

## Research Reports

# Exploring the Relationship Between Honesty-Humility, the Big Five, and Liberal Values in Swedish Students

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## Abstract

Previous research on the Five-Factor model (Big Five) reports a relationship between personality traits and liberal values, and the trait Agreeableness has demonstrated the strongest relationship. The HEXACO model offers a complement to the Five-factor model with an additional sixth trait of Honesty-Humility. Previous research on the Honesty-Humility trait has reported mixed results with liberal values, and this study set out to resolve this. The work presented here explored the relationship between the Honesty-Humility trait on facet-level (Sincerity, Fairness, Greed-avoidance and Modesty) and liberal values (equality for women, minorities, and socio-economical groups). Data from Swedish students ( $N = 202$ ), known for their individualistic and liberal mindset, were sampled. There was an overall positive correlation between Honesty-Humility and the strength of liberal values ( $r = .36$ ), and Honesty-Humility predicted liberal values beyond Agreeableness. We discuss these results in terms of the significance of traits and values in a culture that promotes both individualism and equality.

**Keywords:** honesty-humility, HEXACO, Big Five, greed-avoidance, liberalism

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Sweden is among the highest-ranking nations in the world when it comes to both cultural individualism and social mobility, being placed before the US and the UK (Hofstede, 2001; Jäntti et al., 2006). This relates to a strong focus on equality, which is a core value in liberalism. One of the manifestations of individualism is putting oneself before others, while equality is the political value that sets the limits of individual freedom (Hofstede, 2001). Parallel with the increase of individualism and equality in Europe, research on individual personality traits has been undergoing a 'renaissance' in the 21st century, and many psychologists have taken a new interest in the field (Mischel, 2009). The predictive value of individuals' personality traits on occupational success and income is, in an individualistic society, even stronger than that of the most used measures, socio-economic status (SES) (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Personality traits not only predict behavior but also consistently overlap with values such as political orientations (Sibley, Osborne, & Duckitt, 2012).

The most well-known and widely used model in personality research is the Big Five model with its dimensions of Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (Costa & McCrae, 1992). The Big Five predicts outcomes and values (Paunonen & Ashton, 2001), and is a useful way of categorizing personality.

Leikas, Verkasalo, and Lönnqvist (2013) reported reasonable accuracy when comparing the Big Five scores of people with others' evaluations of them, just by studying photographs. However, the predictive value of the Big Five on specific behaviors and attitudes is often found to be weak (Paunonen & Ashton, 2001).

HEXACO is a similar model to the Big Five, also constructed through psycho-lexical research and established by factor analysis (Ashton & Lee, 2005). It is quickly becoming widely recognized in high ranking psychology journals in the field of personality research (Aghababaei & Arji, 2014). HEXACO is the acronym for Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to Experience. Notably it differs from the Big Five by its additional sixth trait, Honesty-Humility (Ashton & Lee, 2008a). The sixth factor, Honesty-Humility, has been found lexically in several languages, including German, Hungarian, Korean, Polish, and Italian (Ashton, Lee, & Son, 2000).

Different studies show that the HEXACO model adds 5 - 15% more explained variance than the Big Five on various behaviors (Ashton & Lee, 2008a). However, Honesty-Humility generally correlates with behaviors that involve deceit, self-monitoring and individualistic gains (Ashton et al., 2000). Personality-related scales manifesting exploitative behaviors such as Machiavellianism or psychopathic personality traits are known to correlate negatively with Agreeableness and Honesty-Humility (Jakobwitz & Egan, 2006). The difference between Agreeableness and Honesty-Humility has been studied by Hilbig, Zettler, Leist, and Heydasch (2013) who suggested that Honesty-Humility is a more active trait, such as taking initiative to exploitation or cooperation, while Agreeableness is a more reactive trait. Seeing its predictive validity in relation to a large array of behaviors (Ashton & Lee, 2005), Honesty-Humility is suggested to capture an active, egotistical part of personality, which the Big Five misses (de Vries, de Vries, de Hoogh, & Feij, 2009). We argue that Honesty-Humility captures a more conniving and self-promoting trait than the everyday behaviors towards others captured in Agreeableness.

