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Implicit Theories of Intellectual Virtues and Vices: A Focus on Intellectual Humility

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Abstract

The study of intellectual humility is still in its early stages and issues of definition and measurement are only now being explored. To aid in our understanding of this important intellectual virtue, we conducted a series of studies to explore the implicit theory, or “folk” understanding, of an intellectually humble person, a wise person, and an intellectually arrogant person. In Study 1, 355 adults engaged in a free listing procedure to generate a list of descriptors, one for each of the three person-concepts. In Study 2, 335 adults rated the descriptors generated in the previous study by how characteristic each was of the target person-concept. In Study 3, 344 adults sorted the descriptors by similarity for each person-concept. By comparing and contrasting the implicit theories of the three person-concepts, a complex portrait of an intellectually humble person emerges with particular epistemic, self-oriented, and other-oriented dimensions.

Implicit Theories of Intellectual Virtues and Vices: A Focus on Intellectual Humility

The scientific study of virtue is in full bloom. In keeping with the vision of Peterson and Seligman's 2004 book, *Character Strengths and Virtues: A Handbook and Classification*, a good deal of work has been done to further our understanding of those character traits and virtues that enhance human flourishing, including the intellectual virtues. One such epistemic virtue that is widely acknowledged as desirable in both the philosophical and psychological literature is intellectual humility (Paul & Elder, 2008; Peterson & Seligman, 2004; Roberts & Wood, 2003). The study of intellectual humility is still in its early stages and issues of definition, measurement, and promotion are only now being explored.

Defining Intellectual Humility

Some definitions of intellectual humility have been developed in the field of philosophy known as virtue epistemology. For example, Roberts and Wood (2003) explicate intellectual humility by working from an understanding of humility in general, generated by contrasting it with vices approximately summarized as "improper pride" (p. 258). In this way, Roberts and Wood go on to define intellectual humility as:

...an unusually low dispositional concern for the kind of status that accrues to persons who are viewed by their intellectual communities as intellectually talented, accomplished, and skilled, especially where such concern is muted or sidelined by intrinsic intellectual concerns – in particular, the concern for knowledge with its various attributes of truth, justification, warrant, coherence, precision, and significance. (p. 271)

In our own work, we have defined intellectual humility as a virtuous mean lying

somewhere between the vice of intellectual arrogance (claiming to know more than is merited) and intellectual diffidence (claiming to know less than is merited). Intellectual humility, therefore, could be characterized simply as “holding a belief with the firmness merited” (Samuelson, Church, Jarvinen & Paulus, 2012). From the philosophical literature, then, two dimensions of intellectual humility emerge: a social dimension, claiming proper status as knowledgeable without over-claiming what you know in relation to others, or under-claiming through diffidence or intimidation; and an epistemic or “truth-tracking” dimension, believing in accordance with the evidence without claiming to know more (or less) than the evidence merits.

Related Concepts in Psychology

Intellectual humility has been explored in psychology as a dimension of other virtues like wisdom (Grossmann et al., 2010; Sternberg, 1985) and humility (Tangney, 2000), and within the context of cognitive heuristics and biases (Samuelson, et al., 2012).

Wisdom.

Research into folk conceptions of wisdom reveals components such as open-mindedness, not being afraid to admit and correct a mistake, and listening to all sides of an issue (what Sternberg, 1985, calls *sagacity*) that have been identified with intellectual humility (Samuelson, et al. 2012). These traits, though not labeled specifically as intellectual humility, coalesce to form a consistent factor in studies of the folk concept of wisdom (Clayton & Birren, 1980; Holliday & Chandler, 1986; Sternberg, 1985).

Meacham (1990) defines wisdom exclusively in terms that reflect intellectual humility (knowing that one does not know and that knowledge is fallible). Grossmann et al. (2010) have devised a wise reasoning measure that codes for intellectual humility (defined as

recognizing the limits of one's knowledge).

Humility.

There are also aspects of general humility that have epistemic dimensions. In a seminal theoretical piece in the psychology literature on humility, Tangney (2000) grounds the definition of humility in: (a) a proper understanding of the self (accurate assessment, keeping one's abilities/accomplishments in proper perspective, low self-focus) and (b) a certain intellectual disposition (acknowledging mistakes, intellectual openness). Various measures of humility have also reflected one or both of these dimensions (Ashton & Lee, 2005; Davis et al., 2011; Landrum, 2011; Rowatt et al., 2006). Intellectual humility, then, might also reflect these two dimensions of general humility: a social dimension (a proper understanding of the self as knower in relation to others) and an epistemic dimension (a certain intellectual disposition).

Heuristics and biases.

Another way at understanding intellectual humility is to examine one of its opposites: intellectual arrogance (Roberts & Wood, 2003; Samuelson, et al., 2012). While it is not usually framed as such, research into cognitive heuristics and biases exposes what might be called a natural vice in our cognitive systems, namely, a bias toward intellectual arrogance. Intellectual arrogance in this context reflects the broad tendency in human cognition to use the self as an anchor against which all else is compared and the world is known (Dunning, Krueger, & Alicke, 2005; Guenther & Alicke, 2010). Within this framework, then, research into techniques that reduce cognitive biases might point us to important aspects of intellectual humility. The research shows that reducing or eliminating these biases involves some kind of engagement with an "other"—someone or

something that “de-centers” the cognitive system—and entertains different ways of thinking and other points of view (Samuelson, et al., 2012). Some examples include: a search for accuracy (representing reality that is shared by others, Kruglanski & Mayselless, 1987; Kunda, 1990); a need to be accountable for one’s judgments (to defend one’s thoughts to another, Mercier & Sperber, 2011); the use of rules of analysis (a process that helps people to arrive at a more consensual judgment, Evans, 2007); and exposure to differing perspectives (seeing things from another’s point of view, Sedikides, Horton, & Gregg, 2007). These behaviors and other stable personality traits such as a need for cognition (Cacioppo, Petty, Feinstein, & Jarvis, 1996), and a low need for closure (Kruglanski, Dechesne, Orehek, & Pierro, 2009) may help to avoid the vices inherent in our cognitive systems and could help define aspects of intellectual humility. Intellectual humility not only involves how one establishes one’s epistemic status in relation to others, but it also involves how one engages with others in the pursuit of knowledge.

Implicit Theory of Intellectual Humility

The investigation into intellectual humility in psychology is limited thus far to analyzing dimensions of other concepts (humility and wisdom) or drawing inferences from other fields (cognitive heuristics and biases). To explore the dimensions of intellectual humility more directly, we initiated an investigation similar to those conducted in the early stages of the exploration into wisdom (Clayton & Birren, 1980; Holliday & Chandler, 1986, Sternberg, 1985) and sought to uncover the “folk” or “implicit” concept of intellectual humility that might be commonly held among non-experts (neither psychologists nor philosophers). Sternberg (1985) defines implicit

theories as “constructions by people that reside in the minds of these people” and as such “constitute people’s folk psychology” (p. 142). He contrasts this with explicit theories that might be formed by philosophers and social scientists based on data collection or the reading of the philosophical and psychological literature. Explicit theories may have begun as implicit theories in the minds of the scientist and are made explicit through empirical testing.

In framing the concept of intellectual humility as a virtue, it would be important to study its embodiment in a person or people. This approach has been influenced by Rosch’s (1975) pioneering studies into the “prototype” analysis of concepts. Rosch and Mervis (1975) use the idea of “family resemblance” to investigate prototypes, reasoning “that the most prototypical members of categories are those with most attributes in common with other members of that category and are those with least attributes in common with other categories” (p. 576). In investigating person-concepts, we can ask people to list attributes of related concepts to see if there are any related features—if they belong to the same “family” so to speak—or if they are distinct concepts. In this way we also can determine the constitutive features of a person-concept that would be useful in our search for a definition of intellectual humility.

