Chapter

SELF-ASSESSED INTELLIGENCE, PSYCHOMETRIC INTELLIGENCE, PERSONALITY, AND ACADEMIC ACHIEVEMENT: TWO STRUCTURAL MODELS

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ABSTRACT

The study investigated the relationships among self-assessed intelligence (SAI), test-estimated (psychometric) intelligence, personality, and academic achievement. Structural equation modeling was used to test two models. We found that SAI can be represented in a higher-order trait complex that was positively related to both intelligence and acceptance of uncertainty. Moreover, SAI predicted academic achievement in a sample of Russian undergraduate students, suggesting that self-evaluations of intellectual competence and cognitive ability play a role in learning. No gender differences were found for either intelligence or SAI. The chapter concludes with a brief discussion of the implications and further directions of research with respect to these new findings.

Keywords: intelligence, self-assessed intelligence, self-estimated intelligence, cognitive ability, tolerance for uncertainty, gender.

INTRODUCTION

The concept of self-assessed intelligence (SAI) first appeared at the intersection of three major fields of research: broadly understood studies of self-evaluations and self-esteem in the field of personality, studies of lay (or implicit) theories of intelligence, and studies of intelligence as a general cognitive ability. The integration of these lines of research reflects the integrative character of the SAI concept itself: to be able to *estimate* one's own or

someone else's *intelligence* one should define *what intelligence is* and what *forms of behavior* are considered to be intelligent.

Individual differences in intelligence have become a prominent topic in the popular science literature and media: self-administered "fast and accurate" tests and software are readily available in book stores and on the Internet along with specialized popular science blogs dedicated to the studies of human abilities (e.g., http://www.iqscorner.com). Such popularity of the construct indicates both the stability in interest in the topic and, potentially, a relatively high degree of general public's interest in what intelligence is and how it is manifested in behavior.

According to Sternberg (1990), while explicit theories of intelligence represent scientific knowledge as components of scientific theories developed within certain schools of thought, they are in part guided by so-called implicit theories of intelligence held by laypeople and researchers themselves. Sternberg and his colleagues' (1981) seminal study revealed a multifaceted structure of implicit theories of intelligence with important roles ascribed to such components as verbal intelligence, problem-solving ability, and practical intelligence. The study's major contribution to the field of intelligence was the realization of the multifaceted nature of human abilities traditionally studied in the context of analytical abilities or general intelligence (*g)*. Whether people really evaluate themselves on the basis of the abovementioned criteria and whether these evaluations are accurate became pivotal questions of modern research on SAI.

IS SELF-ASSESSED INTELLIGENCE A MEASURE OF COGNITIVE ABILITY, A PERSONALITY TRAIT, OR BOTH?

So what do people mean when they say "I am intelligent", does this evaluation reflect the actual levels of their cognitive competence and achievement, does it matter for their success, and is it prone to bias? The cognitive nature of SAI is underlined in the conceptualization of it as people's insight into the concept of intelligence and their own (and others') level of intelligence, i.e., an ability to perform intellectually demanding tasks (Chamorro-Premuzic & Furnham, 2006*a*, 2006*b*).

Previous studies found that SAI is positively related to intelligence, that is, more intelligent (in a psychometric sense) people tend to provide higher estimates of their own intelligence: Furnham (2001) pointed out that on average SAI and intelligence correlate at around $r = .30$ (i.e., 10% of shared variance), an estimate corroborated by a recent meta-analysis (Freund & Kasten, 2012). It is important to note that this estimate differs with respect to different measures and types of intelligence. In a recent study by Furnham and his colleagues (2005) that was based on distinguishing between fluid and crystallized intelligence, the participants estimated their intellectual ability on the standard IQ scale using the normal distribution curve with a mean of 100 and a standard deviation of 15. The study found larger correlations of SAI with crystallized intelligence than with fluid intelligence. Prompted in part by the claims that SAI can be used a proxy for IQ, this and other studies (e.g., Paulhus, Lysy, & Yik, 1998; Kornilova, Kornilov, & Chumakova, 2009) found that although intellectual ability is one of the major predictors of SAI, the mapping between the two is far from being perfect. Holling and Preckel (2005) conclude their review of the studies

of the relationship between SAI and intelligence by stating that "most studies find weak to moderate correlations between self-estimated and tested intelligence…. The size of these correlations does not seem to justify the use of self-estimates as a replacement for intelligence tests in vocational counseling" (p. 504). It seems reasonable, therefore, to assume that additional predictors of SAI should exist.