### **Honesty-Humility: A Key-Trait in Modern Society**

This line of research is important for understanding how the structure of personality is organized and for increasing the knowledge of how traits interact with values and behaviors. This is particularly interesting to understand in an individualistic culture, such as the Swedish one. Research in social psychology has consistently shown, through meta-studies over the past century, that personality-traits and individual differences grow in importance with increase in individual freedom (Richard, Bond, & Stokes-Zoota, 2003). Judge, Hurst, and Simon (2009) reported that personality traits in students are a better predictor of their future income and finances than their educational achievement. The Honesty-Humility trait is of particular interest seeing how deceit and ambition are an intricate part of our personal and professional careers. Image-management is a more important skill than ever and people generally are no better than chance in exposing deceit (Bond & DePaulo, 2006). A culture of individualism will only accentuate the impact of personality (Strenze, 2007). We thus suggest that Honesty-Humility in the Swedish culture is an important measure of personality.

Honesty-Humility is a one dimensional scale with four facets, hypothesized to capture additional variance for behavioral effects of personality (Ashton & Lee, 2008b). Sincerity indicates the tendency to be truthful and non-manipulative, Fairness the tendency to follow principles of integrity with everyone's best in mind, Greed-avoidance the prioritizing of luxuries and the comforts of life, and Modesty indicates sentiments of entitlement and superiority. Each facet is scaled on a continuum, and scores on these facets are normally distributed (Ashton & Lee, 2008b). The research shows that people who score low on Honesty-Humility tend to exploit other people; their actions often involve deceiving, cheating, and manipulative self-promotion (Lee, Ashton, Ogunfowora, Bourdage, & Shin,

2010; Marcus, Lee, & Ashton, 2007). They tend to flatter, to cut corners, and to make sure that their efforts are seen. Further research proposes that ambitious and seemingly arrogant individuals have an advantage and perform well in individualistic and competitive environments (Feist, 1993). Certain types of performance correlate well with low Honesty-Humility. Batey and Furnham (2006) presented in a review a negative correlation between individual creativity and traits similar to Honesty and Humility.

We suggest, together with Ashton and Lee (2005), that even though Honesty-Humility correlates well with the Big Five-dimension of Agreeableness ( $r = .54$ ) it does not capture the tendency to *exploit* others or indulge in *adroitness*, nor the disposition for *pleasure* and materialistic comfort, and we also propose that these dispositions correlate with various values and behaviors in many of today's societies, due to increased individual freedoms (Richard et al., 2003). This sixth trait relates more to what is known as the "Dark Triad" of personality, which consist of Narcissism, Machiavellianism and Psychopathy (Paulhus & Williams, 2002). There is evidence that low Honesty-Humility is the key-trait overlapping all three dimensions of the Dark Triad (Lee, Ashton, Wiltshire, et al., 2013). De Vries and van Gelder (2013) reported for instance that Honesty-Humility was the most consistent predictor of delinquency. Also, lighter behavior such as sarcastic and aggressive humor has a negative relationship with this trait (Veselka et al., 2010). The premise is that a further investigating of this trait would expand our understanding of how personality traits predict life outcomes.

### Honesty-Humility and Liberal Values

Sibley and Duckitt (2008) reported that people in Western Europe generally prefer liberalism over conservative values. Liberalism in this regard is the striving for equal rights and equal opportunities for all individuals and groups in society. One of the most prominent features of the individualistic culture in Sweden is its striving for equality (Hofstede, 2001). These values emphasize individuals' rights, and stress the importance of equality in opportunities between sexes, between ethnic groups, and equality between socio-economic groups. This cultural value of equality is considered the key component of liberalism in this study. This is the opposite of holding traditional, conservative values, and liberalism is especially common among young people (Jääntti et al., 2006), which should make Swedish students an appropriate sample to study. If the Honesty-Humility trait captures the tendency to focus on self, this should be evident when correlated with liberal values, and consequently students low on Honesty-Humility should have lower liberal values. Such a finding among Swedish students would strengthen previous research results considerably.