The main purpose of this investigation, then, is to capture the implicit theory, or folk understanding, of an intellectually humble person. We patterned our methodology after studies that also investigated implicit or naturalistic person-concepts (Hardy, Walker, Olsen, Skalski, & Basinger, 2011; Sternberg, 1985; Walker & Pitts, 1998). This methodology allows for an exploration of the semantic dimensions of a person-concept as well as comparisons with other person-concepts. Regarding the semantic dimensions of

an intellectually humble person, we wondered if the two dimensions that appear in the philosophy and psychology literature (epistemic and social) would also appear in the implicit theory and, further, that the social dimension would include some kind of engagement with others. We also wondered how the implicit theory of an intellectually humble person compared to the implicit theories of a wise person and an intellectually arrogant person. The decision to investigate these specific person-concepts was grounded in a number of factors. First, since intellectual humility is often defined in contrast to intellectual arrogance, both in philosophy (Roberts and Wood, 2003) and psychology (Samuelson, et al., 2012), we have interest in discovering whether the implicit theory of an intellectually humble person is in direct contrast to the theory of an intellectually arrogant person, or if there are unique dimensions to each. Second, since a good deal of work has been done on the implicit theory of wisdom (Clayton & Birren, 1980; Sternberg, 1985, Holliday & Chandler, 1986), we were interested in replicating that work and comparing the implicit theory of a wise person to the implicit theory of an intellectually humble person. Specifically, we wondered if the ideal of intellectual humility, in the folk understanding, is imbedded in wisdom or is more of a ‘stand-alone’ concept. By making these comparisons, we hoped to sharpen the understanding of intellectual humility by way of contrast, as well as gain a better understanding of its place in the wider constellation of intellectual virtues.

Study 1

We employed a free listing procedure to collect a list of descriptors for three person-concepts: an intellectually humble (IH) person, a wise person, and an intellectually arrogant (IA) person. The descriptors generated here were used to

investigate the shape and scope of implicit theories of these person-concepts in the general population in Studies 2 and 3.

Method

Participants. Three groups of participants ($N = 355$; age range 18-75, $M = 32$, $SD = 11.7$; 53% female; 65% Caucasian, 13% Asian/Pacific Islander, 7% Black/African American, 3% Hispanic Latino, 1% American Indian/Native Alaskan) were recruited through Amazon's Mechanical Turk (www.MTurk.com) to provide a list of descriptors for an IH person ($n = 117$), a wise person ($n = 117$) and an IA person ($n = 121$).

Participants recruited through MTurk, though slightly older and with a higher proportion of women than the general population of internet users, provide reliable data comparable in quality to participants recruited through traditional means (Buhrmester, Kwang, & Gosling, 2011; Johnson & Borden, 2012). We paid them \$0.20 for their participation. They had to provide 10 descriptors to be paid. Most had some higher education: 49% had at least a bachelor's degree, and only 12% had no education beyond high school.

Procedure. After providing consent and demographic information, participants were taken to a web page with 10 blank lines and given the following instructions:

“Write down the characteristics and attributes of an “intellectually humble”
[“wise,” “intellectually arrogant”] person.”

Participants could not enter more than 10 descriptors and were not paid for generating less than 10. This yielded 1170 descriptors for an IH person, 1170 for a wise person, and 1210 for an IA person.

Judging the descriptors. We used the following rules to reduce the list of descriptors for each person-concept (adapted from Walker & Pitts, 1998):

1. Compound phrases were divided into separate descriptors if each could stand alone (e.g., *humble and modest* were divided into *humble* and *modest*).
2. Modifiers were dropped (e.g., *very honest* became *honest*).
3. Words or phrases judged to be synonymous in meaning were collapsed. The goal was to be conservative in maintaining subtle, yet meaningful, distinctions but not treat words or phrases that were clearly redundant as separate attributes. Consensus among four judges was required for collapsing descriptors.
4. Idiosyncratic responses that could not be collapsed related descriptors were dropped, as were those occurring with low frequency (defined as <3).

Results

The reduction analysis yielded 101 descriptors each for the IH and IA person-concepts, and 108 descriptors for the Wise person-concept. Comparing the IH and Wise person-concepts, there were 46 shared descriptors, yielding a .39 ratio of shared to unique descriptors. The rank ordering of these shared descriptors between the IH and Wise person-concepts was positively correlated ($r = .34$, $p < .05$). Thus, there is appreciable overlap between the IH and Wise person-concepts, yet enough unique descriptors to consider each as distinct. Comparing the IA person-concept to both the IH and the Wise person-concepts, we see substantially less overlap. The IH person-concept shares only nine descriptors with the IA person-concept, the Wise person-concept shares seven descriptors, and six descriptors are shared between all three. The shared/unique ratio for both comparisons (IA/IH and IA/Wise) is less than .01, suggesting that IH and Wise person-concepts are quite distinct from an IA person-concept. To further assess

relationships between these person-concepts, more detailed analysis comparing the shared to unique descriptors will occur in Study 2.

Study 2

The purpose of Study 2 was to quantify how central each descriptor is to the IH [Wise, IA] person-concepts in order to narrow the list to those most prototypical of an IH [Wise, IA] person. Additionally, we further assessed overlap between person-concepts.

Method

Participants. Three groups of participants ($N = 335$; age range 18-67, $M = 34$, $SD = 12$; 57% female; 77% Caucasian, 9% Black/African American, 8% Asian/Pacific Islander, 6% Hispanic Latino, <1% American Indian/Native Alaskan) were recruited through Amazon's Mechanical Turk to rate descriptors of an intellectually humble person ($n = 112$), a wise person ($n = 111$), and an intellectually arrogant person ($n = 112$). Each was paid \$0.35 for rating all the descriptors. Most had some higher education—41% had at least a bachelor's degree, and only 12% had no education beyond high school.

Procedure. After providing consent and demographic information, participants were taken to a web page with the list of descriptors for the person-concept they were working with (IA, Wise, or IA) and given the following instructions:

“Rate on a scale of 1 – 7 how characteristic the following descriptors are of an “intellectually humble” [“wise,” “intellectually arrogant”] person. Please rate all the words on the list by placing a number in the space provided. If you are unsure of the meaning of a word, place an “X” next to that word.”

Descriptors were rated on a Likert scale from 1 (*almost never*) to 7 (*almost always*).

We included a few phrases in the list of descriptors for an intellectually humble person on theoretical grounds that were not generated spontaneously by the participants in Study 1. First we included ‘seeks the truth,’ ‘accurate self-assessment,’ and ‘disregard for social status,’ because they encapsulate prevalent theoretical descriptions of an intellectually humble person (Roberts and Woods, 2003; Samuelson, et al., 2012) and we wanted to see what ratings they would garner. Results are reported in the Appendix A. Second, as part of a separate study, we included three phrases taken from Carol Dweck and colleagues (Dweck, Chiu, & Hong, 1995) reflecting an essentialist view of intelligence (believes intelligence is something you can't change very much; believes you have a certain amount of intelligence and you can't do much to change it; believes you can learn new things but you can't change your basic intelligence). The results of these ratings are not reported here.

Results

We used an examination of the standard deviations the participant's ratings as well as visual inspection to eliminate the data of 22 participants (7-IH, 6-Wise, 9-IA) who used exclusively one or two response options to rate each descriptor from further analysis. The threshold for excluding a descriptor from analysis was that more than 15% of the participants did not know its meaning. Since none of the descriptors met that threshold, the ratings of all the descriptors were analyzed. The missing values from participants who did not know the meaning of a descriptor were replaced by a hot deck imputation procedure (Kim and Fuller, 2004). The mean prototypical ratings for the descriptors for each person-concept are listed in the Appendixes in descending order.