One of the productive avenues of research on predictors of SAI is studying the relationships between SAI and personality traits, most frequently the Big Five. Studies within this approach found that (1) SAI is positively related to Extraversion and Openness, and (2) negatively related to Neuroticism (Ackerman & Heggestad, 1997; Furnham & Thomas, 2004). Thus, SAI seems to be tapping into more than just "pure" intelligence and as such is better conceptualized as multidimensional construct that bridges the traditional distinction between personality and intelligence. It has also been hypothesized that the abovementioned correlations with personality traits might be mediated by gender.

Women tend to display lower SAI scores than men (Furnham, 2001; Furnham et al., 2005; Holling & Preckel, 2005). Adult men's estimates of their intelligence are average 4 to 5 IQ points higher than those of women (Furnham, 2001). Most authors do not take a clear stand on the causes of this moderate difference between men's and women's SAI. While some of them insisted that there are no significant gender differences in measured intelligence and the main driving force behind the gender differences in SAI is social-cultural stereotypes, others pointed out the possible correspondence between gender differences in intelligence and SAI (Furnham & Rawles, 1995*a*, 1995*b*). As such, gender differences in SAI can be driven by the slight advantage of males found for both general intelligence (Deary et al., 2007) and specific mathematical ability (Brunner, Krauss, & Kunter, 2008).

Interestingly, gender bias seems to be present in not only self-estimated but in estimates of other people's intelligence as well as parents' estimates of their own children's intelligence. The main findings from the studies of parental estimates of children's intelligence resemble those observed in the studies of gender differences of SAI: i.e., girls are estimated to have slightly lower intelligence than boys. The effect might be mediated by SAI of parents themselves as demonstrated in a recent study by Kirckaldy, Noack, Furnham, and Siefen (2007).

SELF-ASSESSED INTELLIGENCE AND ACADEMIC ACHIEVEMENT

Unlike domain-specific self-concept, SAI has been relatively rarely explored in the context of its predictive validity with respect to academic achievement. The rationale behind such studies lies in the assumption that, in addition to being a somewhat accurate measure of intelligence (which is a key predictor of academic achievement), SAI as a cognitive self-theory can positively affect performance (Chamorro-Premuzic & Furnham, 2006b) through self-fulfilling prophecy effects. This line of reasoning corresponds to the main findings from research on general self-efficacy (Bandura, 1997). In a two-year longitudinal study, Furnham and Chamorro-Premuzic (2006*b*) demonstrated that despite the fact that the main predictor of academic performance was indeed measured intelligence, SAI accounted for a percentage of the variance in academic achievement as well.

The results of one of our recent studies corroborate the findings (Kornilova, Kornilov, Chumakova, 2009): using a sample of 300 Russian undergraduates from a selective college we found that the latent variable of academic self-concept that included SAI and the latent variable of intelligence together explained 75% of the variance in the latent variable of academic achievement. Moreover, a recent meta-analysis of nine studies which focused on the relationship between SAI and academic achievement has indicated a positive significant correlation between them (r = .28, 95% CI ranged from .21 to .34) and pointed to the significant heterogeneity in the effect sizes and to the theoretical gaps in the literature related to the underdevelopment of the conceptual links between SAI and achievement beyond the effects mentioned above (Kornilov, 2011).

Other studies that also adopted a modeling approach produced interesting yet complicated patterns of results. Chamorro-Premuzic and Arteche (2008) measured academic performance, SAI, intelligence (crystallized and fluid), and personality traits of Conscientiousness, Neuroticism, and Openness. In their study SAI acted as a mediating variable between measured intelligence and academic performance (being positively linked to both). The established relationship between SAI and gender and the negative correlation between SAI and Neuroticism generally supported the results of the previous studies: being directly dependent on intelligence, as well as on gender and Neuroticism, SAI predicted academic performance.

