



## Honesty-Humility predicting self-estimated academic performance

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*Previous research has established relationships between the Big Five personality factors, cognitive ability, and academic performance. A more recent personality trait, Honesty-Humility with its four facets (Sincerity, Fairness, Greed-avoidance and Modesty) is suggested to have predictive value especially in self-promoting behaviors. The aim of the present study was to find out whether lower Honesty-Humility would predict higher self-reported academic performance, and account for additional variance, after controlling for the Big Five and cognitive ability. The participants were Swedish 17-19 year-old students ( $N = 154$ ) in late secondary high school. The results revealed a significant negative correlation between Honesty-Humility and self-estimated academic performance, mainly through low scores in the facets Sincerity and Modesty, as well as an additional 7% accounted for variance. The discussion concludes that the new trait Honesty-Humility may be a welcomed addition to the understanding of how students use self-promoting strategies in contemporary school.*

**Keywords:** Honesty-Humility; cognitive ability; academic performance

This paper explores individual personality differences in self-promotion strategies in secondary school students, with help of the personality trait factor, Honesty-Humility. The modern competitive market with its enticing advertisements about the luxuries life has to offer has put increasing pressure on young people to succeed, especially in school (Twenge, Konrath, Foster, Keith Campbell, & Bushman, 2008). Portraying confidence in one's abilities for academic achievements has presumably never been more important than today (Stankov, Morony, & Lee, 2014). The way towards life success is by society at large considered to be academic performance, providing opportunities for further prestigious education and high salaries. The present study took place in a Swedish school context, which is regarded as one of the most individualistic ones (Hofstede, 2001; Inglehart & Welzel, 2011), and may therefore be of particular interest for other countries and school systems.

Research provides evidence of relationships between individual differences and academic performance, as measured by personality traits (e.g., Ackerman, Chamorro-Premuzic, & Furnham, 2011). Overall meta-analyses show consistent predictive validities with self-reported Big Five factors (Openness to Experience, Conscientiousness, Extraversion, Agreeableness, & Neuroticism) and academic performance (Poropat, 2009; 2013), as well as with a host of other life outcomes (Roberts, Kuncel, Shiner, Caspi, & Goldberg, 2007). Additionally, a large body of evidence report that ability-based intelligence tests are the most effective predictors of academic achievements, particularly in first and secondary schools (up to  $r = .80$ ) (Deary,

Strand, Smith, & Fernandes, 2007; Deary, Whalley, & Starr, 2008; Furnham, Monsen, & Ahmetoglu, 2009). Hattie's (2009) notably large meta-analysis, compiling over 50,000 studies, estimated the proportion of academic performance due to students' personality and cognitive ability to be approximately 50%, with prior cognitive ability having a very large effect ( $d = 1.04$ ).

The personality trait model that has gained the most interest in the last decade of empirical educational psychology is the Big Five model or the Five-Factor Model (Goldberg, 1981; McCrae & Costa, 1997). Openness to Experience (curiosity for intellectual enterprise) is the trait factor out of the five that has demonstrated predictive value on academic interest (Poropat, 2009; 2013). Openness to Experience (henceforth called: Openness) overlaps with cognitive ability (e.g. Ackerman & Heggstad, 1997; Moutafi, Furnham, & Paltiel, 2005), but both contribute separately to academic achievement. Furthermore, the second trait factor Conscientiousness is the most strongly correlated with success in school (MacCann, Duckworth, & Roberts, 2009; Marcus, Lee, & Ashton, 2007). Conscientiousness is also shown to play a more important part the higher the level of education (Kappe & van der Flier, 2012). De Feyter, Caers, Vigna, and Berings (2012) argued that Conscientiousness influences academic performance through the motivational sub-facet of Self-efficacy, which could be translated into the student's estimation of his or her ability. The other factors, Neuroticism, Agreeableness, and Extraversion, usually show the lowest predictive validity. These results on personality and academic performance also hold true in the Swedish setting (Rosander, Bäckström, & Stenberg, 2011).

An additional personality trait factor has been suggested with the HEXACO model: Honesty-Humility (Ashton & Lee, 2005; de Vries, 2013; Lee & Ashton, 2004). Corre-

lations between HEXACO's Honesty-Humility and the Big Five Agreeableness are demonstrated to be robust (Ashton & Lee, 2005). At first glance, Honesty-Humility looks similar to the Agreeableness factor of the Big Five, but Ashton and Lee (2005) argue that low levels of Agreeableness do not capture the tendency to *actively* exploit others (low on Sincerity and Fairness facets), nor the ambitious disposition towards *prioritizing* comfort and gains (low on Modesty and Greed-avoidance facets). Given the increase in self-centeredness with recent cohorts, characterized by an inflated sense of self-importance (Twenge et al., 2008), it may be that new trait-constructs are needed to capture strategies for self-promotion.