Altemeyer's (1981) right-wing authoritarianism (RWA) was shown to correlate negatively with Honesty-Humility (Chirumbolo & Leone, 2010). The core value captured by the RWA is the disposition towards traditional (non-progressive) values, being submissive to authority figures, and acting aggressively towards outgroups. A meta-analysis ( $k = 31$ ) carried out by Sibley and Duckitt (2008) showed that RWA is predicted by the Big Five, particularly by showing a negative relationship with Openness. It is possible that Honesty-Humility reveals a personality-type that is open or closed, caring or non-caring to the experiences of others, and that this in turn translates into liberal values. Note that liberalism is a sub-facet of Openness in the Goldberg's IPIP (1990). Another scale that ties into values of liberalism is the social dominance orientation-scale (SDO; Pratto, Sidanius, Stallworth, & Malle, 1994). Characteristic of someone scoring low in SDO is the general opposition to social hierarchies and the dislike for having privileges at other people's expense. SDO has also been reported to correlate negatively with Honesty-Humility (Lee et al., 2010; Sibley, Harding, Perry, Asbrock, & Duckitt, 2010). In the very few Scandinavian studies carried out with Swedish university students, only the Big Five has been used (Ekehammar, Akrami, Gylje, & Zakrisson, 2004). They found that Tender-mindedness, which is a sub-facet of Agreeableness in the Big Five, was

the most strongly correlated ( $r = -.60$ ) with SDO. They also confirmed the often found gender-differences in the Big Five, with women scoring higher on Agreeableness.

Furthermore, SDO and RWA correlate with each other and Heaven and Bucci (2001) determined the strength of the relationship to be moderate ( $r = .38$ ). Another study by Van Lange, Bekkers, Chirumbolo, and Leone (2012) reported that non-liberals have a more individualistic and competitive personality, which should be expressed in higher SDO, and thus lower Honesty-Humility. Sibley et al. (2010) argue, however, that Honesty-Humility correlates positively with RWA, given the motivation of high Honesty-Humility people to look after social cohesion and collective security, thus holding conservative values. With the Swedish sample, we expect that the motive to look after and to be tolerant towards weaker groups in society will be more prevalent than the motive of looking after social cohesion. We thus support a hypothesis of Honesty-Humility correlating positively with liberal values.

### Research Purpose

The first aim of this study was to determine whether Honesty-Humility personality facets are positively correlated with liberal values. Research on this has shown conflicting results (Chirumbolo & Leone, 2010; Sibley et al., 2010). The second aim was to investigate whether Honesty-Humility is a better predictor than Agreeableness of liberal values (Lee et al., 2010). No previous examination of the relationship between Honesty-Humility and liberal values in a Swedish sample has been published. Furthermore, no recent study has compared the impact of Honesty-Humility and Agreeableness on liberal values such as equality, in an increasingly individualistic culture such as the Swedish one. Personality factors are an important key to understanding values (e.g., Heaven & Bucci, 2001; Van Hiel, Cornelis, & Roets, 2007). The main hypothesis was that liberal values are positively correlated with the Honesty-Humility trait. The second hypothesis was that Honesty-Humility is a better predictor of liberal values than Agreeableness.

## Method

### Participants

The participants consisted of Swedish university students ( $N = 202$ ) representing an age-span of 18 - 56 years ( $M = 25.1$ ,  $SD = 7.2$ ). The group consisted of 59% women and 41% men. All were freshmen and none had any previous experience with higher education (university or college).

### Measurements

Seeing how the focus was particularly the Honesty-Humility factor and its impact among students, the complete, original 40-item version focusing on the Honesty-Humility factor (Ashton & Lee, 2005) was administered (all six traits in the HEXACO-PI make up 200 items). This was a preliminary Swedish version, created straight from the original items in English with the help of a professional translator. The items were modified only by removing negations in all items that in the original English scale were reversed, thus aimed at simplifying the questionnaire for the participants. This modification procedure resulted in 0 numbers of reversed items in this Swedish version. A small pilot interview tested the questionnaire on five students, and no items were changed after inquiring about the informants' understanding. The items were presented with a 5-point scale (1 = *strongly disagree*; 5 = *strongly agree*). Low values indicate the negative side of the facet. Example statements for each of the four facets were: *I pretend to be more than I am* (Sincerity), *I would take things that are not mine* (Fairness), *I love luxury* (Greed-avoidance), and *I think I am better than other people* (Modesty). An example of a removed negation among these

statements was: *I don't love luxury*. Descriptive statistics of the Honesty-Humility scale are presented in the result section.