To assess differences in prototypicality ratings by age, gender, ethnicity, and educational level, three multivariate analyses of variance (MANOVAs)—one for each person-concept were run. To strike a balance between testing as many words as possible and maintaining sufficient power by not losing too many degrees of freedom, we restricted our analysis to the top 50 rated words for each person-concept. Within each MANOVA, the top 50 descriptors were used as dependent variables with four dichotomized independent variables of age (< 31, 31+), education (completed college degree or higher, did not complete a college degree), ethnicity (Caucasian, other), and gender (male, female).

There were no significant multivariate main effects for age, gender, ethnicity, or education on the IH and wise person descriptor ratings. Therefore, no follow-up univariate tests were conducted for these two person-concepts. However, a significant main effect was found for education, Wilk's $\Lambda = .279$, $F(50,47) = 2.44$, $p = .001$, partial $\eta^2 = .721$, on the IA person descriptor ratings. No main effects for age, ethnicity, or gender were found. To probe the effect education had on each IA person descriptor rating, univariate ANOVAs were conducted on each individual DV. Those who had completed a college degree or higher had higher ratings for *snobby* and ($M = 5.76$, $M = 5.79$) than those who had not completed a college degree ($M = 5.10$, $M = 5.13$). Since this finding is isolated to the IA person-concept and we did not compare the IA ratings with any of the other two person-concepts, we did not use education as a covariate in any of the following analyses.

Next we explored relations between the three person-concepts. The specific descriptors that are shared and unique for each person-concept, along with the ratings of

the descriptors, are in the Appendixes. Walker and Pitts (1998) point out that the shared to unique ratio (the ratios for the present study person-concepts are reported above in Study 1 results) is a relatively crude indicator of relations between person-concepts, while the prototypicality ratings are a more sensitive measure of convergence. Citing the prototype theory of Fehr (1988) and Rosch and Mervis (1975), they argue that when concepts are overlapping but not the same, their similarity can be found in the pattern of prototypicality ratings for unique vs. shared attributes. Thus:

(a) If the concepts are essentially independent, then the unique features of a concept should be considered as highly prototypical (central) and the shared features should be less prototypical (peripheral), (b) if the concepts are moderately related, then there should be no real differences in prototypicality ratings between unique and shared features, and (c) if the person-concepts are highly related (i.e., much more overlapping than independent), then the unique features should be seen as less prototypic of each concept than are the shared features. (p. 407)

Since there are few shared descriptors between IA and both the IH and Wise person-concepts, we will restrict our analysis to a comparison of the ratings of the shared and unique descriptors of the IH and Wise person-concepts. Within each person concept, the ratings of the shared descriptors and the ratings of the unique descriptors were averaged creating a shared descriptor score and a unique descriptor score for each participant. A repeated measure t-test revealed that, for the IH person-concept, the mean ratings of the descriptors shared with the wise-person concept ($M = 5.33$) were significantly higher than those unique to the IH person-concept ($M = 5.05$), $t(110) =$

9.74, $p < .001$. For the Wise person-concept ratings, the means of the ratings of the descriptors shared with the IH person-concept ($M = 5.46$) also differed significantly from those that uniquely describe a wise person ($M = 5.33$), $t(109) p < .01$.

Discussion

The focus of this study was on the relationship between the three person-concepts. There are a number of indications that the implicit theories of an intellectually humble person and of a wise person are quite strongly related. First, there were a good number of shared descriptors as indicated by the moderately high ratio of shared to unique descriptors. Second, the descriptors that came most readily to mind when thinking of either person-concept were significantly correlated. Third, the descriptors shared between the person-concepts were endorsed significantly higher as qualities of both a wise and an intellectually humble person, than were the descriptors unique to each person-concept. Lastly, both stand in stark contrast to the implicit theory of an intellectually arrogant person, since both share very few descriptors with an IA person-concept. One notable exception is that *smart* was the most frequently generated descriptor for all three person-concepts, and *intelligent* was in the top ten for all three as well. Hence, the distinguishing factor in the folk conception—what makes one virtuous or vicious—seems to be found in how one uses one's intelligence.

The close relationship between the implicit theories of a wise person and an intellectually humble person is reflected in both philosophy and psychology. Some, including Socrates, see intellectual humility (defined as an appreciation of the limits and fallibility of one's knowledge) as the very definition of wisdom (Meacham 1990). In psychology, researchers studying folk conceptions of wisdom have also found this close

association. In a study exploring the implicit theories of intelligence, wisdom, and creativity, Sternberg (1985) identified six dimensions of wisdom, one of which (sagacity) seems closely related to intellectual humility. A good number of descriptors from both the IH and Wise person-concepts are found in that dimension in Sternberg's study (e.g., *thoughtful, fair, good listener, admits mistakes*).

While strongly related, each person-concept has stand-alone qualities. Three out of 5 descriptors are not shared between the IH and the Wise person-concepts. Moreover, not every descriptor of an intellectually arrogant person is the exact opposite of an intellectually humble person (or of a wise person). The implicit theory of an intellectually humble person revealed in the present study gives a broader vision of intellectual humility than is often seen both in psychology (defined as knowing the limits of your knowledge, Meacham, 1990; Grossmann, et al., 2010) and philosophy (defined as the opposite of intellectual arrogance, Roberts & Wood, 2003). The precise shape of that vision, including an analysis of the unique features of the IH, Wise, and IA person-concepts, is the focus of Study 3.

Study 3

The purpose of the third study was to identify the unique features of the implicit theory of each person-concept (IH, Wise, and IA) and to discover the dimensions of those concepts through an examination of how the participants mentally organized the traits of each person-concept. Analyses involving hierarchical cluster analysis (HCA) and multi-dimensional scaling (MDS) were employed to provide a “semantic map” of each person-concept by identifying the dimensions participants used to orient these categories (i.e. clusters) in reference to each other. Prototypicality ratings from Study 2 further help

determine which clusters are most descriptive of an intellectually humble [wise, intellectually arrogant] person. To make these procedures more manageable for the participants, we used the top 50 rated descriptors for each person-concept from Study 2.

Method

Participants. Three groups of participants ($N = 344$; age range 18-73, $M = 35$, $SD = 13$; 53% female; 80% Caucasian, 9% Asian/Pacific Islander, 7% Black/African American, 3% Hispanic Latino, <1% American Indian/Native Alaskan) were recruited through Amazon's Mechanical Turk to sort, by similarity, the descriptors of an intellectually humble person ($n = 113$), a wise person ($n = 115$), and an intellectually arrogant person ($n = 116$). Each was paid \$0.35 for their participation. Most had some higher education—50% had at least a bachelor's degree, and only 12% had no education beyond high school.

Procedure. After providing consent and demographic information, participants were taken to a web page and given the following instructions:

“Sort the following words into categories according to how similar they are to one another. You can create as many categories as you wish. Begin by creating a “bin” to place words in. When you want to create another category, simply create another bin and place words in it. Please make sure every word gets placed into one of the bins (categories) you create.”

The descriptor *humble* was inadvertently dropped in the IH person-concept sorting task. Of the descriptors added in the IH person-concept by the researchers in Study 2, only *seeks the truth* was rated in the top 50 and therefore included in Study 3. Participants could create as many categories (bins) as they wished. The cohort that sorted descriptors

of an IH person-concept created from two to twelve categories ($M = 4$) and 84% of the participants had between two and five categories. The cohort that sorted descriptors of a Wise person-concept created from two to eight categories ($M = 4$) and 82% of the participants had between two and five categories. The cohort that sorted descriptors of an IA person-concept created from two to seventeen categories ($M = 4$) and 84% of the participants had between two and five categories.

Results

First, hierarchical cluster analyses (HCA) were used to identify descriptor clusters for each person-concept based on participants organization of the traits in the sorting task. The traits were treated as cases. Thus, for each participant's similarity sort, a 50 x 50 distance matrix was constructed, with 0 indicating two descriptors were placed in the same category and 1 indicating they were not. These matrices were then aggregated across participants, and used as data for the HCAs. The cluster analyses used Ward's method based on squared Euclidian distances, and generated clusters of traits based on the patterns of association among trait terms in the aggregated matrixes.

