

Correlates of Self-Assessed Creativity

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ABSTRACT

The aim of this study was to examine demographic, ideological, and personality trait correlates of self-assessed creativity. A large group ($N=1,299$) of adults estimated their creativity score on a 100-point scale. This rating was related to participants' demographics (sex, age, education), ideology (religious and political beliefs), self-confidence, and six personality traits. The regression indicated that those who thought of themselves as more creative were more optimistic, higher on trait Curious (Open), but lower on trait Adjustment (low Neuroticism) and trait Competitive (low Agreeableness), and had higher self-esteem. The status of self-assessed/estimated creativity is discussed alongside limitations and recommendations for future research.

KEYWORDS:

Self-estimated; demography; ideology; self-confidence

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INTRODUCTION

This study is concerned with self-assessed, rather than psychometrically measured, or observer-rated creativity (Kaufman, 2019; Kaufman & Baer, 2004). Nearly all researchers in the area have acknowledged the problems associated with validly assessing actual creativity; usually, this is done with either power (ability) or preference (personality) tests (Park et al., 2016). This study examines correlates of self-assessed creativity (SAC).

There is considerable literature on self-assessed ability, particularly intelligence (Ackerman & Wolman, 2007; Furnham et al., 2005; Gignac, 2021; Hofer et al., 2022; Neto et al., 2017; Paulhus et al., 1998; von Stumm, 2014), which has been summarised a number of times (Freund & Kasten, 2012; Furnham, 2016; Szymanowicz & Furnham, 2011; Zell & Zlatan, 2014). The primary interest of this research is the relationship between self-assessments and other individual difference variables. Specifically, we were interested the extent to which three sorts of variables related to self-assessed creativity (SAC): classic demographic variables of sex, age and education, ideological variables of political and religious beliefs, and personality traits. Each of these three sets of variables has been linked to other self-assessed characteristics, like intelligence and emotional intelligence.

Various studies looking at the relationship between estimates and actual scores tended to reveal that personality traits are more strongly associated with ability estimates than ability test scores (Furnham & Chamorro-Premuzic, 2004). Indeed, Neubauer and Hofer (2020) found that self-assessments/estimates of abilities better reflected an individual's personality traits than their abilities.

This study examines correlates of self-assessed creativity (SAC). In a paper entitled "*Self-Assessments of Creativity: Not Ideal, but Better Than You Think*", Kaufman (2019) noted that approximately 40% of empirical papers about creativity include some form of self-report measure. Kaufman categorised them into Activity, Evaluation, Process, and Belief measures. The author further concluded these measures could be an outcome variable when investigating how something impacts how people feel about their creativity. Previous studies have demonstrated a significant positive correlation between SAC and scores on creativity tests (Neubauer et al., 2018).

Most studies using SAC use the ratings as independent variables to examine how they relate to other things, like creativity test scores or further ratings. In this study, we were interested in the determinants and correlates of SAC as a criterion or dependent variable. The current research project uses working middle-aged adults rather than secondary school pupils, university students, and young adults. In addition, we used a new validated measure that specifically measured work-related personality traits (HPTI). Finally, we examined three other factors, namely demography, ideology, and self-esteem.

To begin, we were interested in demography, examining whether sex, age, and education were related to SAC, as measured by four ratings of attractiveness, health, EQ, and IQ. We hypothesised that better-educated people would give higher ratings (Furnham, 2017). Next, we looked at ideology, defined as religious and political beliefs, as both were shown to relate to other self-assessments

(Cuppello et al., 2023b). We assumed that more religious and politically Liberal people would have higher SAC, because previous studies have shown these to be related to self-confidence (Furnham & Robinson, 2023). Third, we looked at two ratings, Optimism and self-esteem, measured by four scales and used in various other studies. We assumed that both would positively correlate to SAC, because optimistic and confident people would rate themselves highly on most factors, particularly creativity, which has very positive valence (Furnham & Robinson, 2023).