Due to the RWA- and SDO-scales being constructed primarily for US politics and rapidly growing obsolete in a changing modernity among young students, the Swedish Liberal Values Scale was constructed by the first author, inspired by Yarkoni (2010). This was indexed by questions concerning values towards social equality for which Swedish and European politics are renowned (Sibley & Duckitt, 2008). Three areas and three corresponding items of focus were constructed, due to their prominence in Swedish public debate: Support for feminism (equality between sexes), support for minority groups (equality for ethnic groups), and support for resource distribution (equality between socio-economic groups). The following three statements comprise the Swedish Liberal Values Scale (see Appendix): "I want to support the cause of feminism" (1 = *strongly disagree*; 5 = *strongly agree*); "I think equality is among the most important political issues" (1 = *strongly disagree*; 5 = *strongly agree*). "I think distribution of resources is important" (1 = *strongly disagree*; 5 = *strongly agree*). Low values of the scale indicate negative liberal values. The scale's mean was 12.5 ( $SD = 3.5$ ). Cronbach's alpha was .64 on the three items from the Swedish Liberal Value's scale ( $n = 195$ ). Seven participants did not complete this scale. Skewness was -0.29 ( $SE = 0.17$ ), and kurtosis -0.20 ( $SE 0.35$ ). Because the reliability in terms of internal consistency was poor and the number of items was below the number of eight, the mean inter-item correlations (Briggs & Cheek, 1986) were calculated. The mean inter-item correlation was .38 (values above .20 are considered acceptable). A PCA factor analysis showed only one factor, explaining 58.6% of the variance.

Also, a short five-item version of the Big Five (single item per scale) was used (Denissen, Geenen, Selfhout, & van Aken, 2008; Gosling, Rentfrow, & Swann, 2003). The purpose of this was to enable analysis of possible additional effects of Honesty-Humility on Agreeableness. This short Big Five-version (FIPI) had been validated and used in Sweden before (Juslin, Liljeström, Laukka, Västfjäll, & Lundqvist, 2011).

## Procedure

The students were registered for four different courses in introductory psychology, and were invited to voluntarily participate as part of regular classes and to experience taking a psychometric questionnaire. The data were collected at four different times and places, each time at the beginning of a class. The only information that was given was that they were to be presented with an anonymous personality test, and that they answer as candidly as possible for research-purposes. Full anonymity was guaranteed in line with ethical concerns related to the sensitivity of answering Honesty-Humility items. Afterwards, the participants were debriefed; the trait of Honesty-Humility and its sub-facets were discussed.

## Results

### Descriptive Statistics of the Honesty-Humility Scale

In the present study, the Honesty-Humility-scale ( $n = 188$ ) had a strong Cronbach's alpha of .88. Skewness ( $S$ ) was within the accepted boundaries, with a  $SE$  of 0.18 on all facets, and kurtosis ( $K$ ) had an  $SE$  of 0.36 on all facets. The correlations between the facets and the total Honesty-Humility-trait is found in Table 1. Furthermore, facet-level statistics for the mean values ( $M$ ), standard deviations ( $SD$ ), skewness, kurtosis, as well as values of Cronbach's alpha ( $\alpha$ ), are shown in Table 1.

Table 1

*Descriptive Analysis of Honesty-Humility and its Facet*

	<i>M</i>	<i>SD</i>	$\alpha$	<i>S</i>	<i>K</i>	1	2	3	4
1 Sincerity	35.3	4.9	.67	-.35	.08				
2 Fairness	39.6	5.6	.74	-.31	-.47	.46***			
3 Greed-avoidance	27.0	5.7	.73	.05	-.48	.36***	.30***		
4 Modesty	29.4	6.7	.84	.03	-.43	.26*	.30*	.46***	
5 Honesty-Humility	32.8	4.0	.88	.09	-.55	.66***	.67***	.74***	.75***

Note. See text for the description of variables.

\* $p < .05$ . \*\*\* $p < .001$ .