We argue that research on SAI and academic achievement could benefit from the broadening of the notion of SAI and the inclusion of relevant constructs in conceptual and empirical models of the relationship between SAI and academic achievement. Thus, SAI should be viewed as a part of a broader psychological concept of self-consciousness that includes different dimensions and is intricately related to intelligence, personality traits, and achievement. Previous research has largely ignored personality traits outside of the Big Five taxonomy – we believe that this is unjustified oversimplification and instead suggest that tolerance for uncertainty should play a major role in SAI since subjective evaluations of intelligence are largely given in the absence of explicit and/or specific criteria for such evaluations. In addition, following Furnham, Moutafi, and Chamorro-Premuzic (2005) we suggest that the field would greatly benefit from considering overarching latent variables instead of focusing on observed indicators. Therefore, SAI can be represented on two different levels: that of an observed variable – as a score that a person believes describes their cognitive ability, and that of a latent variable which includes several different dimensions: e.g., SAI, self-efficacy, and academic self-concept.

CURRENT STUDY

The study reported in this chapter largely draws on the idea of the unity of intelligence and affect (Vygotsky, 1962/1934) and the Dynamic Regulative Systems (DRS) theory (Kornilova, 2007). The DRS theory posits that the hierarchy of the processes involved in the regulation of a particular activity is open and thus it is not entirely possible to predict the leading process involved in problem solving or decision making. This suggests that the problem of the "key factors" or "main predictors" is ill-posed in the context of finding the leading ability, trait or process at a particular time point. In learning, various sets of variables

form DRSs that can be viewed as units of regulation of academic performance, and "snapshots" of these DRSs can be found in the aggregate analyses and structural models (in particular, SEMs).

Academic setting implies a great degree of uncertainty where the learner is required to exhibit intelligent behavior, and it also requires the active use of self-evaluations. Thus, SAI should not be viewed as a stand-alone construct but instead should be studied in the broader context of self-consciousness, a cornerstone of human consciousness. The discussion of the relationship between the constructs of consciousness and self-consciousness is beyond scope of this chapter. We would, however, like to refer to the classic distinction put forward by Mead (1934) and Duval and Wicklund (1972): they distinguished between directing attention towards the environment (consciousness) and towards the self (self-consciousness). As such, self-consciousness refers to the human capacity of becoming the object of one's own attention. Self-consciousness is closely related to self-concept (Burns, 1982) with the latter including a multitude of components, among them cognitive, evaluative, and behavioral components. The distinction between cognitive and affective components of self-concept has been in the focus of theoretical and empirical research in different schools of thought (Chesnokova, 1977; Stolin, 1983; see also Kornilova, Kornilov, & Chumakova, 2009). Self-esteem is traditionally viewed as engaging the evaluative (affective) components of self-consciousness to a larger extent than the cognitive components. Not surprisingly, self-esteem is related to a host of personality traits (or even considered to be one itself): as noted above, most of the studies adopt the Big Five taxonomy for exploring these relationships.

We believe that SAI should be viewed as an integrative construct that uniquely combines cognitive and affective components: although cognitive and personality traits are typically not related (which is manifested in non-significant and small zero-order correlations between them), SAI is related to both, and the correlations of SAI with personality and cognitive traits are more frequent and larger in magnitude than correlations betwen cognitive and personality traits. Thus, SAI should be viewed as a mediating variable between the domains of cognition and personality ("affect" and "intelligence").

Moreover, we argue that the nomological network of SAI's connections to other traits should be expanded. In particular, we view acceptance of uncertainty as a frequently overlooked trait that is crucial for SAI. Recent studies showed that acceptance of uncertainty (and tolerance for uncertainty) is related to adaptive coping strategies, intuitive styles, emotional intelligence, and academic performance (Kornilova, Chumakova, Kornilov, & Novikova, 2010).

