counts. Furthermore, in light of research on the domain-specificity of learning and expertise, researchers should explore IH-promoting interventions that target domain IH. If the activities supporting IH are not learned and practiced in a specific domain, IH is not likely to become a relatively stable trait.

4. What are the benefits of intellectual humility?

IH appears to be beneficial. Almost everyone will agree that, generally, IH is better than intellectual arrogance. But in what sense of 'good' is IH supposed to be good for people? And why is IH always good rather than neutral? Could it be bad in some situations? Could IH be good for us but bad or neutral for the people with whom we interact? Does IH have any unrecognized 'dark sides'?

Many researchers have speculated about the potential benefits of IH and general humility. Consider two representative examples: 'IH presumably holds unique potential to promote human thriving through tolerance of [others'] ideas, collaboration, and civil discourse' (Krumrei-Mancuso & Rouse, 2016, p. 209); 'one naturally expects that intellectually humble people would promote the epistemic flourishing of their collaborators

(perhaps even at an epistemic cost to themselves) in problem-solving social contexts' (Alfano et al., 2017, p. 25). Some researchers have devised studies that purport to reveal connections between IH and beneficial states. But the topic is underexplored at present. We can describe the subject as the 'value theory' of IH.

The relationship between IH and various beneficial states is impossible to assess from the armchair. Ideally, researchers could determine how different levels of IH interact with cognition and situations in order to produce particular outcomes. That goal is relatively remote. For the most part, what we have are theoretically motivated speculations and some preliminary correlational studies. Researchers have thus far noted potential benefits that I'll divide into three broad categories: (1) greater personal well-being, (2) greater prosociality, and (3) improved inquiry and learning for both individuals and groups.

First, researchers have linked general humility to personal well-being. Nadelhoffer et al. (2016) note that general humility is connected to concepts such as gentleness, empathy, and gratitude, suggesting that humility may predict happiness or contentment. Krause (2010) found that higher levels of general humility were associated with better self-rated physical health. Davis et al. (2013) observe that subjects high in trait humility (a measure of consensus among other-report ratings) tend to report better interpersonal relationships as well as greater patience and empathy.

But how is IH connected to well-being? If we think of IH as a hypoegoic mindset in the domain of inquiry or intellectual life, it's hard to see why IH must tend toward greater well-being. Why can't high levels of IH tend to make people less happy than they would be otherwise? Some evidence supports the idea that IH can endanger well-being. Psychologists who study 'growth-focused' and 'security-focused' orientations examine the role or function of beliefs in providing existential security (Van Tongeren, Davis et al., 2016). As noted above, growth-focused believers will question and doubt their own views, whereas security-oriented believers use their views as a source of comfort and clarity. Researchers have found that subjects, in response to threats to meaning (including implicit threats), deploy strategies to reestablish meaning and security (Van Tongeren & Green, 2010). The resources people have at hand to combat existential threats depend on their worldviews. Van Tongeren and collaborators found that security-focused participants, who hold 'defensive' religious beliefs, reported greater existential well-being than participants whose beliefs were less defensive. The researchers comment: 'it appears that being strongly

committed to one's defensive religious beliefs is an important feature in providing existential security' (Van Tongeren, Davis et al., 2016, p. 85). In another study, Van Tongeren, Davis et al. (2016) observed that security-focused belief is associated with existential well-being, and subjects' level of religious commitment enhanced that positive relationship. Furthermore, the researchers again found that subjects who had growth-focused beliefs reported greater existential anxiety in the face of threats to meaning than subjects with security-focused beliefs.

It's unclear what this research tells us about the relationship between IH and personal well-being. First, some earlier work shows that closed-mindedness is associated with a predisposition to experience psychological insecurity (Ottati et al., 2015 provides references). Second, existential security is typically measured by self-report methods. But could subjects who hold certain types of 'defensive' belief tend to self-enhance, claiming greater security than they actually experience? That is a possibility. Security-focused believers may exaggerate their actual sense of security because their 'defensive' beliefs tell them they feel security or that expressing doubt about one's security is unacceptable. The noted disparity in existential well-being between security- and growth-focused believers could be similar to an observation about political orientation and happiness – namely, that conservatives in the United States *report* greater happiness but liberals *display* greater happiness (Wojcik et al., 2015). That research on political orientation and happiness seeks to show that self-reports of subjective well-being are problematic due to conservatives' 'self-enhancing style' of self-reporting. More research is needed to understand how IH is related to well-being and, if there are links, what mechanisms might explain them.