### Honesty-Humility and Liberal Values

Honesty-Humility was positively correlated with liberal values ( $r = .36$ , 95% CI [.23, .47],  $p < 0.001$ ), confirming the first hypothesis. After correction for attenuation, the value was .48. All facets of Honesty-Humility correlated positively with the Liberal Values Scale, while the “facets” of this scale (feminism, minorities, and resources) showed varying effects in their relationships with Honesty-Humility, as reported in Table 2. ‘Resources’ was the facet of Liberal Values that had the strongest correlations with Honesty-Humility facets, and Fairness was the factor in Honesty-Humility that had the strongest correlations with facets of Liberal Values (see Table 2).

Table 2

*Correlations Between Honesty-Humility and Liberal Values*

	Sincerity	Fairness	Greedy-avoidance	Modesty	Honesty-Humility
Liberal Values	.19*	.34***	.21***	.30***	.36***
Feminism	.10	.23*	.02	.07	.12
Minorities	.17*	.18*	.24***	.19*	.30***
Resources	.20*	.39***	.26***	.44***	.46***

Note. See the text for the description of variables.

\* $p < .05$ . \*\*\* $p < .001$ .

In order to further investigate the effects of the four facets of Honesty-Humility, a multiple linear regression was performed with Liberal Values as the dependent variable. The regression model reported  $F(4,181) = 8.22$ ,  $p < .001$ , adjusted  $R^2 = .14$ . The main predictor of significance on Liberal Values was Fairness ( $\beta = .25$ ,  $p = .002$ ), followed by Modesty ( $\beta = .20$ ,  $p = .01$ ), Greedy-avoidance ( $\beta = .04$ ,  $p = .59$ ) and Sincerity ( $\beta = .03$ ,  $p = .67$ ) had no significant impact.

### The Big Five and Liberal Values

As expected, only Agreeableness in the Big Five had a positive correlation with all facets of Honesty-Humility, as seen in Table 3. Agreeableness had also a positive correlation with Liberal Values. In addition, Conscientiousness showed a positive correlation with two facets of Honesty-Humility (Sincerity and Fairness), as well as with Liberal Values (Table 3).

Table 3

Correlations Between the Big Five, Honesty-Humility, and Liberal Values

	O	C	E	A	N
Sincerity	.04	.16*	-.05	.19*	-.02
Fairness	-.11	.28***	-.12	.29***	.07
Greed-avoidance	-.09	-.04	-.22*	.30*	-.24***
Modesty	-.08	-.02	.03	.17*	-.03
Honesty-Humility	-.06	.09	-.09	.31***	-.11
Liberal Values	.01	.16*	-.02	.23***	.06

Note. See text for the description of variables. O = Openness; C = Conscientiousness; E = Extraversion; A = Agreeableness; N = Neuroticism. \* $p < .05$ . \*\*\* $p < .001$ .

### Does Honesty-Humility Add to Big Five?

A standard hierarchical two-step linear regression with the “Enter” method was performed with the Big Five (step 1) and Honesty-Humility facets (step 2) as independent variables, and Liberal Values as the dependent variable. The independent variables were entered in two “blocks” in the order presented in Table 4. The variables of the first block were facets of the Big Five. The first regression model reported  $F(5,172) = 3.01$ ,  $p = .012$ ,  $R^2_{\text{change}} = .08$ . The only statistically significant predictor of Liberal Values was, as expected, Agreeableness. The variables of the second block were facets of the Honesty-Humility; these were added to the first block. The second regression with both the Big Five and the Honesty-Humility facets reported  $F(9,168) = 5.00$ ,  $p < .001$ ,  $R^2_{\text{change}} = .13$ . The only statistically significant predictors of Liberal Values were Modesty and Fairness, both considerably stronger than Agreeableness. No multicollinearity were found ( $VIF = 1.12 - 1.73$ ,  $Tolerance = 0.58 - 0.98$ ). The second hypothesis that Honesty-Humility and its facets are more important predictors of Liberal Values than Agreeableness was confirmed. See Table 4 for a summary.

