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The reputational benefits of intellectual humility

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Abstract. Much work on intellectual humility has focused on its epistemic benefits. We suggest that expressing (or failing to express) intellectual humility also has effects on how others perceive us and can thus serve reputation management purposes, in at least four ways: (i) Intellectual humility can signal we are a good source of information; (ii) Intellectual humility can signal we are competent through countersignaling; (iii) Intellectual humility can make it less likely for others to believe we are overclaiming superiority; (iv) lack of intellectual humility (or intellectual arrogance) can signal dominance. Some evidence suggests that intellectual humility (or lack thereof) can have each of these effects. Seeing intellectual humility as (inter alia) a reputation management tool predicts that expressions of intellectual humility will vary across contexts. In conclusion, we speculate that understanding intellectual humility in view of reputation management could help construct environments more conducive to expressions of intellectual humility.

Keywords. Intellectual humility; reputation management; metacognition; countersignaling; context.

Intellectual humility has received considerable attention from philosophers and psychologists (e.g., Priest, 2017; Whitcomb et al., 2017; Leary et al., 2017; Davis et al., 2016; for a review, see, Church & Samuelson, 2016; Porter et al., 2022; Bąk, Wójtowicz, & Kutnik, 2022). Societal ills, from overconfident leaders to mistrust in science, could be pinned on a lack of intellectual humility. By contrast, epistemic virtues such as intellectual curiosity (Krumrei-Mancuso et al., 2020), appropriate epistemic deference (Hazlett, 2015), and openmindedness (Spiegel, 2012) have been related to intellectual humility.

Most approaches have considered the epistemic benefits of intellectual humility—how it helps people form more accurate beliefs. Past work has also focused on interindividual differences in intellectual humility, testing a variety of scales to measure these differences and establish their correlates (e.g. Krumrei-Marcuso et al., 2016; Alfano et al., 2017; for a recent review of measurement approaches, see Porter et al., 2021). Without denying the importance of the epistemic benefits of intellectual humility, we argue it can also have reputational benefits: exhibiting (or failing to exhibit) intellectual humility can affect how others think of us, in different ways. Since the traits that we are most keen on expressing vary from one situation to the next, we also develop a situation-oriented perspective on intellectual humility, which helps understand why the same people can be intellectually humble in some settings yet appear arrogant in others. We do not claim that intellectual humility is unique in this respect—many other traits or behaviors are used to serve reputation management goals—or that reputation management is the main function of expressions of intellectual humility. Our aim is merely to draw attention to a neglected feature of intellectual humility: its effect on reputation.

The paper is structured as follows. We first note that reputation management plays an important role in our lives, an idea that is now grounded in evolutionary theorizing. We then review four (non exhaustive) ways in which exhibiting intellectual humility can help bolster our reputation: (i) by making us appear as a reliable source of information; (ii) by making us appear more competent through counter-signaling; (iii) by stopping us from overclaiming superiority. In all of these, failures to exhibit intellectual humility can be detrimental to our reputation. However, there might also be cases in which not expressing intellectual humility has reputational benefits: if we want to show others we have a higher status, in particular when it relates to dominance (iv). Most of these different pathways to reputational benefits stem from what Porter et al. (2021) label as expressed intellectual humility in their classification framework (both self- and other-focused), with a particular focus on its public expressions (see also, Owens, Johnson, & Mitchell, 2013). The only exception is the section on being a reliable source of information, which reflects the reputational benefits of internal, self-focused intellectual humility.