However, we were most curious about personality trait correlates of SAC. This study used the High Potential Trait Indicator (HPTI), developed to measure personality at work. There is significant overlap with the Big Five (FFM) on three traits, though the HPTI includes three additional traits that relate to success in a variety of jobs (Teodorescu et al., 2017). The first most well-researched trait is *Conscientiousness*, characterised by self-discipline, organisation, and the ability to moderate one's own impulses. The second is *Adjustment* (low Neuroticism), characterised by emotional resilience to stressors, positive affect, and mood stability and regulation. Third is *Curiosity* (Openness), characterised by an interest in new ideas, experiences and situations. Fourth is *Ambiguity Acceptance*, which describes how an individual processes and perceives unfamiliarity or incongruence. The fifth trait is *Competitiveness*, which is related to low Agreeableness and focuses on the adaptive elements of competitiveness that drive self-improvement, desire for individual and team success, and learning. The final trait, *Courage, or Approach to Risk*, is the ability to combat or mitigate negative or threat-based emotions and to be assertive when necessary.

Numerous papers have used the HPTI (Cuppello et al., 2023ab, Furnham & Treglown, 2018). The measure's psychometric properties have been reported (MacRae & Furnham, 2020), of which the most relevant is the study by Teodorescu et al. (2017). Their results indicated that HPTI personality traits relate to subjective and objective measures of success, with Conscientiousness being the strongest predictor. We aim to explore these traits in relation to SAC. Given the extensive literature on the relationship between personality and intelligence we predicted that Curiosity (Openness) would be positively related to SAC (Furnham, 2020).

Participants

In all, 1,299 adults participated in the study; 720 were female and 579 were male (Coded; 1 = female, 2 = male). The mean age was 45.67 ($SD = 11.01$). In total, 68% were graduates (Coded; 1 = Yes, 2 = No). Participants were from English-speaking countries (UK 56%, North America 18%, South Africa 12%, and others 14%).

Materials

Self-Assessed Creativity

Participants rated themselves on the following scale: On a scale from 1–100 (with 100 being extremely high) how would you rate your creativity?: (Not very creative) 1–100 (Very creative). The mean was 66.14 with an SD of 22.54 and scores were normally distributed.

Personal Beliefs

Participants rated their political beliefs on the Political Views scale (*Very Conservative* 1–9 *Very Liberal*); the mean was 5.44 ($SD = 1.96$). They also rated their religious beliefs: How religious are you, if at all? (*Not at all* 0–9 *Very*). Finally, they scored their optimism: How optimistic are you, if at all? (*Not at all* 0–9 *Very*).

High Potential Trait Indicator (HPTI) (MacRae & Furnham, 2020). The HPTI is a measure of personality traits, specifically within a workplace context. It is comprised of six factors and the inventory is 78 items in length. Each trait was converted into a standardized score, allowing for a better comparison between traits. It has been used in several studies (Furnham & Treglown, 2018; Teodorescu et al., 2017). The trait alphas were; Conscientiousness .72; Adjustment .82; Curiosity .75; Risk-Approach .79; Ambiguity Tolerance .71; Competitiveness .83.

Self-Esteem (SE) (Furnham, 2020). This measure consisted of four other factors on a scale from 1–100: Physical Attractiveness ($M = 59.67$; $SD = 11.30$), Physical Health ($M = 65.04$, $SD = 20.25$), Intelligence (IQ) ($M = 75.77$, $SD = 14.16$) and Emotional Intelligence ($M = 75.03$, $SD = 18.61$). The Alpha for these four items was .71, and they were summed together to form a variable labelled Self-Esteem.

Procedure

Participants were recruited from a pool of individuals who had completed a psychometric assessment provided by test publisher Thomas International for genuine occupational test use. Subsequently, they volunteered to take part in psychology research, and part of the bigger project to study people over time. Participants were offered brief feedback on their results following the study, as an incentive. Participants were informed of the study and provided with a link to complete it via email. We obtained informed consent to analyse and publish the anonymised data. The study was conducted on an online survey platform. The research received approval from the committee LSA/TI/2022. Finally, participants were debriefed, thanked for their time, and provided feedback on their scores.