Honesty-Humility is divided into four facets (Lee & Ashton, 2004): Sincerity (the tendency to be truthful and non-manipulative), Fairness (the tendency to follow principles of fairness and integrity), Greed-avoidance (low focus on luxuries and the comforts of life), and Modesty (low sentiments of entitlement and superiority). Honesty-Humility generally correlates strongest with behaviors that involve deceit, are individualistic, and oriented towards material gains (Ashton & Lee, 2005; Lee, Ashton, & de Vries, 2005).

Humility is appreciated by both teachers and students (Verkasalo, Tuomivaara, & Lindeman, 1996). De Vries, De Vries, and Born (2011) demonstrated the usefulness of the facets of Honesty-Humility coupled with facets of Conscientiousness when predicting grade-point average (GPA). Another study reported a significant relationship between low Honesty-Humility and high creativity (Silvia, Kaufman, Reiter-Palmon, & Wigert, 2011), which is of interest, since traditionally school environments have rewarded diligence over creativity (Furnham, Chamorro-Premuzic, & McDougall, 2003). However, with the reforms in the Swedish school system in the last two decades, there has been a shift toward a more progressive and person-centered pedagogy, which among other things has promoted more creativity in learning. To be ambitious, creative, and even self-promoting, might be what is needed to get ahead in school today. Low scorers in Honesty-Humility tend to be particularly ambitious and elevate the importance of self (Lee, Ashton, Ogunfowora, Bourdage, & Shin, 2010).

### The present study

The present study investigates whether scoring low on Honesty-Humility translates into higher self-reporting on academic performance. The four facets of Honesty-Humility (Sincerity, Fairness, Greed-avoidance, and Modesty) are suggested to offer more detailed insight for how personality is linked with self-estimated performance. The Big Five will be controlled for, seeing the known overlap between Agreeableness and Honesty-Humility. Furthermore, cognitive ability will provide an attempt to measure and control for actual ability (in comparison with self-estimated ability), based on very high correlations between cognitive ability and academic performance (up to  $r = .80$ ; Hunt, 2011). The main hypothesis in the present study is that low Honesty-Humility is associated with higher self-estimated academic performance, and that Honesty-

Humility adds predictive validity beyond what the Big Five and cognitive ability have to offer.

## METHOD

### Participants and procedure

The participants aged 17-19 years old ( $N = 154$ ) had just finished or were about to finish their secondary high school education. This age-group was appropriate due to this being the time in life when traits start showing stability (Briley & Tucker-Drob, 2014), and when society's normative influences may be at their strongest (Eaves et al., 1997). The sample size of 154 is in the proximity of the point of stability ( $N = 161$ ), after which effect size is demonstrated to only show tolerable fluctuations around the true value (Schönbrodt & Perugini, 2013).

The school in question was an average-sized secondary school in the south of Sweden, with students primarily from the local area. Formal consent was granted by the principal and the teacher responsible was present during all data gathering. The students of five different psychology classes of similar size (approximately 30 students each) were part of the study. The school used compulsory attendance; participation in the study was however voluntary but no students opted to leave. Thirty minutes were set apart for filling out the paper questionnaires, including personality inventories, in the native Swedish language, which proved to be plenty of time for all students. The participants were aware that all information collected was to be used for research purposes, and that full anonymity was in place. On the second occasion, which took place one week later (for the purpose of not influencing the responses on self-reported personality traits), the cognitive ability test was done in a time-span of twenty minutes. The results of both the personality inventory and the cognitive ability test were revealed to the students a month later. The sample consisted of 34% men, and 66% women. The large difference was presumably due to more women opting for psychology classes. Other demographic data were not collected.

### Measurements

#### *Honesty-Humility*

A full 40-item version of the Honesty-Humility factor (derived from HEXACO-PI, Ashton & Lee, 2005) was used. This was a Swedish version, professionally translated and back translated, and previously used in research (Kajonius, 2014). Respondents filled out the items on a 5-point scale (1 = strongly disagree; 5 = strongly agree). Examples of items from each facet in HEXACO-PI were: I pretend to be more than I am (reversed Sincerity), I don't take things that are not mine (Fairness), I love luxury (reversed Greed-avoidance), I don't think I am better than other people (Modesty). Descriptive statistics are reported in Table 1.

#### *Self-estimated academic performance*

The dependent variable consisted of the self-estimated average of all course grades from the previous year on a seven-grade scale (from the lowest of 1 to the highest of 7).