The evolution of reputation management

The study of reputation (or impression) management—behaviors aimed at shaping others' opinions about oneself—has a long history in sociology (Goffman, 1959), and social psychology (Schlenker, 1980; Tedeschi & Riess, 1981; Leary & Kowalski, 1990). Reputations have been described as a 'social currency' (Milinski, 2016): our ability to make judgments about others as social partners and choose who to interact with is one of the mechanisms enabling human cooperation (Barclay, 2013; Baumard, André, & Sperber, 2013). The various

traits relevant to social cognition can be organized along two axes, roughly corresponding to competence (e.g. intelligence, specific abilities), and warmth (perceived intentions towards me/others) (see Fiske et al., 2007). Being judged positively on either axis can have important consequences for one's survival and reproduction— showing off one's hunting skills can increase male reproductive success in hunter-gatherer societies (Smith, Bliege Bird, & Bird, 2003; Smith, 2004), while individuals who are willing to share more of what they produce with their group receive more help in times of need (e.g. Gurven, Allen-Arave, Hill, & Hurtado, 2000). Reputational concerns, consequently, lead to behaviors which advertise these traits. People are more likely to behave cooperatively when they are observed (e.g. in economic games; see Bradley, Lawrence, & Ferguson, 2018), or to engage in conspicuous expressions that show off valuable skills (Bliege Bird, Smith, & Bird, 2001).

Intellectual humility could be related to both of the main facets of reputation management. On the one hand, intellectual humility is related to the perception of competence (at the very least in the metacognitive sense of being well calibrated in one's confidence), while on the other, it also includes facets of agreeableness and general humility (Porter et al., 2021). Lending some a priori credence to the link between intellectual humility and reputation management, self-reports of intellectual humility have been shown to exhibit a self-enhancement bias—considering oneself intellectually humble is positively associated with self-reports of other socially desirable traits such as agreeableness, openness and competence, among others (Meagher, Leman, Bias, Latendresse & Rowatt, 2015).

At first glance, it might be counterintuitive to link intellectual humility, which by definition eschews expressions of superiority, to reputation management. However, there are reasons to believe that intellectual humility sometimes serves reputation management functions, independently of the actor's motivations for being intellectually humble. It is important to stress at the outset the difference between ultimate and proximate explanations (Scott-Phillips, Dickins, & West, 2011). While intellectual humility might serve the function of managing one's reputation (in order to increase one's chances of survival and/or reproduction), the intellectually humble individual need not be consciously attempting to manipulate others' opinions or – importantly - misrepresenting themselves. Their beliefs about themselves constrain the impressions they think they can credibly convey, as well as being more accessible in memory (Schlenker & Weigold, 1992). In other words, behaviors resulting from reputation management need not be inauthentic or strategic in a way that would be characterized as deception. More likely, they are expressions of genuine humility and motivated by one's beliefs about their intellectual limitations. As has been previously stated in the literature on impression management, the way people see themselves is often in line with the impression they want to make – it is only a matter of context that determines which qualities one is more likely to stress in a given situation (see, e.g., Leary & Kowalski, 1990; Schlenker & Pontari, 2000).

Reputation management – ultimately - is a complex task that involves a number of different cognitive capacities, such as perspective-taking and intention attribution (Manrique et al., 2021), and can be accomplished through a variety of proximal mechanisms which feel, and are authentic to the individual in the sense that they are not, as a rule, consciously staged for the audience's benefit. We suggest that some of the mechanisms that play a role in reputation management (e.g. metacognition, see below) are also involved in intellectual humility, that expressions of intellectual humility also have effects on our reputation, and

thus that they could be modulated by reputation management motives. In the rest of this paper, we review several specific ways in which intellectual humility might serve reputation management purposes.

Intellectual humility and appearing to be a good information source

Given the importance of communication in humans, appearing as a good source of information is one of the most significant dimensions in which we manage our reputation. Crucially, in order to be a good source of information (and be recognized as such), people must be able to calibrate the confidence with which they express themselves. Otherwise, audiences would be unable to distinguish between a weakly and a strongly held opinion, which could lead them to overweight the former and underweight the latter, with potentially dire consequences for the speaker's reputation (detailed below).

According to Shea et al. (2014; see also, Heyes, 2016; Lyngs et al., 2019; Tsalas et al., 2017), a dedicated metacognitive system ('system 2 metacognition') evolved to grant us conscious access to the degree of confidence with which our beliefs are held, in large part so that we can communicate these degrees of confidence to others. This contrasts with 'system 1 metacognition', which allows humans and other animals from monkeys (Kiani & Shadlen, 2009) to rats (Kepecs et al., 2008), to represent the degree of confidence with which they make decisions, but without being able to communicate this degree of confidence to others (on the use of the System 1 / System 2 analogy more generally, see Kahneman, 2011).