A second sort of benefit IH could generate is greater prosociality. We can say that prosocial benefits improve the quality of relationships between individuals. Such benefits have been documented in research on humility and IH. Leman et al. (2016) comment: 'In broad terms, humility correlates negatively with motivations to acquire greater status and resources at the expense of others and is correlated positively with altruism, social harmony, and low sociopolitical dominance' (p. 146). Interestingly, the mere perception of humility is also linked to prosocial benefits. Davis et al. (2013) found that offenders who were perceived by subjects as being more humble received greater forgiveness. Hook et al. (2015) reported that IH was positively associated with forgiveness, even after controlling for perceived general humility. Krumrei-Mancuso (2017) found that

IH predicted self-reported prosocial outcomes, such as empathy, gratitude, altruism, benevolence, and less power seeking.

It should be unsurprising that IH can sometimes improve relationships. If it is a hypoegoic mindset, we might predict that someone high in IH will consider other people's perspectives in appropriate circumstances. Such a person will use others' perspectives as pathways to becoming better oriented toward reality. In support of such expectations, Paine et al. (2016) found a positive correlation between general humility and 'intercultural competence' (the ability to effectively navigate interpersonal differences). Intercultural competence requires increased receptivity to unfamiliar beliefs and values. Presumably, IH assists people in recognizing and understanding others better than intellectual arrogance does, all other things being equal, though I speculate that intellectually arrogant people may not be comparatively deficient in understanding members of their ingroup. Krumrei-Mancuso (2017) found that IH predicts greater perspective-taking, but goes a step further, proposing that 'IH should result in people not merely tolerating others, but valuing them for their otherness, leading to greater gratitude for them' (p. 15). If we accept that the essence of IH narrowly concerns intellectual life or inquiry, it is doubtful whether prosocial benefits such as *valuing other people* will be predicted by IH alone.

In any event, some evidence suggests that religious IH is linked to religious tolerance. Tolerance appears to be one way to regard other people as valuable, at least in the sense that they deserve some sort of epistemic or moral respect. Leary et al. (2017) found that subjects high in IH tend to judge other people less on the basis of the religious opinions they express. Similarly, Van Tongeren, Hakim, et al. (2016) observe that religious IH positively predicts religious tolerance. Religious IH may be a crucial factor for promoting religious tolerance, as the philosopher Philip Quinn argued (see Kraft & Basinger, 2008 for discussion). That said, IH could sometimes undermine tolerance if it makes someone doubt that tolerance is morally good, that morality is objective, or that others deserve moral respect. But some of the prosocial consequences of IH seem to follow from the fact that intellectually humble people can 'bridge' potentially fractious divisions between ingroups and outgroups. Even so, the strategies that intellectually humble people use to do so remain unknown; ethnographic research and case studies would be useful here. Van Tongeren, Hakim et al. (2016) note that people high in religious IH may resist 'simplistic or black-and-white views' concerning religious beliefs and come to recognize their own beliefs are to some extent doubtful

(p. 213). That point suggests how metacognitive abilities for assessing one's level of justified confidence may play a role in allowing IH to boost tolerance. A related possibility is that IH regulates arrogant perceptions of outgroup members as mistaken and intellectually flawed. Intolerant or hostile reactions can lead people to discount, disparage, and even destroy outgroup members. One open question is whether a special element of religious subdomain IH leads to greater tolerance (e.g., commitment to other-oriented religious precepts or teachings, such as 'Love your enemies'), or whether IH expressed in other subdomains will likewise predict tolerance. Future work on the links between IH and tolerance should reflect on the different types of respect that IH may, or may not, bring in its wake.

Third, researchers have said that IH has epistemic benefits that improve inquiry and learning. Does IH make it more likely for people to gain truths, avoid errors, or attain other valuable intellectual ends? The question seems straightforward but it has received little investigation thus far. One possibility is that some researchers have built into their characterizations of IH the assumption that it will produce good epistemic outcomes, at least in ordinary circumstances. People high in IH will tend to have epistemically 'better' beliefs or inquiries than people low in IH, all other things being equal. If researchers do embrace that assumption, they should make it explicit. As far as I can tell, we can characterize IH and then subsequently ask whether having IH is good for some type of inquiry and, if so, how.