Table 1. Descriptive statistics and correlations of study variables

	<i>M</i>	<i>SD</i>	$\alpha$	<i>Skewness</i>	<i>Kurtosis</i>	1	2	3	4	5	6
1 Sincerity	34.8	5.0	.68	-.39	.18						
2 Fairness	39.2	5.5	.75	-.29	-.44	.45**					
3 Greed-avoidance	26.2	5.5	.73	.08	-.53	.35**	.20**				
4 Modesty	29.0	6.5	.84	.05	-.48	.27**	.27**	.41**			
5 Honesty-Humility	32.3	3.8	.89	.14	-.48	.67**	.65**	.70**	.74**		
6 Self-estimated academic performance	4.6	1.4	-	-.05	-.74	-.24**	-.04	-.10	-.20*	-.20*	
7 Cognitive ability	16.5	4.2	.70	.03	-.46	-.09	-.14	-.01	-.23**	-.19*	.36**

Notes: See text for the description of variables. \* $p < .05$ , \*\* $p < .01$  (two-tailed).

Because the school system used two grading systems in parallel, a seven-point Likert scale was used to create a comparable frame of reference. In the school system, one cohort still used the old grading system (1-4) and others the new grading system (A-F), which was further confounded by the students having attended different number of courses in the past year.

### Cognitive ability

This test was a thirty-item cognitive ability test, with a sample of classical IQ-problems, measuring the abilities of spatial, verbal, pattern, logic, and numerical skills (Kajonius, 2014). This test was previously validated with the intelligence test ICAR-16 (Condon & Revelle, 2014; normed on 97,000 participants), showing a convergent correlation of  $r = .61$ . A standardized time limit of twenty minutes was implemented.

### Big Five

The BFI-44 (John, Naumann, & Soto, 2008) in a Swedish version was collected. Research on Swedish students had used this instrument successfully before with intact psychometric properties (Ekehammar, Akrami, Gylje, & Zakrisson, 2004). This scale ranged from 1, "not very much" to 5, "very much".

## RESULTS

Table 1 summarizes the descriptive statistics of the Honesty-Humility trait. The correlations between the four facets of Honesty-Humility were sufficiently high to establish convergence in a top factor-construct, while being small enough to allow for a four-component structure. A Principal Component Analysis (PCA), with oblimin rotation, confirmed the four-factor structure, showing a clean inflexion-point after the fourth factor in the scree-plot, and all items loaded on the expected factor and together they explained 43% of the variance.

### Honesty-Humility and self-estimated academic performance

A correlational analysis showed that Honesty-Humility was correlated with self-estimated academic performance as well as with cognitive ability (Table 1). Self-reported academic performance had a significant negative correlation with Sincerity and Modesty, while Fairness and

Greed-avoidance showed no relationships. Cognitive ability, as an approach to objective performance, demonstrated a negative correlation with the Modesty facet. The initial confirmation of the study hypothesis was that Honesty-Humility correlated negatively with self-estimated academic performance.

To further answer the research question on how Honesty-Humility contributes to self-estimated academic performance through its facets, a three-step linear hierarchical multiple regression model was performed – in the first step, controlling for objective performance in the form of cognitive ability, in the second step for the Big Five personality factors, and in the third and last step the four facets of Honesty-Humility were entered as the independent variables. With the present sample, 10 independent variables in total yielded a ratio of 15 data-points per variable, which is considered sufficient (Tabachnick & Fidell, 2012). Levene's test of equality of variances was non-significant; no multi-collinearity was found. The results, reported in Table 2, indicated that cognitive ability was a strong predictor of self-estimated academic performance,  $F(1, 113) = 17.9$ ,  $p < .001$ , in the first step. Adding the Big Five to cognitive ability gave an additional 7 % accounted

Table 2. Summary of hierarchical regression analysis of study variables

	<i>B</i>	<i>SE</i>	$\beta$
Step 1 ( $R^2_{\text{change}} = .13$ )			
Cognitive ability	.13**	.03	.37**
Step 2 ( $R^2_{\text{change}} = .07$ )			
Cognitive ability	.13**	.03	.36**
Openness	-.13	.15	-.08
Conscientiousness	-.08	.11	-.07
Extraversion	-.29*	.14	-.20*
Agreeableness	-.11	.16	-.06
Neuroticism	.06	.11	.05
Step 3 ( $R^2_{\text{change}} = .07$ )			
Cognitive ability	.12**	.03	.33**
Openness	-.06	.15	-.03
Conscientiousness	-.10	.11	-.08
Extraversion	-.29*	.14	-.20*
Agreeableness	-.02	.16	-.01
Neuroticism	-.00	.12	-.00
Sincerity	-.08*	.03	-.25*
Fairness	.02	.27	.08
Greed-avoidance	-.01	.03	-.03
Modesty	-.02	.02	-.09

Notes: See text for the description of variables. \* $p < .05$ , \*\* $p < .01$  (two-tailed)