Table 4

Summary of a Hierarchical Regression Analysis of the Big Five and Honesty-Humility Facets on Liberal Values

	Block 1			Block 2		
	B	SE	$\beta$	B	SE	$\beta$
<b>Block 1 (Big Five)</b>						
Openness	-.16	.31	-.04	.03	.29	.01
Conscientiousness	.32	.23	.10	.22	.22	.07
Extraversion	.05	.29	.09	.05	.28	.01
Agreeableness	.98**	.32	.23**	.39	.32	.09
Neuroticism	.27	.21	.09	.31	.21	.11
<b>Block 2 (Honesty-Humility)</b>						
Sincerity				.02	.06	.03
Fairness				.14**	.05	.22**
Greed-avoidance				.03	.05	.05
Modesty				.12**	.04	.23**

Note. See text for the description of variables.

\*\* $p < .01$ .

## Sex Differences

No hypothesis was formulated around sex-differences and therefore an exploratory analysis was performed on all ten study variables. Sex did not have a significant effect on liberal values,  $t(190) = 1.57$ ,  $p = .12$ ; however, women scored higher ( $M = 12.8$ ,  $SD = 3.4$ ) than men ( $M = 12.0$ ,  $SD = 3.7$ ). Only statistically significant differences ( $p < .05$ ), corrected with Bonferroni correction for multiple comparisons ( $.05/10 = .005$ ), are reported below. An independent  $t$ -test revealed a significant sex difference in the Greed-avoidance facet,  $t(186) = 4.72$ ; women scored lower ( $M = 25.4$ ,  $SD = 5.4$ ) than men ( $M = 29.3$ ,  $SD = 5.4$ ),  $d = .95$ , 95% CI [0.47, 1.10]. Another way to report this effect is that approximately 80% of the women had a lower Greed-avoidance than the average man in the sample. Women scored higher ( $M = 3.94$ ,  $SD = 1.0$ ) than men ( $M = 3.39$ ;  $SD = 1.2$ ) on Conscientiousness,  $t(191) = 3.42$ ,  $d = .47$ , 95% CI [0.18, 0.77], as well as on Neuroticism ( $M = 3.39$ ,  $SD = 1.2$ ;  $M = 2.73$ ,  $SD = 1.2$ ),  $t(191) = 3.89$ ,  $d = .72$ , 95% CI [0.43, 1.04].

## Discussion

Summarized, the results of this study showed that Honesty-Humility has a positive correlation with liberal values, which is in line with most previous research (Chirumbolo & Leone, 2010; Lee et al., 2010; Paunonen & Ashton, 2001). People who score high on Honesty-Humility generally shun social hierarchies and put others before themselves; the correlations between the facets reflect this relationship.

The results suggest that students that are set on making money and making a life for themselves (expressed in lower Greed-avoidance) also have a lower concern for liberalism (equality). The study also suggests that people with high dispositions towards Fairness and Modesty tend to concern themselves with equality between social classes in particular. The inclination to share resources in a society depends on one's disposition or personality traits. However, the lower correlations found between Honesty-Humility and rights for minorities could be seen as hesitancy to share resources with foreigners. This would be a confirmation of the previous conflicting research findings by Sibley et al. (2010), who discuss the motive behind high RWA to be the protecting of existing social structures. The lowest correlations in our study were found between Honesty-Humility and feminism. This could be due to equality between sexes being interpreted as a non-issue by participants (an issue already solved by society), or that the concept of feminism comes with a slightly antagonistic connotation.

## Personality and Values

Agreeableness (and openness) has in previous research demonstrated to be significant for predicting political values (Ekehammar et al., 2004; Sibley & Duckitt, 2008). This was also confirmed in our study (see Table 3). We have additionally, with the regression analysis, shown that Honesty-Humility is an even more significant predictor of liberal values than the Big Five. There was a positive relationship between Agreeableness, Honesty-Humility and Liberal Values. The results showed that Agreeableness had no longer a significant correlation with Liberal Values when Honesty-Humility was introduced, which suggests a mediation effect. This relationship was not further analyzed using mediation analysis due to a lack of a reasonable solid theoretical ground to expect mediation (Baron & Kenny, 1986); that is, it was hard to argue that Agreeableness *causes* Honesty-Humility. We did not test the mediational model, but the finding has an important theoretical implication suggesting that Honesty-Humility is a very important trait for understanding the link between personality and liberal values.