The main goal of this study was to investigate the relationships between four higher-order constructs – intelligence, SAI, acceptance of uncertainty, and academic achievement by fitting a set of structural equation models (SEM) with three multifaceted latent variables (see below). The measurement and the structural models were investigated simultaneously drawing on the strength of SEM as a method of analysis that provides the means for visualizing and testing complex hypotheses regarding the relationships among unobserved latent and observed measured variables (Bollen, 1989). Among the advantages of SEM is flexible handling of missing and multivariate nonnormal data. We emphasize that SEM should not be viewed as a purely mathematical method since it has a serious impact on the development of a theory through the sequential model construction, fitting, testing, and modification. We also sought to establish the relationship between SAI and gender.

In the current study, we tested the following hypotheses:

H_1: SAI can be represented by a higher-order latent variable which includes several inter-related measures, namely, self-efficacy, SAI, and academic self-concept.

H_2: The latent variable of SAI is positively related to the latent variable of acceptance of uncertainty and positively related to the latent variable of intelligence.

H_3: Intelligence and SAI are positively related to academic achievement and explain a significant proportion of variance in achievement scores.

H_4: Men display higher SAI than women and this gender difference persists despite the absence of gender differences in measured intelligence.

Participants

Six hundred undergraduate students (80% female, the mean age was 19.30, *SD* = 1.40) from Moscow State University participated in this study in return for course credit. All of the participants were White and reported "Russian" as their nationality or refused to report their nationality.

Measures

Self-Assessed Intelligence, Academic Self-Concept, and Self-Efficacy

A direct measure of SAI was administered to the participants following Chamorro-Premuzic & Furnham's (2006*b*) procedure. The participants were asked to provide an estimate of their intelligence in IQ scores: the normal distribution curve of IQ scores was presented to the participants (*M* = 100, *SD* = 15) along with the cut-offs for various levels of intellectual functioning.

Academic self-concept was measured with Smirnov's (2005) questionnaire which is a Russian adaptation of Dweck's (1999) mindset and goal orientations measures. Kornilova et al. (2008) modified the questionnaire by adding the fourth scale that represents academic self-concept as the efficiency of academic performance and the amount of effort exerted in learning (internal consistency α = .72).

Self-efficacy was measured with the General Self-Efficacy Scale, which measures the degree of confidence in being able to reach certain goals and the sufficiency of efforts put forward in reaching them (Schwarzer & Jerusalem, 1995; α = .78).

Acceptance of Uncertainty

The latent variable of acceptance of uncertainty included three measured indicator variables. Risk readiness is a personality trait that reflects the self-regulation of decision making in situations characterized by uncertainty and lack of information, and was measured using a similarly named scale from the Personal Factors of Decision Making questionnaire (LFR-21; Kornilova, 2003; α = .65).

Tolerance for uncertainty was measured - as readiness to make decisions and act in uncertain situations and openness to new ideas, changing stimuli, and willingness to change thinking strategies - with the New Questionnaire of Tolerance for Uncertainty (NQTU or

NTN; Kornilova, 2009). NQTU is a Russian questionnaire that combined four different measures of tolerance for uncertainty (see Furnham, 1994) with tolerance for uncertainty being one of the three resulting factors (see Kornilova, 2009; $\alpha = .70$).

Finally, faith in intuition was measured using the the Rational-Experiential Inventory (REI; Epstein, Pacini, Denes-Raj, & Heier, 1996) previously validated in a Russian sample (Stepanosova, Kornilova, & Grigorenko, 2004; $\alpha = .82$).

Intelligence

Crystallized verbal and fluid intelligence were measured with the ROADS battery, which was designed to assess analytical, creative, and practical intelligence (Kornilov & Grigorenko, 2010). The analytical part of the composite test battery consists of the CFIT Scale 3 subtests and two verbal scales: the Russian version of the Mill-Hill Vocabulary Scale and the verbal analogies scale (α's ranged from .45 to .89).

General intelligence was measured with Wonderlic's Cognitive Ability Test (CAT; formerly known as the Personnel Test; for a Russian adaptation, see Buzin, 1992).