The number of clusters can be identified by examining the agglomeration schedules and dendograms, and then selecting a cluster solution that maximizes interpretability and parsimony, and yields roughly uniform cluster sizes (Hair, Black, Babin, Anderson, & Tatham, 2006). Cluster labels were selected through an interpretive process based on discerning categories through the reading of the literature, considering the meaning of the traits in each cluster, and assessing the prototypicality ratings from the second study (traits rated as more descriptive may be more important to reflect in the cluster label). For the IH person-concept, three clusters were identified: *Intelligent/Love-*

of-learning, Humble/Modest, and Respectful/Considerate. For the Wise person-concept, four clusters were identified: *Intelligent/Learned, Respectful/Listens-to-both-sides, Reflective/Perceptive, and Experienced/Rational.* For the IA person-concept, three clusters were identified: *Educated/Proud, Arrogant/Know-it-all, and Opinionated/Jerk.*

Next, alternating least squares scaling (ALSCAL), a form of multi-dimensional scaling (MDS), was used on the sorting data for each person-concept to discover how participants implicitly oriented the traits in space, and to identify the dimensions used in this spatial orientation. MDS arranges points representing traits along orthogonal axes so that the distance between any two points reflects the frequency with which the two traits co-occurred (i.e., traits more often placed in the same category in the sorting task will end up closer in space based on multidimensional scaling) within each person-concept.

Determination of the number of dimensions was made based on fit indexes (stress and R²), visual separation of the clusters derived from the cluster analyses, and parsimony. For all three person-concepts the two-dimensional solutions seemed to fit well, seemed more parsimonious than higher dimensional solutions, and yielded visually non-overlapping clusters.

* Insert Table 1 and Figure 1 here*

Dimensional coordinates for person-concept descriptors are presented in Tables 1, 2, and 3 (IH, Wise, and IA, respectively). Examination of these coordinates (and the figures) suggested that the descriptors for all three person-concepts were organized along the two dimensions of epistemic-social and internal-external, with the epistemic-social dimension primary for all three person-concepts (i.e., the first dimension generated by the procedure). The sign of the dimension coordinates is arbitrary; it is the orientation and

relative position with respect to the other traits that matters. The traits opposite of those given a negative sign on the internal-external dimension for the IH person-concept were generally given a positive sign on that dimension for the IA person-concept (e.g. unpretentious [IH-] vs. pretentious [IA+]). The polarities for the epistemic/social dimensions were compatible. The Wise person-concept shared polarity with the IA person-concept on the internal-external dimension (the opposite of IH), but was opposite both the IA and IH person-concept on the epistemic-social dimension.

Insert Table 2 and Figure 2 here

In line with our previous analysis, the clusters revealed considerable overlap between the IH and Wise person-concepts, while each still retained some uniqueness. Of interest is the distribution of the shared descriptors between the clusters of each person-concept. There were 13 shared descriptors in the epistemic dimension of the IH person-concept all concentrated in the *Intelligent/Love-of-learning* cluster (*aware, bright, insightful, intellectual, intelligent, knowledgeable, logical, open-minded, rational, reasonable, smart, thinker, wise*; a 14th, *thoughtful*, was on the border of the social dimension). Similarly, 10 of those 13 shared descriptors remained in the Epistemic dimension of the Wise person-concept and were mostly distributed between the *Intelligent /Learned* (*bright, intellectual, intelligent, knowledgeable, smart, thinker*) and the *Experienced/Rational* clusters (*logical, rational, wise*), with one in the *Reflective/Perceptive* cluster (*insightful*). The remaining three shared descriptors found in the Epistemic dimension of the IH person-concept were found instead in the Social dimension in the Wise person-concept and distributed between three different clusters (*aware* in the *Reflective/Perceptive* cluster, *reasonable* in the *Experienced/Rational*

cluster, and *open-minded* in the *Respectful/Listens-to-both-sides* cluster). In the Social dimension of the IH person-concept, there were seven shared descriptors divided between the *Respectful/Considerate* cluster (*good listener, honest, mature, respectful, thoughtful, understanding*) and the *Humble/Modest* cluster (*admits wrong/mistakes*). All seven remained in the Social dimension in the Wise person-concept, six in the *Respectful/Listens-to-both-sides* cluster, and one (*mature*) in the *Experienced/Rational* cluster.

Insert Table 3 and Figure 3 here

Comparing the IA and the IH person-concepts, only the descriptor *educated* was shared between them in the sorting task. None of the top 50 descriptors were shared between the IA and the Wise person-concepts. In the sorting of IA person-concept descriptors, *educated* and *proud* were associated often enough to be clustered together, where, by contrast, in the sorting of the IH descriptors, *educated* was not associated with the opposite of *proud* (e.g., *humility, modest*) often enough to end up in a cluster together. The other two clusters of the IA person-concept, on the other hand, appear to be conceptually the opposite of the IH person-concept. The *Arrogant/Know-it-all* cluster of the IA person-concept and the *Humble/Modest* cluster of the IH person-concept reflect opposite intra-personal social dimensions while the *Opinionated/Jerk* (IA) and *Respectful/Considerate* (IH) clusters reflect opposite inter-personal social dimensions.

To test which clusters were prototypically foremost in implicit theories of each person-concept, we entered the prototypicality ratings the descriptors for each person-concept into a one-way repeated measures ANOVA with the clusters as levels (3=IH; 4=Wise; 3=IA). Within the IH person-concept, there was a significant difference between

clusters, $F(2,102) = 13.71$, $p < .001$, partial $\eta^2 = .201$. A Bonferroni pair-wise comparison revealed that the *Humble/Modest* cluster ($M = 5.73$) had significantly higher prototypicality ratings than the other two clusters (*Intelligent/Love-of-learning*, $M=5.49$; *Respectful/Considerate*, $M= 5.37$). Within the ratings of the wise person-concept, a significant difference between clusters was also found $F(3,107) = 4.47$, $p < .01$, partial $\eta^2 = .111$. A Bonferroni pair-wise comparison revealed that the *Intelligent/Learned* ($M= 5.88$) and *Experienced/Rational* ($M= 5.81$) clusters did not differ significantly from each other, but they did differ from the *Reflective/Perceptive* ($M= 5.76$) and *Respectful/Listens-to-both-sides* ($M= 5.68$) clusters. The *Reflective/Perceptive* and *Respectful/Listens-to-both-sides* clusters also differed significantly from each other. Within the IA person-concept, a significant difference between clusters was also found $F(2,4102) = 9.76$, $p < .001$, partial $\eta^2 = .161$. A Bonferroni pair-wise comparison revealed that the *Arrogant/Know-it-all* cluster ($M= 5.50$) had significantly higher prototypicality ratings than the other two clusters (*Opinionated/Jerk*, $M= 5.27$; *Educated/Proud*, $M= 5.31$).

Discussion

The foregoing analyses allowed for a more refined comparison between the person-concepts and assessed more closely the perceived relationship between the qualities of an intellectually humble person, a wise person, and an intellectually arrogant person. In examining the relationship between the IH and the Wise person-concept, we see again that, while closely related, each has distinctive dimensions. While they share many descriptors that have to do with the possession of intelligence (*knowledgeable, smart, insightful*, etc.), the unique descriptors reveal subtle differences. In the Epistemic

dimension of the IH person-concept, are unique qualities concerning the pursuit of knowledge (*love of learning, curious, inquisitive, etc.*). The Epistemic dimension of the wise person-concept, however, is broader and more differentiated. The wise person has knowledge that has come through learning (*learned, knowledgeable*), experience (*common sense, learns from mistakes*), and reflection (*contemplative, intuitive*).