Well-calibrated System 2 metacognition is necessary to be able to exert intellectual humility (e.g. to avoid expressing too much confidence, a clear failure of intellectual humility). Fortunately, it appears that people are indeed quite apt at using system 2 metacognition to indicate the degree of confidence in their assertions, whether it is through implicit signals (such as pitch, see, Van Zant & Berger, 2020), or explicit signals (modals, "I'm not sure," etc., see, Fusaroli et al., 2012). Moreover, people seem to communicate their degrees of confidence efficiently. In a series of experiments, participants were asked to solve perceptual tasks in pairs (Bahrami et al., 2010). In these tasks, a strong confidence - accuracy correlation was observed, and people were able to accurately express their degree of confidence. Indeed, pairs accomplished this task optimally, and the exchange, through discussion or otherwise (see, Koriat, 2012), of the degrees of confidence led to a large improvement in performance. People thus appear to possess one metacognitive mechanism necessary to be intellectually humble: they are aware of, and can communicate the degree of confidence in their beliefs, and this degree of confidence correlates with the accuracy of their beliefs.

The link between system 2 metacognition and intellectual humility is even more apparent when we look at cases in which people do not calibrate their degrees of confidence well. Research has focused on one type of failure: overconfidence, which makes sense in the present framework, since overconfidence, compared to underconfidence, is more likely to land others in trouble, and can be regarded as a failure of intellectual humility. There is extensive evidence that people reputationally punish those who, by expressing overconfidence, fail to be intellectually humble. In several experiments, participants were exposed to different informants who were equally mistaken, but expressed different

degrees of confidence in their assertions. Consistently, overconfident informants suffered worse consequences: they lost more credibility, and participants were less likely to engage with them in the future (Tenney et al., 2007, 2008, 2011; Vullioud et al., 2017; see also, Altay & Mercier, 2020). The fact that the reputational damage extended to domains unrelated to that of the initial metacognitive failure (e.g. someone who confidently points you in the wrong direction is less trusted when it comes to parenting choices, Vullioud et al., 2017) suggests that people do not merely perceive overconfident individuals as less competent, but also question their general trustworthiness.

The reputational fallout of being overconfident should vary as a function of the stakes. Even if making a prediction such as "I'm sure Liverpool will crush Arsenal in their next match" is foolhardy, it can be harmless banter between friends, or a serious issue if thousands of pounds are being bet on the match. We should thus expect people to express more intellectual humility when others are more likely to suffer from following their advice. Moreover, one has to be attuned to these reputational risks. Young children, who appear to engage less in reputation management (Silver & Shaw, 2018; Sheshkin et al. 2014; however, see Asaba & Gweon, 2022), also show a systematic lack of intellectual humility, as they routinely make quite fantastic predictions about what they would be able to achieve, either in the physical or intellectual domains (e.g., Lipko et al., 2009; Shin et al., 2007), a tendency which decreases with age (for review, see, Schneider & Pressley, 2013). This is also coherent with findings showing that children develop an understanding of modesty, and of the need to sometimes downplay their achievements, around the primary school years (Banerjee, 2000; Watling & Banerjee, 2007), and that the preference for intellectually humble over arrogant informants emerges around 7-8 years of age (Hagá & Olson, 2017).

When people rely on their system 2 metacognition to calibrate their degree of expressed confidence, they can be said to exert intellectual humility. They reap reputational benefits for doing so, and avoid significant reputational damage for failing to do so. However, as philosophers have pointed out, intellectual humility cannot be reduced to an accurate calibration of our statements. Priest (2017, p. 467) takes the example of a professor who is "acutely aware of his own limitations," but who, because he actually is better than students in his specialty, "looks down on them with contempt as his intellectual inferiors... lectures patronizingly... [and] jumps at every opportunity to mention his success." Quite clearly, Priest argues, such a professor should not be described as intellectually humble. In such cases, being intellectually humble requires undervaluing one's intellectual strengths (in discourse and overt behavior), or at least not drawing attention to them. In the following sections, we argue that there are at least two ways in which such expressions of intellectual humility can have a positive impact on our reputation.