Academic Achievement

We used four measures of academic achievement. Grade point average (GPA) was collected for all students through their official records, and the psychology majors were also administered three domain-specific academic achievement tasks that tapped into knowledge of principles of research in psychology (see Kornilova, Kornilov, & Chumakova, 2010, for a discussion of the item properties, construct validity and achievement profiles).

Procedure

Cognitive ability measures were administered in groups, while questionnaires were administered individually.

RESULTS

Table 1 shows bivariate intercorrelations between study measures. SAI was positively related to the risk readiness ($r = .11$, $p < .05$) and tolerance for uncertainty ($r = .17$, $p < .05$) . SAI was also positively related to other self-assessments of cognitive and academic potential, i.e., to the academic self-concept ($r = .17$, $p < .05$) and self-efficacy ($r = .29$, $p < .01$), suggesting that these three measures might represent a common latent variable.

Overall, our intelligence measures were not related to personality measures aimed at assessing the acceptance of uncertainty but were related to both SAI and all four achievement variables. SAI moderately correlated with general intelligence ($r = .25$, $p < .01$), GPA ($r = .16$, $p < .01$), and Achievement 3 ($r = .13$, $p < .05$). Measures of general, fluid and verbal intelligence were predictably positively interrelated with the highest correlation being that between CAT and fluid intelligence ($r = .66$, $p < .01$).

Table 1. Intercorrelations between study measures

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Risk readiness												
2. Tolerance for uncertainty	.33**											
3. Faith in intuition	.19**	.20**										
4. Academic self-concept	.11	.06	.05									
5. Self-efficacy	.36**	.25**	.33**	.10								
6. SAI	.11*	.17**	.10	.17*	.29**							
7. Fluid intelligence	-.12	-.00	-.04	.07	-.05	.12						
8. Verbal intelligence	.01	.14	-.03	.14	-.05	.11	.30**					
9. CAT	-.11	-.09	-.02	.05	.04	.25**	.66**	.26				
10. GPA	-.10*	.04	-.03	.60**	-.04	.16**	.36**	.20*	.43**			
11. Achievement 1	-.14**	.04	-.05	.43**	-.09	.09	.36**	.23**	.42**	.63**		
12. Achievement 2	-.03	.14*	.05	.47**	-.06	.05	.23**	.22*	.24**	.52**	.49**	
13. Achievement 3	-.07	.04	.11	.43**	-.07	.13*	.32**	.18	.37**	.59**	.52**	.53**

Note. SEI – self-estimated intelligence; CAT – Wonderlick's Cognitive Abilities Test; GPA – Grade Point Average; Achievement – academic achievement (principles of research in psychology exam scores).

Of note is that tolerance for uncertainty was positively related to SAI (r = .17, p < .01). This novel result suggests that people who can easily act under the circumstances of the lack of information and high uncertainty (both of which imply risks) might be more cognizant of the tolerance for uncertainty trait itself and believe that it represents intelligent behavior. On the other hand, the relationship can be driven by complex self-fulfilling prophecy effects with people who have higher confidence in their intelligence are less reluctant to act in novel or uncertain situations and solve novel problems.

To clarify the relationships between the constructs of interest, a set of structural equation models were fitted to the data using the EQS software package (Bentler, 1995) with the pairwise maximum likelihood (pairwise ML) estimator. The first model included three latent variables (factors). The intelligence factor included general, fluid, and verbal intelligence varibles as observed indicators. The SAI factor included SAI, self-efficacy, and academic self-concept. Finally, the acceptance of uncertainty factor included tolerance for uncertainty, risk readiness, and faith in intuition. The model (shown in Figure 1) displayed good fit to the data: Scaled $\chi^2(25) = 28.9$, p = .26, CFI (comparative fit index) = .96, RMSEA (root mean square error of approximation) = .02.