The shared characteristics in the social dimension between the IH and Wise person-concepts could be characterized as “civility” (*thoughtful, understanding, good listener, etc.*). The descriptors unique to the Wise-person-concept seem to emphasize the respectful exchange of ideas (*attentive, mindful, gives good advice, etc.*) while the descriptors unique to the intellectually humble person tilt toward social, even pro-social traits (*kind, considerate, likeable, unselfish, etc.*). This can also be seen in the distribution of the shared descriptors *aware, reasonable* and *open-minded*. In the Wise person-concept they are found in the Social dimension, whereas in the IH person-concept they are in the Epistemic dimension.

The IH person-concept has a unique cluster of descriptors not shared with the Wise person-concept: the *Humble/Modest* cluster. (There is one shared descriptor in that cluster: *admits wrong/mistakes*.) The significantly higher ratings for this cluster of descriptors in the implicit theory of the IH person compared to the other clusters resonates with the contention of Roberts and Wood (2003) that an intellectually humble person has “an unusually low dispositional concern” (p. 271) for the status that comes from intellectual accomplishments. However, the IH person-concept is not merely the opposite of the IA person-concept. *Proud* is closely associated with being educated in the IA person-concept, whereas in the IH person-concept, being educated is associated with

love of learning and other epistemic goods (*knowledgeable, curious, inquisitive, etc.*).

Previous studies of the implicit theory of a wise person have used similar procedures and analyses offering a chance to compare them with the findings of this study. Clayton and Birren (1980) took a list of descriptors for an ideal wise person generated in a previous study (15 words total) and created 105 pairs of words which subjects (grouped by age as young, middle and old) judged as similar or dissimilar. A multi-dimensional scaling analysis revealed four clusters: Affective (wise, peaceful, empathetic, understanding, gentle), Reflective (wise introspective, intuitive, myself), Time [dependent] (aged, experienced, knowledgeable), and Cognitive (pragmatic, observant, intelligent). These clusters roughly map onto the clusters discovered in this study: Affective = *Respectful/Listens-to-both-sides*; Reflective = *Reflective/Perceptive*; Time [dependent] = *Experienced/Rational*, and Cognitive = *Intelligent/Learned*. In a similar study, Sternberg (1985) solicited descriptors of a wise person from professors, asking them to think of people in their field, along with a small number of ‘lay’ people from a variety of professions. He also included a rating procedure and, taking the top 40 rated words for a wise person, asked participants to sort them into similar/dissimilar categories. The analyses showed three dimensions each with paired polarities. They are: 1) Reasoning ability/Sagacity, 2) Learning from ideas and environment/Judgment, and 3) Expeditious use of information/Perspicacity. Sternberg (1985) did not perform a hierarchical cluster analysis so it is difficult to determine how closely these polarities would resemble clusters. Nevertheless, these polarities do represent distinct facets of a wise person, and, as such, can be compared to the clusters we found. In short, the present findings resonate with these prior wisdom studies (see Table 4 for more details).

Insert Table 4 here

General Discussion

The main purpose of our study was to uncover implicit theories of an intellectually humble person, a wise person, and an intellectually arrogant person within the general population. We were also interested in relations between these person-concepts, especially as they inform a deeper understanding of intellectual humility. Though the study was exploratory, we did have some expectations regarding the dimensions of an intellectually humble person and the perceived relationships between the implicit theories of an intellectually humble, a wise, and an intellectually arrogant person. These expectations (noted in the introduction) were generally born out in this study. First, the descriptors of an intellectually humble person did divide into epistemic (*knowledgeable, smart, etc.*) and social dimensions (*humble, kind, fair, etc.*). In addition, the descriptors for the wise and the intellectually arrogant persons also divided into these dimensions. Second, the clusters of the IH person-concept in the social dimension further divided into a self-oriented (internal) and an other-oriented (external) dimension, while the epistemic dimension remained fairly unified. The IA person-concept exhibited a similar structure. By contrast, the Wise person-concept had a more complex structure with both the social and the epistemic dimension divided along internal and external lines.

Third, we found that the IH and the Wise person-concepts are closely related. The results of our study show that the intellectually humble person displays many of the same traits as a wise person and those shared traits are understood as more prototypical to both person-concepts than the unique traits are. Still, those shared traits showed subtle differences within each person-concept as the participants sorted them, along with

descriptors unique to each person concept, into categories in Study 3. Contrasting the unique descriptors that clustered around the shared descriptor *intelligent*, we see a particular quality in the IH person-concept that is not found in the Wise person-concept that might be well described as the desire for knowledge (*love of learning, curious, inquisitive*, etc.). The shared social quality of respectful engagement with others also had subtle differences. These differences may be best seen in the sorting of the descriptor *open-minded* (one of the Big-5 personality traits,[Ashton & Lee, 2005]) between the two person-concepts. In the IH person-concept, *open-minded* is an epistemic quality, associated with education and learning. In the Wise person-concept, it is a social quality, having to do with respect and listening to both sides of an issue. These unique epistemic qualities of open-mindedness and love of learning point to a type of truth-tracking that is central to intellectual humility.

Even though closely related to the implicit theory of a wise person, there is substantial evidence that there is a stand-alone concept of an intellectually humble person. Besides the unique epistemic qualities mentioned above, a *Humble/Modest* cluster emerged that was unique to the IH person-concept. The descriptors within that cluster were rated as significantly more prototypical of the intellectually humble person than the descriptors within the other two clusters. While many inter-personal qualities of an intellectually humble person having to do with respectful sharing of information were shared with a wise person (*good listener, thoughtful, understanding*, etc.), the unique ‘other-oriented’ qualities of the intellectually humble person are more social, even pro-social in nature (*kind, considerate, unselfish*, etc.).

Fourthly, the implicit theory of an intellectually humble person is substantially the

opposite of an intellectually arrogant person. A noteworthy exception was in the epistemic dimension of the IH and IA person-concepts. An intellectually arrogant person uses education in a prideful way to confer social status, while an intellectually humble person pursues education out of curiosity and love of learning. To define the intellectually humble person primarily as the opposite of an intellectually arrogant person may miss this crucial and unique epistemic dimension.

Finally, this study extends the findings of previous studies into the implicit theory of a wise person in substantial and important ways. Expanding the study to the general population generated a greater variety of descriptors. These descriptors did not provide new categories or dimensions to the implicit theory of a wise person compared to previous studies, but made the dimensions richer in scope and more complete. Also, better, more clearly defined categories resulted from employing HCA in addition to the MDS compared to the previous studies. These categories did not contradict the groupings of the descriptors from previous studies, but integrated them into a clearer picture of the dimensions of the wise person-concept.

Limitations

There were several important limitations to this study. Most revolve around using Mturk to recruit participants. Those who seek employment on MTurk may not represent the general population, though our sample was fairly diverse in age, gender, ethnicity and education level. We did limit the responses in Study 1, which may have constrained the diversity and complexity of the person-concepts. Future qualitative research into people's conception of intellectual humility may provide a more rich conception of the construct.

Implications and Future Research

Implicit theories or ‘folk’ understandings of psychological constructs have been used mainly in two ways 1) to enhance or augment existing explicit theories (e.g., intelligence [Sternberg, 1985], creativity [Runco, Johnson, & Raina, 2003; Sternberg, 1985], love [Fehr, 1988], and moral maturity [Walker & Pitts, 1998]) and 2) to help define a new or emerging field of study (e.g. wisdom [Clayton & Birren, 1980; Holliday & Chandler, 1986; Sternberg, 1985], modesty [Gregg, Hart, Sedikides, & Kumashiro, 2008], and giftedness [Zhang & Sternberg, 1998]). Even though the study of intellectual humility is in its infancy, this study both confirmed and augmented the few explicit theories that have been formed. However, at this early stage there is no clear consensus on a definition of this crucial intellectual virtue and good measures have yet to be developed. By researching the implicit theory of an intellectually humble person and contrasting that theory with a theory of another intellectually virtuous person (a wise person) and an intellectually vicious person (an intellectually arrogant person) we hope to provide critical information to guide the work of defining and measuring intellectual humility.

