

# Evidence that Attitudinal Self-Justification (not Self-Refutation) Enhances Intellectual Humility

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## Author Note

This research was conducted with IRB approval under the direction of Ted V. Cascio, advisor to the Palm Beach State College Psi Beta Chapter. All guidelines of the APA regarding informed consent and ethical treatment of participants were followed. In addition, we would like to thank Dr. Cascio for his editorial feedback on multiple drafts of this manuscript. Correspondence concerning this article should be addressed to Brianna K. Dwyer, Palm Beach State College, Palm Beach Gardens, FL 33410. Contact: [dwyerbk@my.palmbeachstate.edu](mailto:dwyerbk@my.palmbeachstate.edu)

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## Abstract

Previous research has shown that the dispositional trait of intellectual humility (IH) predicts increased tolerance to opposing perspectives and beliefs. In the current study, we reasoned that the relationship might also work in the reverse direction, i.e., that critiquing one's position on a contentious issue might enhance IH. To evaluate this hypothesis, we prompted participants to declare their position on a potentially divisive social issue (specifically, whether to allocate scarce medical resources to non-vaccinated COVID-19 patients) and then randomly assigned them to either contradict their position, justify their position, or engage in an unrelated writing exercise. Contrary to our hypothesis, we found that participants who justified their belief reported higher levels of IH than participants who contradicted it. In light of this unexpected and somewhat counterintuitive result, we argue that the intellectually humble mindset is fortified under conditions of minimal self-threat as opposed to threatening forms of self-examination.

*Keywords:* intellectual humility, self-justification, self-contradiction, self-threat

Intolerance among ideological opponents is a pervasive and seemingly worsening social problem (Gentzkow, 2016). Rather than remaining open to opposing views, people are generally predisposed to shun alternative perspectives (Taber & Lodge, 2006), preferring to insulate themselves from diverse points of view within the confines of social media echo chambers (Bakshy et al., 2015) or other epistemic bubbles that may reinforce faulty or extreme positions on social issues. Alternatively, a sincere and open-minded approach to resolving disagreements can limit groupthink and heighten

feelings of interpersonal closeness between opposing parties (McCullough et al., 1998; Overall et al., 2010).

What decides which of these divergent outcomes will result from ideological conflict? We propose that possessing a keen awareness of one's intellectual fallibility – a personality trait called intellectual humility – may play a key role in determining such outcomes.

## Intellectual Humility

The individual difference variable of intellectual humility (IH) essentially refers to the extent to

which people acknowledge that their judgment may be imperfect (Leary et al., 2017). Another way to view IH is that it represents the mean between two epistemic extremes, specifically, between intellectual arrogance and intellectual timidity (Zagzebski, 1996, p. 138). In this sense, an intellectually humble person can eschew the immediate rejection of opposing viewpoints while simultaneously avoiding immediate acquiescence when facing intellectual disputes (Vorobej, 2011). Hence, IH consists of being able to reason using one's own beliefs while concurrently remaining open to additional evidence.

Within the relatively brief time that IH has been the subject of empirical studies in the behavioral sciences, it has been shown to predict a number of desirable outcomes pertaining to the analysis and acceptance of opposing views, as well as the individuals holding those viewpoints. For example, studies have found that IH is positively linked to the variables of openness, curiosity, tolerance of ambiguity, and low dogmatism (Leary et al., 2017). Other studies have found that those high in IH were more accepting of varying beliefs (Koenig & Büssing, 2010), were less critical of those who changed their beliefs (Tomz & Van Houweling, 2016), and showed greater sensitivity to strong and weak reasoning (Updegraff et al., 2007).

Across these various studies, IH has been treated as a stable dispositional quality that was measured rather than manipulated. In the current study, we aim to extend this previous literature by examining whether IH can be temporarily enhanced through a self-refutation manipulation.