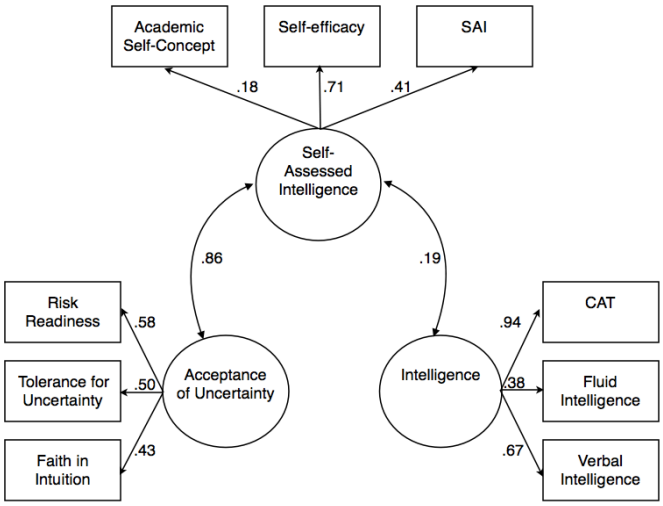

Figure 1. Structural equation model 1. The standardized solution is shown on the diagram. All coefficients are significant at p < .05 unless otherwise noted.

The adequate fit of model 1 generally supported our hypotheses. First, we established that SAI can be included as an indicator in a measurement model for a latent variable of the intellectual self-concept of a higher order. Moreover, this latent variable was positively related to the latent variable of intelligence (r = .19) and the latent variable of acceptance of uncertainty (r = .86), thus establishing a mediating link between the two.

Finally, to investigate the predictive power of this higher-order latent variable of self-assessed intelligence in predicting academic achievement, model 2 was fitted to the data. The

model included three latent variables – the intelligence and the SAI factors remained as they were in model 1, and the academic achievement latent variable was introduced. The latter included the four achievement variables described above as measured indicators. In this model, academic achievement was regressed on correlated intelligence and SAI factors. The model also displayed good fit to the data - mean- and variance-adjusted $\chi^2(11) = 19.53$, $p = .05$, CFI = .93, RMSEA = .03.

Model 2 indicated that both intelligence and SAI were statistically significant predictors of academic achievement, explaining 39% of the variance in the latent variable of academic achievement, and supporting H_3. The positive correlation between the latent variables of intelligence and SAI is in the range typically reported in the literature (Freund & Kasten, 2012) and generally replicates the results of the first model.

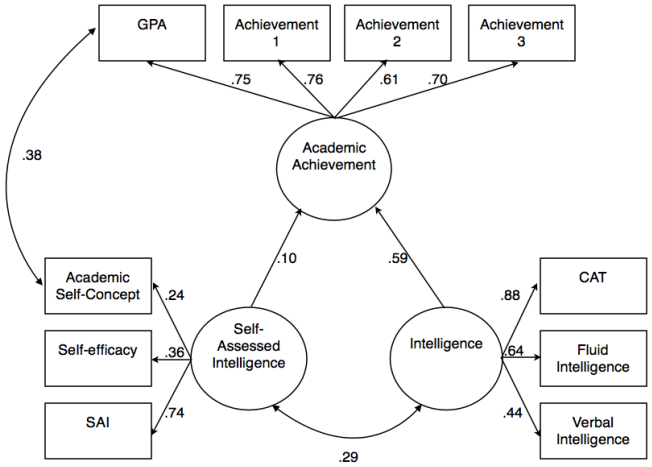

Figure 2. Structural equation model 2. The standardized solution is shown on the diagram. All coefficients are significant at $p < .05$ unless otherwise noted.

Table 2. Descriptive statistics for gender differences in self-assessed and test-estimated intelligence

	Females		Males		Cohen's *d*
Variable	***M***	***SD***	***M***	***SD***	
SAI	112.72	14.66	115.38	19.49	-.15
Fluid intelligence	102.57	10.19	105.44	11.11	-.27
Verbal intelligence	102.70	11.34	99.32	11.25	.30
CAT	24.24	6.17	25.35	5.86	-.18

Note. SAI – self-assessed intelligence; CAT – Wonderlick's Cognitive Abilities Test.