Three findings bear mentioning. First, intellectual humility is not merely the opposite of intellectual arrogance. For the intellectually arrogant, education is associated with social status (*proud*), whereas with the intellectually humble, education is related to intellectual pursuits and humility is relegated to its own, separate dimension. This leads to the second finding. There is a unique character to the epistemic dimension of intellectual humility that has to do with curiosity, inquisitiveness and love of learning that is not shared in the implicit theory of a wise person. Finally, even though the cluster of descriptors related to humility and modesty garnered the highest prototypicality ratings,

intellectual humility is a rich concept that includes how intellect is used (or not used) for status (*Humble/Modest*), how intellect is used in the pursuit of knowledge (*Intellect/Love-of-learning*) and how others are engaged in the pursuit of knowledge (*Respectful/Considerate*).

Taken together, these findings have broad implications. Possessing the qualities of a love for learning, an appropriate assessment of one's knowledge, coupled with a respectful engagement with others, would serve people of all ages in the pursuit of knowledge. Intellectual humility in these dimensions would be a virtue that enhances collaborative learning at all levels of education and also be useful for any type of collaborative effort in those fields where knowledge and best practices are sought (business, government, education, even family life). Persons who are curious and inquisitive, who can humbly, yet appropriately, assert their knowledge, and are respectful of and listen well to others would be highly regarded team members in any task that involves knowledge acquisition and collaborative effort. The practice of intellectual humility, with characteristics that support the collaborative search for the truth, may be particularly relevant in the realms of government and law, where, in an adversarial system that is supposed to bring the truth to light, the pursuit of truth is often suppressed. Finally, the benefits of intellectual humility in its three dimensions can promote general human flourishing as it provides growth in wisdom and knowledge through a love of learning, a capacity for self-knowledge, through a realistic assessment of one's intellect, and the possibility of civil discourse through a respectful engagement with others.

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Table 1

Dimensional Co-ordinates of Descriptors for the IH Person-concept

Clusters and Attributes	Mean Rating	Dimensions	
		Epistemic/Social	Internal/External
Humble/Modest	(5.73 _b)		
doesn't brag		1.1035	-0.8951
humility		1.1023	-0.8489
modest		1.0584	-0.7751
not a showoff		1.0271	-0.8523
unpretentious		1.1375	-0.6639
Intelligent/Love-of-learning	(5.49 _a)		
academic		-1.8596	0.033
curious		-1.5842	0.0092
educated		-1.8299	0.1096
inquisitive		-1.6799	0.0075
love of learning		-1.821	0.1741
SEEKS THE TRUTH		-1.526	-0.0525
well-read		-1.7638	-0.1385
aware*		-0.9736	-0.2685
bright*		-1.7543	0.0548
insightful*		-1.5269	-0.1504
intellectual*		-1.7843	0.0383
intelligent*		-1.8162	0.0934
knowledgeable*		-1.8173	-0.0855
logical*		-1.7474	-0.0886
open-minded*		-0.8512	0.3301
rational*		-1.5614	-0.237
reasonable*		-0.4109	0.172
smart*		-1.7806	0.0052
thinker*		-1.7867	-0.0083
wise*		-1.5943	-0.4523
Respectful/Considerate	(5.39 _a)		
agreeable		1.1955	0.4235
approachable		1.2059	0.2865
considerate		1.2266	0.5298
courteous		1.2979	0.3287
down to earth		1.1119	-0.5187
fair		1.0574	0.4572
friendly		1.1698	0.7376
good		1.1399	0.2556
kind		1.1664	0.6663
likeable		1.1567	0.59
polite		1.2445	0.2101
reliable		1.1603	0.0327
sincere		1.1787	0.4711
stable		0.6849	-1.0419

sympathetic	1.0828	0.7864
unassuming	1.1469	-0.5014
unselfish	1.1799	-0.0597
well mannered	1.2425	0.0850
good listener*	0.9137	0.9423
honest*	1.1618	0.1531
mature*	0.247	-1.1215
respectful*	1.2671	0.0902
thoughtful*	-0.0029	0.6594
understanding*	0.7516	0.7287

Note: * descriptors shared with Wise person-concept. Means having the same subscript are not significantly different.

Table 2

Dimensional Coordinates of Descriptors for the Wise Person-concept

Clusters and Attributes	Dimensions		
	Mean Rating	Epistemic/Social	Internal/External
Experience/Rational	(5.88b)		
common sense		0.3848	-1.0871
disciplined		0.0056	-1.2277
experienced		0.6043	-1.0444
knows when/ when not to give advice		-0.218	-1.3298
learns from mistakes		-0.254	-1.4444
practical		0.213	-1.4352
sensible		-0.4119	-1.2036
thinks for themselves		0.6309	-1.1541
thinks things through		0.782	-0.655
logical*		1.3338	-0.3813
mature*		-0.6055	-1.1716
rational*		0.7781	-0.585
reasonable*		-0.8656	-1.0883
wise*		1.1463	0.0342
Intelligent/Learned	(5.81b)		
analytic		1.2357	0.5156
astute		1.0799	0.4117
informed		1.3268	-0.0176
learned		1.7076	-0.2312
knowing		1.2693	0.292
sharp		1.6625	0.0823
bright*		1.6767	0.2538
intellectual*		1.6621	0.6311
intelligent*		1.8447	0.2354
knowledgeable*		1.7113	-0.1766
smart*		1.8213	-0.0599
thinker*		1.0465	0.7972
Reflective/Perceptive	(5.76ab)		
contemplative		0.1573	1.0719
deep		0.1578	1.0277
enlightened		0.7319	0.4935
insightful*		0.1596	0.8172
introspective		-0.2738	1.2162
intuitive		-0.0269	1.1698
observant		-0.1269	1.1546
perceptive		-0.4106	1.0422
reflective		-0.6936	0.7579
aware*		-0.7111	0.6509
Respectful/Listens-to-both-sides	(5.68a)		

attentive	-1.1397	0.787
gives good advice	-1.3379	-0.6669
interested	-1.4355	0.6411
listener	-1.7011	0.5356
listens	-1.7564	0.4377
listens to both sides	-1.6113	-0.3518
mindful	-0.8418	0.4623
admits mistakes*	-1.6019	-1.0405
open minded*	-1.3157	0.1498
good listener*	-1.7918	0.5549
honest*	-1.7279	-0.5745
respectful*	-1.8437	-0.3458
thoughtful*	-0.8606	0.7363
understanding*	-1.5666	0.3134

Note: * descriptors shared with IH person-concept. Means having the same subscript are not significantly different.

Table 3

Dimensional Coordinates of Descriptors for the IA Person-concept

Clusters and Attributes	Mean Rating	Dimensions	
		Epistemic/Social	Internal/External
Arrogant/Know-it-all	(5.50 _b)		
arrogant		0.8792	0.2743
boastful		0.2046	0.6779
bragger		0.6524	0.5951
cocky		0.5206	0.5437
conceited		0.6174	0.6488
egotistical		0.7621	0.5892
elitist		-0.0607	0.8897
feels they deserve more		0.2979	0.9305
know-it-all		-0.0747	0.2988
looks down on others		0.6763	0.2604
narcissistic		0.7631	0.3159
never admits wrong		0.5193	-0.0787
overconfident		0.3647	0.9449
pompous		0.5177	0.6133
pretentious		0.3062	0.6068
self-centered		0.7246	0.4504
self-important		0.2892	0.682
self-righteous		0.4842	0.7259
smug		0.5541	0.4579
snotty		0.81	0.2389
stuck-up		0.7137	0.4853
vain		0.4095	0.6611
Educated/Proud	(5.31 _a)		
brainy		-3.4365	0.2891
confident		-3.28	0.5171
educated*		-3.715	0.2088
prideful		-0.8604	1.2832
proud		-2.336	1.3353
uses big words		-2.9217	-0.0854
Opinionated/Jerk	(5.27 _a)		
abrasive		0.5128	-1.1146
annoying		0.6142	-0.9207
argumentative		0.1345	-1.1647
belittling		0.8976	-0.5377
condescending		0.5325	-0.2603
likeable		-0.7799	-1.0562
dominating		-0.0272	-1.1185
haughty		0.5702	-0.3962
irritating		0.7863	-1.029
jerk		0.9962	-0.5033
judgmental		0.2275	-0.8317

INTELLECTUAL HUMILITY

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obnoxious	0.8429	-0.7554
opinionated	-1.7467	-0.71
overbearing	0.5439	-1.0081
patronizing	0.5118	-0.5271
rude	0.853	-0.6378
snobbish	0.6229	-0.5954
stubborn	-0.4633	-1.428
unpleasant	0.739	-0.9011
verbose	-1.9393	-0.5871

Note: * descriptors shared with IH person-concept. Means having the same subscript are not significantly different.