Intellectual humility and appearing competent through countersignaling

Apart from the advantages of being seen as a trustworthy informant outlined in the previous section, an additional reputational advantage for intellectually humble individuals might be realized through increased perceptions of competence in the domain in which they express humility. This can come about through 'countersignaling'—choosing not to explicitly convey information about a desirable quality (Feltovich, Harbaugh, and To, 2002), and is similar to recent evolutionary game theoretical models of 'signal-burying' which aim to

explain modesty (Hoffman, Hilbe, & Nowak, 2018; Yoeli & Hoffman, 2022). Countersignaling models imply that being intellectually humble – e.g. admitting to one's limitations or choosing not to brag about one's successes – can lead to inferences of being *more* competent than those who do choose to provide information about their intellectual abilities (or behave more arrogantly).

Consider the following example, adapted from Feltovich et al. (2002). In a labor market populated by three types of potential job candidates—of low, medium and high competence—each has to decide whether or not to signal their quality to a future employer. The signal consists in explicitly advertising relevant information about oneself e.g. mentioning one's high school grades during a job interview. Low types, who don't have good grades, should find it costly to lie lest they be found out. If grading standards are not too strong, both medium and high types can acquire, and consequently mention their good grades during the interview. However, most natural environments also contain noisy information about a given quality. In the current example, this takes the form of a recommendation letter from a previous employer: while high types expect to get a good recommendation with high probability, the probability of such a recommendation is lower (e.g. at chance level) for medium types. This means medium types still have an incentive to mention their grades in order to differentiate themselves from low types in case the recommendation is unfavorable. To avoid being mistaken for mediums, then, high types can 'countersignal'—opt out of signaling altogether and rely on the information in the environment to vouch for their competence. By countersignaling, high types can reliably distinguish themselves from medium types, as they are the only type to (i) receive good recommendations and (ii) not signal their high school grades.

Formal modeling (Feltovich et al., 2002) suggests that countersignaling can lead to high perceptions of competence by not drawing attention to one's intellectual accomplishments. In terms of psychological mechanisms, countersignaling could be interpreted as confidence that one's skill will be recognized. Moreover, not drawing attention to one's intellectual accomplishments also makes one less likely to appear arrogant.

There are several candidate examples of countersignaling related to intellectual traits. A study looking at the odds of mentioning one's academic title showed that faculty in doctoral universities (in which PhDs are more common) are less likely to include a mention of their formal title in their voicemails; the former are also more likely to use 'instructor' rather than 'professor' on course syllabi (Harbaugh & To, 2020). Similarly, academics with higher publication and citation scores were found to use formal titles less often in their email signatures (Harmon-Jones, Schmeichel, & Harmon-Jones, 2009), and to dress more casually or in a more 'non-conforming' style (Bellezza, Gino & Keinan, 2014). Higher status has also been linked to less jargon use: dissertations submitted to higher-ranked universities use fewer acronyms and less complex language than those from lower-ranked schools (Brown, Anicich & Galinsky, 2020).

Intellectual humility could thus be seen as a countersignal for competence, which leads to several predictions: (i) some expressions of intellectual humility (e.g. entertaining different points of view, allowing for the possibility of being wrong) might make us appear more competent; (ii) people should be more likely to express intellectual humility when they want to appear competent, have a high confidence in their own abilities, and the probability of

others finding out about their credentials from the environment is high (for similar findings, see Baumeister & Jones, 1978).

Intellectual humility and not overclaiming superiority

As mentioned above, intellectual humility often involves not bragging about one's intellectual accomplishments. This can be done to signal one's competence through countersignaling, as argued above, or to avoid overclaiming superiority, as explained presently.