One finding, from Leary et al. (2017), is that subjects high in IH more effectively distinguished strong from weak arguments and reported their views were more affected by the stronger arguments, compared to subjects low in IH. Porter and Schumann (2018) found that people with high IH exposed themselves more to opposing political perspectives and had greater openness to learning about rival positions during imaginary debate. Zmigrod et al. (2019) propose that intellectual humility could inoculate people against misinformation and ideological polarization. If such claims are correct, then IH is connected to greater success in seeking out and evaluating evidence, precisely as we should expect from a hypoegoic mindset that down-regulates egoistic motives in favor of reality-orientedness. But the empirical evidence is limited. I speculate that high IH could sometimes make inquirers worse off. Consider that climate warming denialists, Bigfoot hunters, and ancient alien theorists frequently appeal to the limits of our knowledge and fallibility when promulgating their views in public. One possibility is that high IH – absent good background evidence about a topic – could leave people more susceptible to bad arguments and

misinformation than otherwise. Being intellectually humble could make us suckers. Presumably, even if IH is good for inquirers seeking truth and avoiding error, it isn't necessarily invariably good all on its own. Researchers should try to determine the contexts where it does and does not perform optimally and what supplementary factors can boost its value.

Another potential epistemic benefit is greater access to other people's perspectives. That may seem obviously true, since IH positions people to understand others' views and ideas. But that's too simple. Even if people search for new perspectives, the search may not increase their knowledge or understanding. An obstacle to perspective-taking is the 'curse of knowledge,' the inability to think about something from a less informed perspective (Camerer et al., 1989). Thus, even if IH primes people to consider other perspectives, they may be unable to truly 'enter into' those perspectives – unless IH tends to mitigate biases on perspective-taking such as the curse of knowledge. This issue generalizes. Suppose IH does *not* help people overcome various common biases. It follows that the type of activities characteristic of IH (e.g., managing attitudes in light of challenges, reaching accurate views about one's own intellectual powers and achievements, etc.) may be performed poorly. If so, IH will fail to generate the desired epistemic benefits, to some degree. That said, it is natural to expect that, on tasks such as perspective-taking, people high in IH will perform better than those low in IH. (By contrast, Hannon, 2021 argues that suffering from the curse of knowledge and other failures of perspective-taking could well make someone *more likely* to have IH.)

We need to know whether, when, and how IH makes people more accurate in judgment and reasoning tasks. Here are some questions. Does IH help us debias for commonplace biases of judgment and reasoning? If so, how? Are people high in IH less prone to motivated reasoning? Could IH make people less prone to overestimate their knowledge? Does IH provide benefits in overcoming biases of self-judgment more than biases of social judgment? Will subjects high in IH perform better than subjects low in IH in 'judgment tournaments' (Tetlock et al., 2014) where they aim to predict future events on the basis of current evidence? How do people high in IH contribute positively to group inquiry? Knowing the answers to such questions would begin to clarify the epistemic benefits of IH.

Consider another potential epistemic benefit: people high in IH may more easily recognize their dependence on others' knowledge. They may more readily defer to knowledgeable others and take others' criticism to heart, at least when doing so is normatively appropriate. People high in IH may more often appreciate their

dependence on 'the community of knowledge' (Sloman & Rabb, 2016). If this is the case, it would be useful to know more about the mechanisms involved. Perhaps IH makes it easier for people to discern the difference between what they can know on their own and what is known through others (Lockhart et al., 2016). In other words, IH may secure epistemic benefits by way of advantages in metacognitive abilities. Or perhaps the benefits flow from the fact that IH is hypoegoic, meaning that people high in IH will be less dismissive and hostile toward knowledgeable others. As a result, for people high in IH, contact with epistemic advisors or superiors won't trigger defensive reactions.

I have noted three types of benefits linked to IH: (1) greater personal well-being, (2) greater prosociality, and (3) improved inquiry for both individuals and groups. Evidently, IH could carry many benefits as well as costs. One possibility is that some of these benefits (and costs) are co-effects of other factors; it is possible, for example, that factors which promote well-being also promote IH. But there is imprecision in some of the key constructs here and we need a better grasp of the notions of prosociality, tolerance, and good inquiry in order to gauge what the benefits of IH may be. Further investigation into these issues should be taken up by researchers in psychology and philosophy.

5. Conclusion

This review has described answers to several questions examined in recent work on IH. As I close, I'll step back from the ins and outs of the literature and share a few ideas that may help advance future discussion.