Table 4
Comparing Clayton and Birren (1980) and Sternberg's (1985) Dimensions with Wise Person-concept Clusters.

Wise Person-concept clusters	Clayton and Birren (1980)	Sternberg (1985)	Shared Descriptors
Intelligent/ Learned	Cognitive	Reasoning ability	logical, rational, knowledgeable
Experienced/ Rational	Time [Dependent]	Expeditious use of information; Judgment	experienced, learns from mistakes, thinks things through
Reflective/ Perceptive	Reflective	Learning from ideas and environment; Perspicacity	perceptive, intuitive, [insightful]
Respectful/ Listens to both sides	Affective	Sagacity	thoughtful, good listener, empathetic, admits mistakes

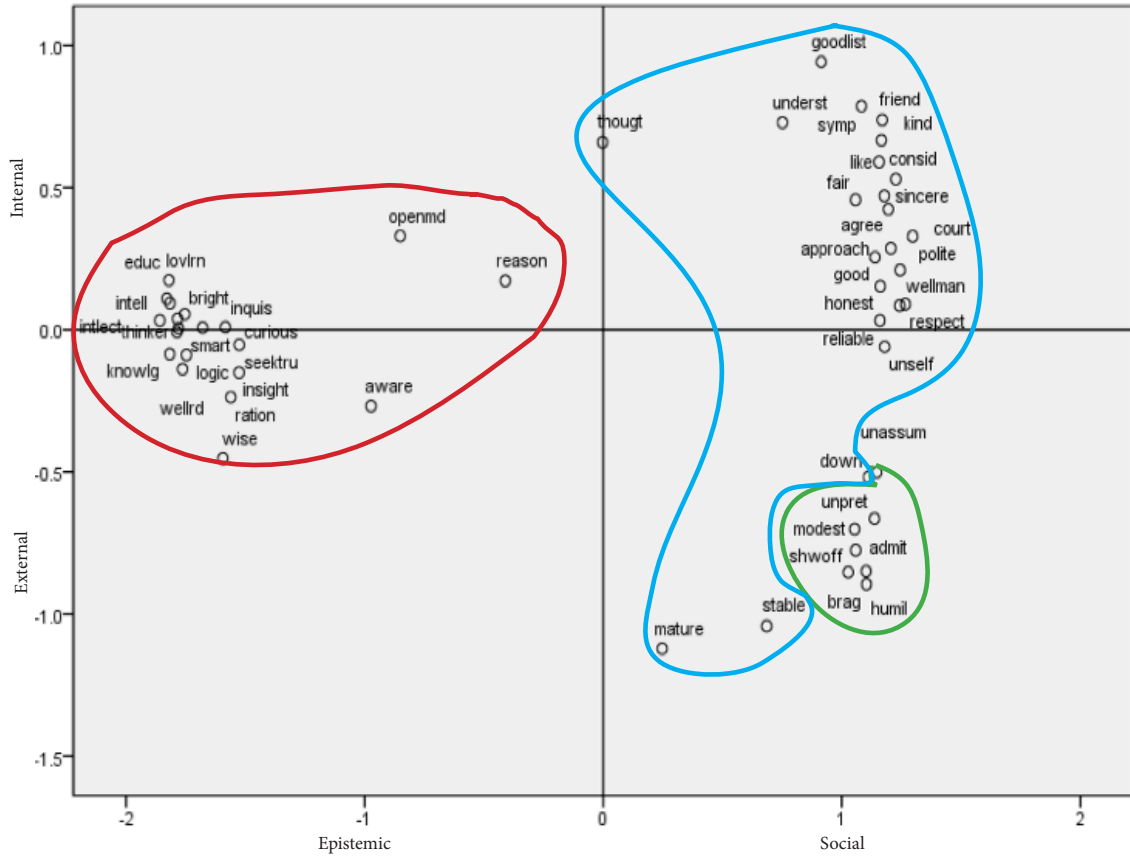


Figure 1. The clusters and dimensions of the descriptors for the IH person-concept. The loops drawn are based on the hierarchical cluster analysis of the descriptors.



Figure 2. The clusters and dimensions of the descriptors for the Wise person-concept. The loops drawn are based on the hierarchical cluster analysis of the descriptors.

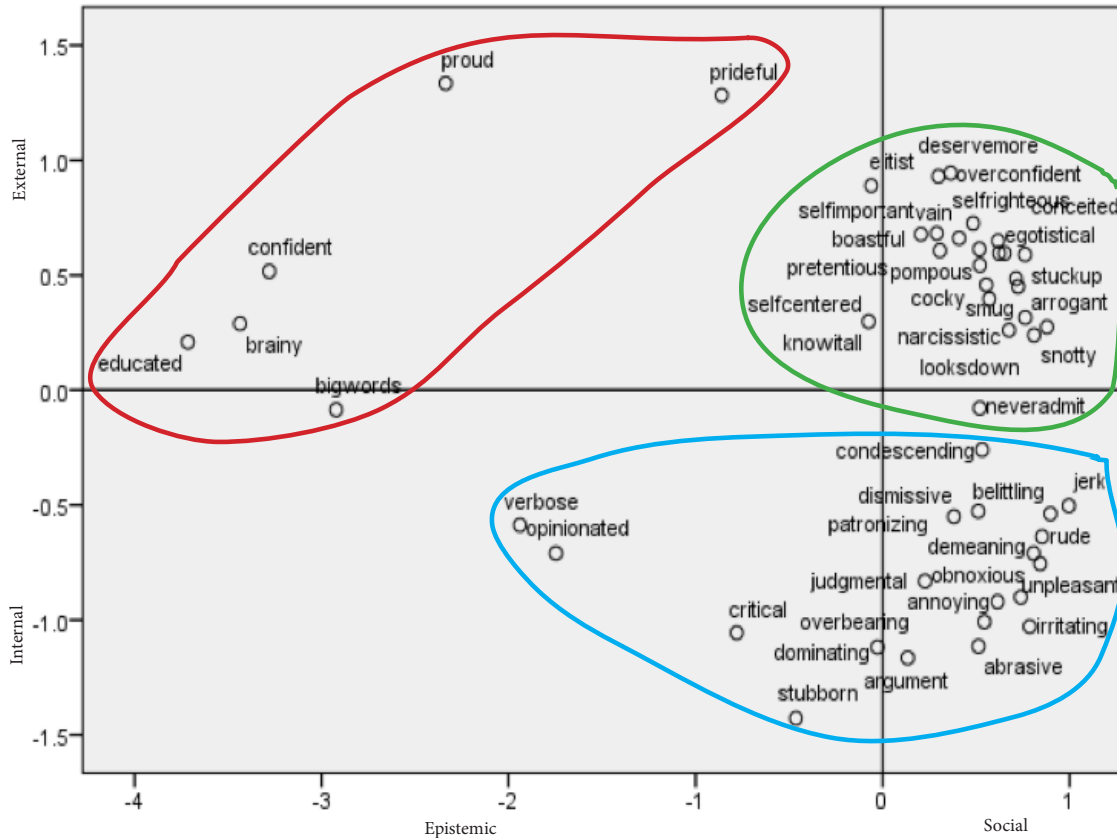


Figure 3. The clusters and dimensions of the descriptors for the IA person-concept. The loops drawn are based on the hierarchical cluster analysis of the descriptors.