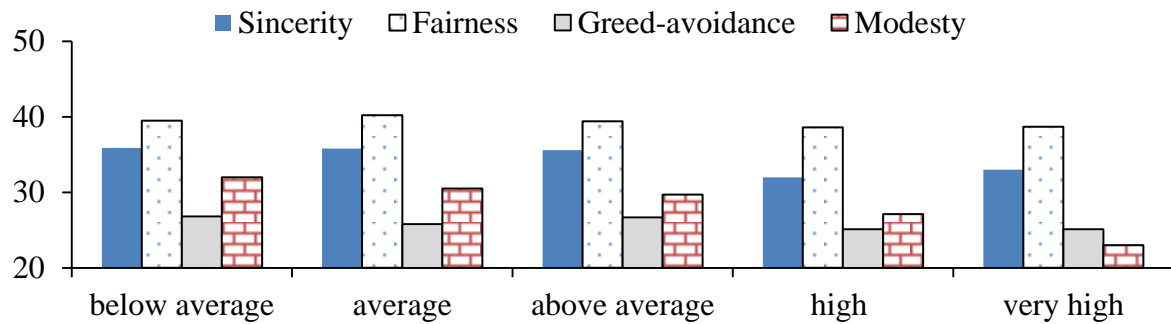


Figure 1. The relationship between five levels of increasing self-reported academic performance (X-axis), and the corresponding decreasing means of the four Honesty-Humility facets (Y-axis).

for variance,  $F(6, 108) = 4.58, p < .001$ . In the last and third step, the Honesty-Humility facets accounted for another 7 % variance,  $F(10, 104) = 3.81, p < .001$ , making the total amount of accounted for variance 27% (95% CI [.15, .37]). The main predictor out of the four Honesty-Humility facets, after controlling for cognitive ability and the Big Five, was Sincerity. In conclusion, the sixth personality trait factor Honesty-Humility helped predicting self-reported academic performance beyond cognitive ability and the Big Five, thus confirming the study hypothesis.

The main finding of the present study is also visualized in Figure 1. Grouping the sample into five various levels of self-estimated academic performance (along the x-axis) portrayed how the facets of Honesty-Humility decreased accordingly (along the y-axis). Modesty demonstrated the most consistent relationship with self-estimated academic performance. The graph further illustrates that Fairness was the facet that the respondents ranked themselves highest in, while Greed-avoidance was the lowest. The main finding in the current study was that when a student scored lower in Honesty-Humility, self-reported academic performance was higher.

## DISCUSSION

The results showed that students with lower Honesty-Humility scores, scored higher on self-reported academic performance. There are two competing interpretations to this finding. The first is that low scorers on Honesty-Humility-students (low Sincerity, low Modesty) have consciously or subconsciously exaggerated their self-estimated reports concerning academic grades. This seems especially obvious since the facet Sincerity accounted for the impact on academic results in the regression model, when controlling for objective ability in the form of cognitive ability, and the other personality factors. The other interpretation is that low scorers on Honesty-Humility actually have higher academic performance and feel somewhat entitled to advantages in life as well as feeling self-confident. This is especially highlighted by the fact that there is a negative relationship between the facet Modesty and cognitive ability. However, only Sincerity is a predictor after controlling for the other variables, which indicates that the first interpretation of self-enhancing estimations of academic performance is the more appropriate one in this case. In other words, with more room for subjective self-evaluation,

Honesty-Humility works through Sincerity, and the more objective performance (cf. cognitive ability) is measured, Honesty-Humility works through Modesty.

What may be the direction of this relationship between Honesty-Humility and self-estimated academic performance? Likely, the finding is explained by an interactive relationship among the facets of Honesty-Humility. It is possible that low Sincerity and Greed-avoidance increase self-promoting behaviors such as estimating higher academic performance, which in turn could affect a decrease in Modesty. Ahmad (2010) demonstrated that people with high cognitive ability thrive best when their ambitions can make impact and can be seen, which was the case in the self-reports in the present study. Furthermore, ambitious and highly cognitive people may have a sense of self-efficacy and mastery, and do not mind using these advantages to get ahead, which could convert into success in present-day schools. Many of today's contemporary school students have likely learned to cultivate a self-image that is ambitious, smart, creative, and self-serving (Huang, 2011), which could yield further advantages (Hendriks, Kuyper, Lubbers, & Van der Werf, 2011; Silvia et al., 2011). The student who does not feel confined to following normative values and is less empathic towards others, may have an upper hand in today's society (cf. Persson & Kajonius, 2016; Kajonius, Persson, & Jonason, 2015).

The use of the Honesty-Humility-trait factor may be a way forward to increase understanding of and capture the meaning of contemporary students' ambitions and focus (cf. Twenge et al., 2008). The results presented here suggest that the construct of Honesty-Humility can be useful to understand the mindset of present-day students. Depending on what educational authorities, organizations, employers, or teachers want to achieve, individual differences in self-ambitions should be taken into account when estimating performance and when attempting to influence students' personalities. Honesty-Humility might for some feel like the new unfamiliar kid in class, but is very likely here to stay.

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