### **Inducing Intellectual Humility**

In addition to its trait-like features, IH tends to fluctuate to some degree across situations (Zachry et al., 2018). In fact, several extant studies have tested various ways to bolster IH (Porter & Schumann, 2017; Porter et al., 2020; Koetke et al., 2022). In one experimental study (Porter & Schuman, 2017; Study 4), participants who were placed in a growth mindset condition exhibited significantly higher IH scores than those in a fixed

mindset condition. Another similar study (Porter et al., 2020; Study 5) manipulated self-reported IH by encouraging participants to adopt a humble mindset, which in turn increased the amount of effort invested to achieve mastery of a novel subject. Finally, Koetke et al. (2020; Study 3) successfully increased IH using a fallibility salience manipulation.

In light of these various methods for inducing IH, we expected that a self-refutation manipulation was also a likely candidate to bolster IH. Self-refutation, as we define it here, refers to the act of arguing against one's beliefs. We reasoned that it is easier to be intellectually certain when a person has not engaged in the process of challenging their views using this approach. On the other hand, self-refutation calls for consideration of the opposing view in a relatively autonomous fashion free from any obvious outside persuasive intent. Under these conditions, where the argument supporting the opposing view is self-generated, that view may seem more plausible than it otherwise would because it will be perceived as familiar and closely connected to the self. In this respect, we regard self-refutation as similar to the concept of self-persuasion (Aranson, 1999), in which people are placed in situations where they are prompted to persuade themselves to change their attitudes. We expected that in addition to potentially inducing attitude change, this process would ultimately result in heightened IH by making the precariousness and defeasibility of one's original position more salient than it would otherwise be.

### **The Current Study**

Therefore, in the current study, we experimentally tested whether the act of self-refutation enhances IH. Specifically, we hypothesized that participants who were prompted to critique their position on a contentious issue would exhibit higher levels of IH than those who were prompted to justify that position or engage in an unrelated writing exercise.

## Method

### Participants

The participants ( $N = 102$ ) included students enrolled in introductory-level psychology courses at a southeastern college of moderate size. All participants received extra credit as an incentive for their participation in the study, which amounted to 3% of the total course grade. Complete datasets were obtained from 104 participants (28 males, 73 females, 1 non-binary) ranging in age from 18 to 56 ( $M = 24.83$ ,  $SD = 9.09$ ); however, two participants' datasets were ultimately excluded for failure to follow the study procedure.

### Measures & Procedure

All prospective participants were notified via email about the research project, and they were offered an opportunity to participate for extra credit. At the outset, all participants read a consent form describing the nature of the study and the instruments and measures included in the study protocol. Participants who chose to participate then digitally signed the form. Upon completing the form, participants clicked a second link that directed them to the online study, administered via Qualtrics online study software.

In the online study, participants were first prompted to create a random and anonymous 5-digit subject ID number and answer a few demographic questions, including their age and preferred gender identification. Next, all participants were shown a short prompt engaging the issue of allocating medical resources to COVID-19 patients. Specifically, the priority that vaccinated versus unvaccinated patients should potentially receive under conditions of scarcity. The prompt read as follows:

*When hospitals with limited resources (e.g., lack of ventilators, hospital beds, nursing staff) attempt to handle an overwhelming surge in COVID-19 patients and are forced to make life-or-death choices about which patients will ultimately survive, should administrators prioritize patients who are vaccinated against the virus over patients who have chosen to remain unvaccinated?*

Once participants read the prompt, they indicated their position on the issue using a binary yes/no questionnaire item. Participants were then randomly assigned to either the self-contradiction (SC), self-justification (SJ), or control condition. In the SC condition, participants were prompted to write their most convincing case opposing their previously expressed opinion. In the SJ condition, participants received similar instructions, except in this case, they were prompted to write their most convincing case justifying their previously expressed opinion. Finally, to establish a neutral baseline, participants in the control condition were asked to describe how they coped with the COVID-19 pandemic.

After participants completed the manipulation, they completed the Comprehensive Intellectual Humility Scale (CIHS; Krumrei-Mancuso & Rouse, 2016), a 22-item questionnaire that taps into self-reported differences in IH. Participants responded to the 22 items, which included questions such as "My ideas are usually better than other people's ideas" and "I am open to revising my important beliefs in the face of new information," on a 1 (strongly disagree) to 5 (strongly agree) scale. This scale comprises four subscales: independence of intellect and ego, openness to revising one's viewpoint, respect for others' viewpoints, and lack of intellectual overconfidence. The overall scale achieved adequate internal consistency reliability ( $\alpha = .97$ ).