Appendix A

Study 2 Mean Ratings for Intellectually Humble Person-Concept

	<i>M</i>		<i>M</i>		<i>M</i>
humble *	6.09	fair*	5.34	loving	5.08
not a showoff	5.97	courteous	5.34	generous	5.05
doesn't brag	5.94	well-mannered	5.32	secure	5.03
modest	5.81	unselfish	5.31	flexible	5.03
intelligent***	5.78	stable*	5.31	clever*	5
smart***	5.74	agreeable	5.31	easy going	4.99
thinker *	5.69	good*	5.3	open	4.98
humility	5.68	reliable*	5.3	ACCURATE SELF	
love of learning	5.65	curious	5.3	ASSESSMENT	4.96
intellectual*	5.64	unassuming	5.29	giving	4.95
unpretentious	5.63	likeable	5.29	well	4.9
knowledgeable***	5.61	aware*	5.29	bookish**	4.9
thoughtful *	5.58	academic	5.25	happy	4.84
honest *	5.54	kind*	5.25	soft-spoken	4.83
logical *	5.51	friendly*	5.24	imaginative	4.83
bright *	5.51	nice	5.23	reserved	4.83
down to earth	5.51	sympathetic	5.23	serene	4.79
wise ***	5.48	pleasant	5.22	eloquent	4.76
rational*	5.48	introspective*	5.21	determined	4.76
reasonable*	5.47	compassionate*	5.21	sweet	4.72
mature *	5.46	empathetic*	5.21	quiet*	4.71
SEEKS		brainy***	5.2	confident**	4.7
THE TRUTH	5.46	studious*	5.18	creative*	4.67
educated***	5.45	calm*	5.18	introverted	4.64
respectful*	5.45	careful*	5.17	witty*	4.56
open-minded*	5.43	helpful*	5.17	introvert	4.55
understanding*	5.43	caring*	5.16	DISREGARD FOR	
sincere	5.43	peaceful*	5.16	SOCIAL STATUS	4.55
well-read**	5.42	articulate	5.16	demure	4.4
polite	5.41	patient*	5.14	funny	4.28
considerate*	5.41	gentle*	5.14	meeek	4.25
approachable	5.41	hardworking	5.12	shy	4.21
good listener*	5.37	selfless	5.12	simple	4.14
admit wrong*	5.37	self-examining	5.12	brave	4.05
insightful*	5.36	content	5.11	timid	3.95
inquisitive	5.36	sharp*	5.09		

Note. * = shared with Wise, ** shared with IA, *** shared with all three. Descriptors added by researchers in Study 2 in capital letters.

Appendix B

Study 2 Mean Ratings for Wise Person-Concept

	<i>M</i>		<i>M</i>		<i>M</i>
wise***	6.3	thoughtful*	5.68	considerate*	5.29
intelligent***	6.08	reflective	5.68	helpful*	5.28
thinker*	6.08	mature*	5.64	sage	5.25
has common sense	6.04	understanding*	5.64	unbiased	5.24
learns from -		listener	5.63	calm*	5.24
mistakes	6.02	interested	5.63	humble*	5.24
knowledgeable***	6	introspective*	5.62	cautious	5.19
observant	5.99	good listener*	5.59	has strong beliefs	5.16
perceptive	5.95	admits mistakes*	5.59	good*	5.14
knowing	5.94	attentive	5.57	discerning	5.13
thinks things-		open-minded*	5.56	all-knowing	5.13
through	5.92	respectful*	5.56	peaceful*	5.13
logical*	5.9	honest*	5.55	judicious	5.11
sensible	5.9	astute	5.54	steadfast	5.11
intellectual*	5.87	deep	5.54	alert	5.1
rational*	5.86	disciplined	5.52	empathetic*	5.08
smart***	5.85	educated***	5.52	kind*	5.08
listens	5.85	reliable*	5.48	compassionate*	5.04
informed	5.84	know how	5.48	savvy	5.02
listens to both-		ethical	5.45	caring*	5
sides of an issue	5.84	doesn't jump to-		wordly	4.98
bright*	5.83	conclusions	5.45	teacher	4.97
experienced	5.82	has emotional-		friendly*	4.84
knows when to do-		self-control	5.45	prudent	4.82
or not do something	5.82	keen	5.44	creative*	4.8
insightful*	5.81	studious*	5.43	calculating	4.75
learned	5.81	clever*	5.43	gentle*	4.75
mindful	5.78	scholarly	5.41	witty*	4.72
enlightened	5.77	trustworthy	5.38	strong	4.64
sharp*	5.76	stable*	5.37	older	4.45
reasonable*	5.75	careful*	5.36	quiet*	4.39
analytical	5.73	fair*	5.36	frugal	4.38
thinks for-		patient*	5.36	elder	4.32
themselves	5.73	good-		critical**	4.19
gives good advice	5.72	communicator	5.36	old	3.99
aware*	5.69	sound	5.36	cunning	3.91
intuitive	5.69	patience	5.35		
contemplative	5.69	brainy**	5.35		

Note. * = shared with IH, ** shared with IA, *** shared with all three.

Appendix C

Study 2 Mean Ratings for Intellectually Arrogant Person-Concept

	<i>M</i>		<i>M</i>		<i>M</i>
arrogant	5.99	demeaning	5.30	close-minded	4.70
know-it-all	5.96	irritating	5.29	cold	4.63
opinionated	5.83	feels they-		talkative	4.62
condescending	5.71	deserve more	5.27	bookish*	4.57
egotistical	5.70	self-righteous	5.27	forceful	4.57
pompous	5.63	narcissistic	5.25	superior	4.53
looks down-		abrasive	5.22	bold	4.52
on others	5.63	stubborn	5.20	irritable	4.48
pretentious	5.62	dismissive	5.20	poor social skills	4.48
cocky	5.57	vain	5.19	mean	4.46
judgmental	5.56	overbearing	5.18	unfriendly	4.45
snobbish	5.56	jerk	5.17	uncaring	4.29
self-centered	5.54	confident*	5.17	aloof	4.24
smug	5.54	annoying	5.15	successful	4.23
self-important	5.54	dominating	5.14	out of touch	4.18
never admits-		haughty	5.14	bully	4.07
they are wrong	5.53	educated***	5.13	boring	4.07
critical**	5.53	verbose	5.13	hard	4.01
snob	5.53	rude	5.12	insecure	3.99
prideful	5.51	unpleasant	5.12	loud	3.93
conceited	5.48	brainy***	5.12	genius	3.88
snobby	5.48	snide	5.08	professor	3.86
overconfident	5.48	sarcastic	5.08	nerdy	3.84
elitist	5.47	bossy	5.06	leader	3.80
argumentative	5.43	domineering	5.05	wealthy	3.76
uses big words	5.40	knowledgeable***	5.03	loner	3.70
boastful	5.37	intelligent***	5.00	angry	3.65
patronizing	5.36	narrow-minded	4.90	wise***	3.59
snotty	5.34	insufferable	4.89	foolish	3.59
stuck-up	5.34	elite	4.88	wears glasses	3.53
show-off	5.34	disdainful	4.88	ignorant	3.42
proud	5.31	selfish	4.87	stupid	2.66
belittling	5.30	smart***	4.86		
bragger	5.30	well-read*	4.80		
obnoxious	5.30	controlling	4.77		

Note. * = shared with IH, ** shared with Wise, *** shared with all three