Males and females were compared on the measures of SAI and intelligence using t-tests for independent samples. We did not find any significant gender differences in self-assessed or test-estimated intelligence (all *p*'s > .05), although the analysis of the effect sizes (see Table 2) indicated small to moderate effects replicating previous findings of slightly higher SAI in males and a complex pattern of miniscule gender differences in intelligence: in our study men had slightly higher fluid and general intelligence scores, while females had higher verbal intelligence.

DISCUSSION

This study investigated the relationships among SAI, intelligence, personality (specifically, tolerance for uncertainty), and academic achievement. First, we found that SAI was positively related to intelligence supporting previous results indicating that people have a certain insight into the levels of their own intellectual ability and competence (Furnham, 2001; Chamorro-Premuzic & Furnham, 2006*a*). It is worth noting that in our study this relationship was weak to moderate suggesting a medium level of accuracy of such self-assessments. Previous research mostly focused on the effects of intelligence on SAI. We suggest that the direction of this effect might be opposite – high SAI might lead to higher confidence in a host of domains (including, but not limited to, academic and social domains) that provide additional opportunities for learning and development. Moreover, given the involvement of implicit theories of intelligence in self-regulation (for a recent meta-analysis, see Burnette et al., in press), SAI's effects on intelligence might also be mediated by adopting more challenging, mastery-oriented goals.

Importantly, we found that SAI was indeed related to a host of personality traits under the umbrella of an integrative construct of acceptance of uncertainty. We suggest that this relationship is far from trivial from the theoretical point of view: it explicates the uncertainty involved in providing self-estimates of intelligence (and, in general, judging intellectual behavior using ambiguous reference points) as well as the uncertainty involved in the intellectual behavior per se, thus opening the possibility that people who view their intelligence as being high are more confident and willing to act in situations characterized by high uncertainty.

Given that the latent variables of acceptance of uncertainty and intelligence did not correlate with each other in our study, it is plausible that SAI (which is linked to both intelligence and personality) in fact represents the missing link between intelligence and affect or between intelligence and personality. Further research should focus on the directionality of the links between the constructs and on direct testing of the mediation hypothesis while being guided by strong theoretical assumptions: it is entirely possible that intelligence and personality both contribute to SAI or that SAI contributes to both (or just one).

The status of SAI as a variable was addressed in our study through the building of a measurement model of SAI as a higher-order variable. We view our success in obtaining good fit for this measurement model as revealing with respect to the nature of direct SAI as one of the many manifestations of an integrative and complex self-evaluation of intellectual

competence. To our knowledge, there are no other published studies that investigated the construct validity of SAI as a latent variable (but see Kornilova et al., 2009).

Both SAI and intelligence predicted academic achievement supporting findings in the intelligence literature (e.g., see Sternberg, Grigorenko, & Bundy, 2001 for a review) and recent claims that SAI plays a role in achievement (Chamorro-Premuzic & Arteche, 2008; see also Kornilov, 2011 for a meta-analysis). Crucially, in our study the effects of SAI were separate from those of intelligence indicating that SAI might include components of intellectual functioning not typically tapped into by traditional intelligence measures and theories. Moreover, as an integrated construct, SAI might (and in our study indeed did) reflect self-evaluations in the academic domain, most closely linked to learning and academic achievement. Just as for the relationship between intelligence and SAI, the relationship between the latter and academic achievement seems to be complex and potentially recursive.

Finally, our study did not reveal any gender differences in either SAI or intelligence. Significant gender differences in SAI have been previously reported in a number of studies (e.g., Holling & Preckel, 2005; Furnham et al., 2005) and might have at their core various social factors, including being mediated by personal traits. We suggest that the absence of gender differences in our study can be explained by psychology undergraduates' thoughtfulness with respect to the nature of individual and gender differences in cognitive ability rendering them less sensitive to the forms of bias and/or stereotypes reported previously.

CONCLUSION

1) SAI can be viewed as an integrative higher-order trait (or a trait complex) that includes multiple dimensions of self-evaluations of cognitive ability and intellectual competence.
2) SAI mediates the relationships between intelligence and personality traits (namely, acceptance of uncertainty), being positively related to both of them.
3) SAI is a significant positive predictor of academic achievement.

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