Hierarchies are a recurrent feature of any group living species. In humans, however, status hierarchies take particularly complex, multifaceted forms: instead of being largely grounded in physical strength (like dominance hierarchies in most animals), they rely significantly on social skills, knowledge, and socially determined positions (e.g., Garfield et al., 2020; Henrich & Gil-White, 2001, on the complexity of dominance in some non-human primates, see, e.g., de Waal, 1982). Humans are also peculiar in their motivation and ability to flatten status hierarchies, which have allowed us to live, for most of our evolutionary history, in relatively egalitarian groups (Boehm, 1999; although see, Singh & Glowacki, 2021). This egalitarianism resulted from a constant vigilance against attempts at claiming a superior status, by mocking braggarts and putting down upstarts.

The combination of these two peculiarities of human status hierarchies is another reason why, we suggest, intellectual humility is sometimes recognized and rewarded even when it deviates from well-calibrated system 2 metacognition (i.e. when people apparently underplay their own intellectual abilities). Status is, in some contexts at least, strongly linked to cognitive skills (Garfield et al., 2020; Henrich & Gil-White, 2001). As a result, flaunting one's cognitive skills, however admirable they might in fact be, could be interpreted as claiming a superior status. Indeed, people deemed by others to not be intellectually humble also self-report higher dominance (Meagher et al., 2015). This would explain why Priest (2017, p. 465), following Roberts and Wood (2003), argues that a "lack of concern for intellectual status is an important trait of the intellectually humble." As a result, for someone to be perceived as intellectually humble, they must learn either to explicitly downplay their own intellectual strengths (although that might be construed as humblebragging and backfire if judged as inauthentic, see, Sezer et al., 2018), or simply to be careful not to point out their intellectual strengths unless they are directly relevant to the conversation at hand (Tal-Or, 2010; Weber & Mercier, submitted).

Evidence shows that people are more likely to reputationally punish a lack of intellectual humility when it is perceived as an attempt to claim a superior status. In a series of experiments, participants read about a protagonist who self-enhanced by pointing out their (actual) accomplishments (some of which were intellectual, e.g. being a great chess player). In some conditions, the self-enhancement was uncalled for, and addressed at someone likely to feel inferior as a result (e.g. a middling chess player). In other conditions, the self-enhancement was relevant to the discussion (e.g. someone was looking for strong chess players), or unlikely to evoke a feeling of inferiority (e.g. the audience didn't care about chess). Participants judged the protagonist whose self-enhancement was most likely to be

interpreted as an attempt to claim a superior status more severely (Weber & Mercier, submitted; see also, Holtgraves & Srull, 1989; Hoorens et al., 2012; Tal-Or, 2010).

To the extent that one of the goals of expressing intellectual humility is to avoid appearing superior, the degree to which one exhibits intellectual humility should depend on whether this is a relevant objective. People in a position of power might be indifferent to the reputational consequences of not being intellectually humble, for at least two reasons. First, subordinates might not have a choice but to work with the individual in charge, so reputation would not carry much weight in these circumstances. Second, someone claiming a superior status that they actually have (e.g. a manager vis-à-vis employees) should be less threatening than an upstart claiming superior status, which is more likely to lead to conflict. As a result, people in a position of power should have weaker incentives to be intellectually humble. In line with this prediction, several studies have shown that people in a position of power, or people who are made to feel like they are in such a position, exhibit less intellectual humility: they are more confident (Fast et al., 2012), they are more likely to ignore advice (See et al., 2011; Tost et al., 2012; Conlon et al., 2021), and they are more likely to ignore other people's perspectives (Galinsky et al., 2006).

Taking the opposite perspective, people with lower status addressing people of higher status might also feel less need to express intellectual humility, when it is clear that they are not claiming a superior status by reporting accurately on their accomplishments. For instance, a beginner chess player can accurately report on their achievements without being perceived as bragging if they address a renowned grand master (Weber & Mercier, submitted). More generally, people find modesty to be more necessary when facing peers than superiors (Wosinska et al., 1996; for similar findings in children, see, Watling & Banerjee, 2007).