The traditional view on this relationship is that political values are impacted by personality. This view is partly based on the observation that traits develop early in childhood (Ackerman & Heggestad, 1997; McCrae & Costa,

1997), while political values arise later in adolescence. Convincing longitudinal research has provided evidence that personality in early childhood predicts values later in life (Deary, Whalley, & Starr, 2008). The participants who possessed strong liberal values in this study can therefore be expected to have formed this type of personality earlier in life. However, as argued here, the prevalent Swedish culture might also have had an effect on the Honesty-Humility factor of the participants' personalities, especially on the value-laden facets of Fairness and Greed-avoidance. This young student sample with an average of 25 years has grown up in a cultural environment characterized by individualism and feminism. A prospect for future research would be a cross-cohort study that may reveal how age and generational factors moderate the influences between Honesty-Humility and values.

### Modifying Values by Cultural Environment

Seeing how Honesty-Humility has a considerable overlap with values, it is of importance for society to discuss whether these values can be manipulated. Swedish institutions such as the educational authorities have an expressed interest in socializing students into being tolerant and generous citizens. Eaves et al. (1997) showed in a large twin study that the effect of environment on political values is overwhelmingly greater than the effect of genetics up to the age of twenty, and that genetic factors play a greater role after that, increasing with age. This is in line with one of the main findings within behavioral genetics from the last thirty years, that the impact of a shared environment substantially decreases with increasing age (Plomin, 2013). Agreeableness, which bears a resemblance to Honesty-Humility, also has the weakest genetic base of the Big Five, according to Cleveland, Udry, and Chantala (2001). Values are more likely to be influenced by the cultural environment than by personality, according to Taras, Kirkman, and Steel (2010). Could Honesty-Humility also be influenced by current culture and values?

### Honesty-Humility and Gender Equality

One example of change of values comes from our study and concerns Greed-avoidance and sex. Low Greed-avoidance characterized female students, which can be seen as somewhat surprising. It has been a classic masculine venture to strive for wealth and power, and men do generally score higher on assertiveness and traits related to ambitions in the Big Five (Schmitt, Realo, Voracek, & Allik, 2008). It might be that the current culture, especially in Sweden (Sibley & Duckitt, 2008), encourages women to look after their own interests. The socialization of equality between genders (the social construction of gender roles) is given great attention in Swedish schools and in society at large, and Sweden ranks highest in the world in feminist values (Hofstede, 2001). This could very well have had an effect on scores of Greed-avoidance in Swedish female students. Another explanation of the lower Greed-avoidance is that women might always have had a strong disposition for money and power, but the Big Five does not capture sex difference in this area (Schmitt et al., 2008). There was no significant difference between the genders with respect to liberal values, which conflicts with previous research (Heaven & Bucci, 2001). This could also be an effect of the modern culture of equality (Hofstede, 2001). Young women of today might not concern themselves with the welfare of others the way they used to.

### Concluding Thoughts on Honesty-Humility

The results of this study suggest that Honesty-Humility is one of the key traits to understanding how individuals feel about their own rights in a competitive and progressive society. Concerning itself with other people's welfare is one of the characteristics of cultural equality. Honesty-Humility has demonstrated to be positively related with job performance in professions that deal with people (Johnson, Rowatt, & Petrini, 2011), and could therefore be a desirable trait to cultivate among students in school. On the other hand, research suggests creativity is negatively

correlated with Honesty-Humility (Silvia, Kaufman, Reiter-Palmon, & Wigert, 2011). It is believed that this relationship is a consequence of non-conformity, which is one of the important characteristics of an individualistic culture. The question is which of these cultural expressions we should cherish the most, equality or individualism? We argue that understanding Honesty-Humility is one of the best ways of capturing individuals' personality-based values concerning self and others.

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The authors have declared that no competing interests exist.

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## Appendix: The Swedish Liberal Values Scale

1. I want to support the cause of feminism (1 = *strongly disagree*; 5 = *strongly agree*)
2. I think equality is among the most important political issues (1 = *strongly disagree*; 5 = *strongly agree*).
3. I think distribution of resources is important (1 = *strongly disagree*; 5 = *strongly agree*).

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