On the final page of the study, participants clicked on a link that redirected them to a separate webpage where they entered their names and thereby received extra credit for their participation.

### Results

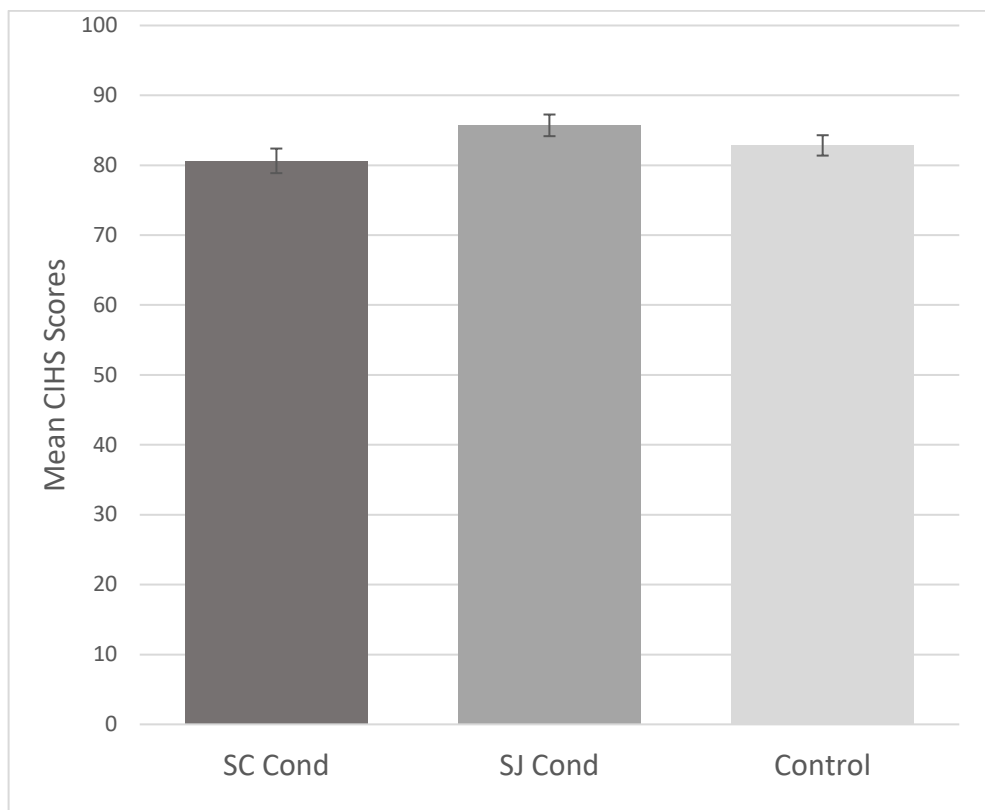
In order to test our hypothesis, we conducted a series of two-sample t-tests comparing mean CIHS scores between the various experimental conditions. The result of the first t-test was that the mean CIHS score in the SC condition ( $M = 80.63$ ;  $SD = 10.41$ ) was significantly lower than the mean CIHS score in the SJ condition ( $M = 85.71$ ;  $SD = 3.62$ ;  $t(68) = -2.17$ ;  $p < .05$ ;  $d = .52$ ). There was no

statistical significance for the remaining comparisons between the mean scores in the SJ condition ( $M = 85.71$ ;  $SD = 3.62$ ) and control condition ( $M = 82.84$ ;  $SD = 9.16$ ;  $t(65) = 1.33$ ;  $p = .19$ ;  $d = .33$ ) or the SC condition ( $M = 80.63$ ;  $SD = 10.41$ ) and the control condition ( $M = 82.84$ ;  $SD = 9.16$ ;  $t(65) = -.96$ ;  $p = .34$ ;  $d = .23$ ). See Figure 1 for a graphical depiction of these results.