Intellectual humility and appearing dominant

We have noted various strands of evidence showing that expressions of intellectual humility can have a positive influence on one's reputation. But could overly strong expressions of intellectual humility or, on the contrary, expressions of intellectual arrogance also have positive consequences for our reputation?

It seems like the media is saturated with overconfident people (and this is not just an impression, see Tetlock, 2017). Are these people simply mistaken, and paying a reputational price for their bluster? Overconfident pundits and politicians might seem grating to some, but could their expressions of intellectual arrogance—overconfident pronouncements, overestimation of their expertise—also have reputational benefits? We have argued above that expressions of intellectual humility can be used to avoid appearing dominant. By the same logic, intellectual arrogance could be used to appear dominant—even if that entails appearing less prosocial.

The evidence showing that people in positions of power are less likely to express intellectual humility could reflect not only their lack of incentives to do so, but also incentives to be, to some extent, intellectually arrogant. Several studies have linked intellectual arrogance to various forms of status seeking. Meagher et al. (2015) showed that people who scored

higher on intellectual arrogance tended to think of themselves as particularly interpersonally dominant. People with a stronger desire for status are also less likely to ask for help to solve problems, arguably a form of intellectual arrogance (Flynn et al., 2006). A similar link is observed in schoolchildren, for whom a desire for status is linked with reduced expressions of intellectual humility, such as asking questions in class (Ryan, Hicks, & Midgley, 1997, see also Carnevale et al., 2021, and, for a review, see Anderson, Hildreth, & Howland, 2015). More generally, studies have shown that people who purposefully break norms can be perceived as more dominant (De Araujo, Altay, Bor, & Mercier, in press; Hahl, Kim, & Zuckerman Sivan, 2018). To the extent that there are norms against expressions of intellectual arrogance (in the same way as there are norms against other forms of status overclaiming, see Boehm, 1999), breaking these norms might play the same role.

On the other end of the continuum is what Whitcomb et al. (2017) have called "intellectual servility" – characterized by "over-owning one's limitations". Other authors have noted that intellectual servility might be connected to damaged self-esteem, humiliation, and shame (Tanesini, 2019). The emotion of shame has been theorized to be an adaptive response to being devalued by one's audience (Robertson, Sznycer, Delton, Tooby, & Cosmides, 2018), and to motivate behaviors which, among others, convey subordinacy (Fessler, 1999). From this point of view, even intellectual servility could be reputationally beneficial in some situations – e.g. if one has made a gaffe observed by their social circle, an overemphasis on their fallibility, along with exaggerated deference and conformity to others, might alleviate the reputational damage they suffer. Conformity has been shown to be an impression management tactic used by those with low status in a particular social hierarchy to ingratiate themselves with their 'higher ups' (e.g. Jones, Gergen, & Jones, 1963).

In some contexts at least, however, expressions of intellectual servility are likely to have negative effects on reputation. Perceived self-deprecation is a contentious impression management technique and seems to lower interpersonal attraction and perceived expertise (Kim & Parcell, 2022; see also Sezer et al., 2018 for similar findings on humblebragging). Depending on the way servility is expressed and the intentions others ascribe to one's actions, one could be seen as weak-willed or "fake" if their deference to majority opinions is seen as being motivated by self-interest (Wice & Davidai, 2020). Secondly, intellectually servile individuals are unlikely to be seen as good information sources if over-attentiveness to their limitations prevents them from contributing – for example, in group discussions with peers. If people use others' expressed confidence levels to gauge how much weight to put on their advice, intellectually servile or under-confident informants, as they are poorly calibrated, should also suffer some reputational consequences, such as being thought of as less competent (see, e.g., Stanciu & Fiser, 2022).