First, IH researchers should somehow address the dominance of dispositional theories. As I have pointed out, IH is nearly universally treated as a mindset, disposition, or personality trait. We have seen distinctive and conflicting characterizations of IH, but it is standardly thought to be a stable attribute of persons or personality. Think of this as the field's *dispositionalism*. This presumption is not surprising given that influential research on IH is by scholars from fields where personality and character are the stock-in-trade. But dispositionalism could seem to be the only game in town because of the fundamental attribution error: researchers may mistakenly assume that humble behaviors are the product of humble character as opposed to humility-promoting situations. In any event, while a dispositional approach can offer insights into who is intellectually humble and tell us how other traits are related to IH, it does not illuminate what intellectually humble activities or processes are or what sort of factors support humble, open-minded inquiry. To better understand the

particular activities and processes that comprise humble inquiry, we need to move beyond merely dispositionalist approaches, as some have already begun to do (Zachry et al., 2018; see also Grossmann, 2017). The relationship between character and context needs attention, especially if the field begins to invest effort in designing interventions. There's much more to learn about organizational structures, social contexts, and the aspects of intellectual tasks that encourage IH-promoting activities and processes – whatever those may turn out to be.

Second, IH researchers should practice methodological openness and curiosity. While observing the literature on IH expand enormously over the last several years, I have been reminded of Paul Rozin's (2001) plea to fellow social psychologists. Rozin thought social psychology's standard techniques to understand the social world (laboratory experiments, statistical analyses, causal modelling, etc.) were invaluable, but he underlined the role of 'careful observation, informed curiosity, [and] recognition of the importance of context and the limits of abstract and laboratory-based models' (p. 12). It is all too easy, Rozin noted, for psychologists to lose sight of the 'big social phenomena' also examined by researchers in fields such as anthropology and sociology (p. 12). Rozin elevated the late Solomon Asch as one example of a psychologist who kept an eye on the 'big picture'. Asch's classic experiments 'were among the precursors of the modern experimental paradigms,' but Asch was also educated in history, literature, and other sciences, and so was 'very much inclined to put his work into a rich context' (p. 13). Rozin's call for methodological openness and humility contains wisdom for IH researchers, too. The field has an opportunity to welcome a broader range of data and tools than is found at present. I might add that Rozin's suggestions can be applied to philosophical explorations no less than scientific ones.

Finally, a truism: IH researchers' efforts are shaped by cultural assumptions, values, institutions, and incentives, and it is wise for researchers to try to scrutinize their influences. Nobody can step outside of the historical moment to study IH from some neutral, ideology-free perspective, but we can try to expand our own horizons a bit. To this end, I suggest consulting history. By learning about past reflection on humility-connected questions and themes, we might better recognize the influences on our present investigations. Studies by historians describing how thinkers have sought to understand and promote humble, open-minded intellectual character can be stimulating. My favorite books in that genre include Steven Shapin's *A Social History of Truth: Civility and Science in Seventeenth-Century England* (1993), Sorana Corneanu's *Regimens of the Mind: Boyle, Locke, and the Early Modern Cultural Animi Tradition*

(2011), and Jamie Cohen-Cole's *The Open Mind: Cold War Politics and the Sciences of Human Nature* (2014). I close by gesturing at a couple themes from Cohen-Cole's outstanding book, hinting at how studying history might spur IH researchers to think anew about their ideas.

In the early years of the Cold War, American intellectuals, academics, and policy makers promoted open-mindedness as a vital civic virtue. The open mind, as they understood it, was a style of thinking characterized by the exercise of reason, autonomy, and creativity; it was broad, flexible, and unprejudiced. This cognitive style served U.S. foreign policy interests well, the elites believed, because it challenged an authoritarian political system, such as the Soviet Union, which could not abide divergent values in its population. On the domestic front, the open mind was a source for tolerance and the appreciation of pluralism – and an antidote for the allure of the conformist homogeneity of a Soviet-style system. As Cohen-Cole puts it, 'the open mind was intended to make America more liberal' (2014, p. 7).

Powerful elites at institutions such as Harvard, Massachusetts Institute of Technology, and the National Science Foundation infused the ideal of the open mind into scientific research and educational policy, in hopes of bolstering liberal democratic values. In 1964–65, Jerome Bruner, a psychologist at Harvard, received funding from the Ford Foundation and the NSF to design an elementary school curriculum in social studies named 'Man: A Course of Study' (2014, chapter 7). The course was intended to explore three questions: 'What is human about human beings? How did they get that way? How can they be made more so?' Although the course did not explicitly supply answers, students were in training to become budding scientists, and the curriculum tacitly assumed that becoming more human meant becoming more scientific (2014, pp. 190–191, 210). The course, which was soon widely used in the U.S. and beyond, was designed to equip young people with critical-thinking skills and a broad-minded sensibility, thereby inoculating them 'against the kind of wrong-headedness, reactionary politics, and dishonesty that typified McCarthyism' (p. 214).