We then conducted a second series of two-sample t-tests using the mean scores obtained for

the various subscales of the CIHS: Independence of intellect and ego, openness to revising one's viewpoint, respect for others' viewpoints, and lack of intellectual overconfidence. Of these, statistical significance was found in the difference in the mean 'Respect for Others' Viewpoints score between the SC condition ( $M = 24.94$ ;  $SD = 3.40$ ) and the SJ condition ( $M = 26.57$ ;  $SD = 2.73$ ;  $t(68) = -2.21$ ;  $p < .05$ ;  $d = .53$ ). No statistical significance was found in other comparisons.

**Figure 1.** Mean Intellectual Humility Scores by Study Condition



Note. SC Cond = self-contradiction condition; SJ Cond = self-justification condition; CIHS = comprehensive intellectual humility scale. Error bars represent standard errors.

### Discussion

The current study provides evidence that IH can be altered by justifying or contradicting one's view. We hypothesized that the act of self-contradiction would enhance intellectual humility while self-justification would serve to reduce it. We found instead that the mean CIHS score in the SC

condition was lower than the mean CIHS score in the SJ condition, which directly repudiates our hypothesis. Our findings also ostensibly challenge the results of several previous studies (Porter & Schumann, 2017; Porter et al., 2020; Koetke et al., 2022), the findings of which generally point to the conclusion that IH can be enhanced by inducing

participants to consider the limits of their knowledge, which approximates the act of self-contradiction in our study.

One way to make sense of these unexpected findings is to consider the concept of self-threat and how people tend to respond to such threats. Earlier research has shown that when one's beliefs are threatened, a defensive fight-or-flight response can be activated, which in turn elicits a rigid, close-minded thought process that serves to preserve the integrity of the self and one's core beliefs (Thórisdóttir & Jost, 2011; Kross & Grossmann, 2012; Bogdanov et al., 2021). Thus, it is plausible that in the SC condition, a self-threat response mechanism may have been inadvertently triggered, resulting in greater defensiveness and, therefore, lower IH, as opposed to higher IH, as we initially hypothesized.

In a similar vein, the previously cited studies (Porter & Schumann, 2018; Porter et al., 2020; Koetke et al., 2022) may have successfully induced participants to re-consider their views without eliciting self-threat, which perhaps explains why these investigators were able to bolster IH via these means while we were not. This account is also consistent with the results of another recent study, which found that IH can be increased via a self-affirmation induction (Marie et al., 2022), a result that further bolsters the current interpretation of our findings because self-affirmation has been shown to alleviate feelings of self-threat (Steele, 1988; Sherman & Cohen, 2002; Sherman & Hartson, 2011). Collectively, this body of research points to the broad conclusion that IH is diminished under conditions of self-threat and enhanced when feelings of self-threat are reduced. The findings of the current study appear to further bolster that account.

Our study also suffered from a number of important limitations. First, our scenario, based around the COVID-19 pandemic, was unique and distinctive; thus, it remains unclear whether our findings would be obtained using other similarly distinctive scenarios or with less idiosyncratic scenarios. Second, there were no significant differences in IH between the control and experimental

conditions, which limits the ability to conclude whether engaging in self-justification increased IH or whether engaging in self-contradiction lowered it. Finally, we only measured IH in the immediate aftermath of the manipulation, so it is unclear how long this effect might last.

Future research should address these limitations by using multiple scenarios to test whether the results we obtained are dependent on the unique characteristics of our stimuli, utilizing control scenarios that may be more neutral and thus less likely to elicit a response than the one we used while strengthening the overall manipulation by making the scenario(s) more engaging (appealing, pertinent, etc.), and finally by employing longitudinal designs that permit measurement of the dependent variable over longer time intervals.

Despite these limitations, the results of the current study serve to extend the current understanding of IH by elaborating upon an emerging perspective that the intellectually humble mindset is fortified under conditions of minimal self-threat as opposed to threatening forms of critical self-examination.

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