Future directions

We have argued that expressions of intellectual humility can have reputational consequences: being perceived as good communicators, competent, or as not overclaiming superiority. Conversely, under some circumstances people might also express intellectual arrogance to appear more dominant, or intellectual servility to ingratiate themselves with others. These reputation management goals help explain contextual variations in the tendency to express intellectual humility. For instance, people seem more likely to be

intellectually arrogant when the reputational fallout of doing so is weaker—when they are children or in a position of power. That intellectual humility can serve reputation management purposes does not mean that people are necessarily Machiavellian (or indeed, that their personalities could be characterized by what has been described as the "Dark Triad" of personality; Paulhus, & Williams, 2002), when they express intellectual humility, only that our evolved reputation management mechanisms are able to recruit the cognitive mechanisms involved in intellectual humility. As a result, expressing intellectual humility would simply, in the right context, feel good or appear like the right thing to do, without people being conscious of one of the functions their actions serve.

Taking into account the reputation management functions of intellectual humility might have substantial practical implications. Some efforts have been devoted to teaching and developing intellectual humility in individuals (e.g., Baehr, 2016; Pritchard, 2020). If it is the case that people are more likely to express intellectual humility in some social contexts, then manipulating the social context might be another way of inducing intellectual humility. For instance, it seems that people are less likely to be intellectually humble when there is a greater difference of power or status between them. Creating more equal environments might thus be another way of fostering intellectual humility (on the power of the environment to tame cognitive biases, see, e.g. Mercier, 2016). Anecdotally, the members of small-scale, egalitarian societies do appear to express significant degrees of intellectual humility: not only do they avoid any boastful statements (Boehm, 1999), but they are also careful in their pronouncements, and hesitant to take a position on practical matters if they do not have sound evidence (e.g., Cole, 1971; Luria, 1934; Scribner, 1977). Intellectual humility induced by the social context might even turn into a more stable disposition. As Schlenker and Weigold (1992) note, self-presentations can become part of one's authentic representation of the self if people feel personal responsibility for the self-presentational behavior, and if it is met with approval from the audience. Encouraging explicit expressions of intellectual humility in classroom discussions between peers, such as publicly talking about their mistakes or misunderstandings, and witnessing positive interpersonal consequences, might be one way for young students to internalize it as a personally relevant value.

There are a number of potentially fruitful directions for future research that follow from the review we've presented. Going back to the reputation management section and the differences in perceptions of competence and prosociality, it would be interesting to investigate whether intellectual humility is perceived more as a competence (in the metacognitive sense, as being well calibrated) or as a moral virtue akin to other prosocial traits like altruism. This would carry implications for the best ways to frame interventions aimed at increasing intellectual humility, as well as shed light on how it can be conveyed and when it might be perceived as inauthentic. For example, public acts of generosity or prosociality are often regarded with skepticism (Lin-Healy & Small, 2012; Bird & Power, 2015; see also Berman & Silver, 2022), and can have the opposite of the expected effect (Berman et al., 2015; Newman & Cain, 2014; Alcala et al., 2022; see also, Gilbert & Jones, 1986). Similarly, studies looking at public expressions of intellectual humility and private confidence and/or acknowledgment of others' opinions – especially in contexts where the incentives for conformity vary – would be a valuable contribution to the literature.

Our review of the literature regarding countersignaling suggests that it could be perceived differently when expressed by individuals who differ in status, or when there is enough environmental information which points to their expertise. This should also affect whether people are comfortable with expressing intellectual humility. For example, an early career researcher, compared to a well-established professor, answering a question after a talk with "I don't know" would probably be perceived as less intellectually humble and possibly more incompetent. By the same token, someone who feels less established in their field – or whose status is threatened or in question – would be less likely to express their intellectual humility in this way. In summary, a countersignaling model of intellectual humility would suggest that those who enjoy a very high (or a very low) status in a given domain will be more likely to be intellectually humble than those who find themselves "in the middle" and competing with others for recognition of their competence. Note, however, that this doesn't apply if status is conferred because of dominance rather than intellectual prestige (see, Henrich & Gil-White, 2001). As argued above, in the case of dominance, we expect that people in powerful positions should express less, not more, intellectual humility.

We believe that considering the social consequences of expressions of intellectual humility could both help explain already known patterns in intellectually humble behavior, and provide fruitful avenues for future research.

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