By Cohen-Cole's retelling, the ideal of the open mind had sweeping social and political significance during the Cold War. For a time, the ideal served the goals of country's centrists and center-left until the 1970s when conservatives counterattacked, arguing that the open mind smuggled in an anti-American, secular agenda (2014, chapter 8). A cognitive ideal that had once appeared unifying to many now became much more divisive. The open mind was a facet of Cold War liberal ideology embraced by elites but it ultimately failed

because it took for granted a consensus about values that did not exist in the United States. Even so, the open mind served as a lodestar for new work in fields like psychology, cognitive science, and educational policy. Researchers, whether they recognized it or not, made their contributions while suspended in a complex web of political values and institutional influences.

There is no ideology-free perspective to take on IH and our efforts to study it are rooted in our moment in hard-to-recognize ways. As I see things, IH researchers would benefit from a deeper understanding of the broader intellectual, cultural, and political projects in which IH plays a role – and how their conceptions of IH and its purposes are sensitive to those projects. Trying to be mindful of such matters may or may not help researchers discern how their outlooks are limited, but they will be prompted to look for the ‘big picture’. That is an exercise befitting the study of intellectual humility.¹¹

Notes

1. Here and below, I could use ‘regulates or is associated with’ and the like. Some psychologists resist the idea that mindsets (or dispositions or traits) have causal properties. I sideline that issue and speak as though mindsets bring about certain states of affairs, but we could also characterize the mindsets as being associated with certain states of affairs. (Thanks to Mark Leary for discussion.)
2. Thanks to three anonymous referees for comments on matters of conceptual diversity, not all of which I could address in this space.
3. Price et al. (2015) appeal to a similar notion in their discussion of ‘open-minded cognition.’
4. Perhaps distinguishing between *topical* domain IH and *functional* domain IH is useful. For simplicity’s sake, I collapse that distinction into a single notion of domain IH.
5. Thanks to Mark Leary for this point.
6. As I’m thinking of it, a process of down-regulation could be intentional or not: IH involves both slow, deliberative activity and fast, automatic processing. I should add that IH might involve motives to be interested in reaching truth and avoiding falsehood, but not necessarily. IH may do its job simply by removing or overcoming the obstacles due to egoic or egoistic motives, not by introducing distinct motives to get things right.
7. A different sort of possibility for finding a core concept is to conceptualize IH as a merely operational notion – IH is what IH does. In the spirit of Attitude Management accounts, suppose IH is whatever makes inquirers more open to new ideas, counterarguments, and controversial perspectives. This sort of concept of IH may help researchers to look in new and unexpected places for IH, because situational factors, group dynamics, and features of embodied cognition doubtless contribute

to greater (or lesser) openness in inquiry. This sort of conceptualization suggests a way for researchers to find more common ground, though it marks a departure from recent work. (Thanks to Norbert Schwarz for discussion.)

8. Don Davis reports (email correspondence) that he has collected more than 400 samples as of summer 2020.
9. I should also note that self-attributions of IH can require admitting intellectual limitations and mistakes, but doing so may be undesirable for many people. I suspect the level of IH may be relevant here. Perhaps it’s more desirable to embrace general IH than specific IH. The latter may involve admitting defects or mistakes *with respect to specific issues*, whereas the former may only involve admitting fallibility *in some general sense*.
10. Questions about the ontology of IH are crucial for thinking about interventions. Depending on what type of thing IH happens to be, its promotion will be relatively harder or easier.
11. As a philosopher trying to comment on psychological research, I feared the dangers of ‘epistemic trespassing’ upon a field where I lack expertise (Ballantyne, 2019b), and I’m indebted to many people for their advice. For comments or conversations related to different versions of this material, I am grateful to Alex Arnold, Jason Baehr, Richard Bollinger, Jared Celniker, Don Davis, Peter Ditto, David Dunning, William Dyer, Elise Dykhuis, Eranda Jayawickreme, Mertcan Gungor, Benjamin Meagher, Tenelle Porter, Peter Seipel, and Benjamin Wilson. Special thanks go to Mark Leary for detailed feedback on an early draft and Norbert Schwarz for enlightening conversations about these issues. I benefited from criticism and guidance from four anonymous reviewers for the *Journal of Positive Psychology*. Noah Hahn and Allysa Lake deserve my thanks for their assistance and patience with seemingly unending Interlibrary Loan requests. Finally, I want to acknowledge the generous support I received from the John Templeton Foundation (grant #60900) and encouragement from Alex Arnold, John Churchill, and Michael Murray.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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