RESULTS

Table 1. Correlations between all variables

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1) Self-Ass Creat	67.14	22.54													
2) Sex	1.56	.50	-.01												
3) Age	45.67	11.02	.01	-.05*											
4) Degree	1.32	.47	-.12***	-.06*	.07**										
5) Religious	3.39	2.56	.09**	-.02	.06**	-.05									
6) Politics	5.44	1.96	.09**	.16***	-.09***	-.12***	-.15***								
7) Optimist	6.85	1.90	.21***	.06*	.15***	-.02	.11***	-.02							
8) Self-esteem	275.52	53.27	.36***	-.06*	.04	-.17***	.09***	.05*	.32***						
9) Conscientiousness	69.09	12.40	.14***	.05	.12***	-.03	.08**	-.09***	.17***	.20***					
10) Adjustment	62.56	14.31	.10**	-.06*	.20***	.03	.04	-.09***	.36***	.28***	.47***				
11) Curiosity	66.49	11.95	.36***	-.03	.03	-.07**	.05	.09**	.20***	.22***	.61***	.44***			
12) RiskApproach	63.05	12.62	.22***	-.13***	.16***	-.01	.07*	-.08**	.29***	.26***	.70***	.62***	.66***		
13) AmbigAccept.	51.20	11.65	.14***	-.03	.23***	-.08**	-.05	.02	.20***	.13***	.44***	.57***	.51***	.61***	
14) Competitiveness	47.81	13.51	.01	-.16***	-.15***	-.03	.04	-.18***	.01	.18***	.48***	.17***	.29***	.42***	.24***

*** $p < .001$, ** $p < .01$, * $p < .05$

Table 1 exhibits the correlations between all variables. The SAC scores were significantly related to one demographic factor (education), both ideological factors (equally), both self-rated factors (strongly), and five of the six traits (particularly Curiosity, but not Competitiveness). The two highest correlations with SAC were traits Curiosity and Self-esteem.

Table 2 depicts the results of the final step in a hierarchical regression. It shows five significant factors: Self-rated Optimism, Self-esteem, and trait Curiosity were positively associated with higher SAC, while two traits were negatively associated: Adjustment (low Neuroticism) and Competitiveness (low Agreeableness). The first step involved sex, age, education ($F(3, 817) = 5.49, p < .001, R^2 = .02$), the second involved religious and political beliefs ($F(5, 817) = 6.81, p < .001, R^2 = .03$), the third Optimism and Self-esteem ($F(7, 817) = 22.09, p < .001, R^2 = .15$) and finally the six traits ($F(12, 807) = 21.24, p < .001, R^2 = .24$). Thus, personality showed an incremental validity of 9% above the other variables. Because of the possible halo effect, the regression was re-conducted, omitting the Optimism and SE scores. This was significant ($F(11, 809) = 14.71, p < .001, R^2 = .16$) with only three positive variables: Curiosity ($t = 8.43, p < .001$), Degree ($t = -3.21, p < .001$) and religion ($t = 2.77, p < .01$). We then split the file into males and females and repeated the analysis. The pattern of results was essentially the same.

Table 2. Regression with self-estimated creativity as criterion

	<i>B</i>	<i>SE</i>	β	<i>t</i>
Sex	-.85	1.46	-.02	-0.58
Age	.03	0.07	.02	0.45
Degree	-2.43	1.51	-.05	-1.62
Religious	.51	0.27	.06	1.87
Politics	.30	0.37	.03	0.80
Optimist	1.28	0.39	.11	3.25**
Self-esteem	.13	0.02	.28	8.39***
Conscientiousness	-.12	0.08	-.07	-1.46
Adjustment	-.23	0.07	-.15	-3.54***
Curiosity	.67	0.08	.36	8.14***
RiskApproach	.09	0.10	.05	0.94
AmbigAccept.	-.01	0.08	.00	-0.10
Competitiveness	-.16	0.06	-.10	-2.56*
Adjusted <i>R</i> ²			.24	
<i>F</i>			21.25	
<i>p</i>			.000	

*** $p < .001$, ** $p < .01$, * $p < .05$

DISCUSSION

Many popular articles and business courses convey the message that everybody is creative, or at least can learn techniques to enhance their natural creativity. The question is what sort of feedback have people received over the years concerning their personal creativity, their understanding of the concept, and how it is assessed? There have always been problems with the definition of creative processes and products beyond the simple concept of original and useful. All this would suggest that SAC is less strongly related to empirical tests of creativity than self-assessed IQ (SAIQ) is related to IQ tests, and self-assessed EQ (SAEQ) to emotional intelligence tests. Hence, personal correlates of SAC are perhaps the most interesting. It may be that intelligence in general, alongside certain traits, like extraversion, is well known and understood, explaining that people likely have more insight into their own abilities and temperament than into their creativity.

A further possible explanation for the discrepancy between SAC and empirical test results is the impact of personality. Various researchers in this area identified that self-estimates of several abilities were equally influenced by personality as they were by actual (objectively test-derived) ability (Furnham & Chamorro-Premuzic, 2004; Neubauer et al., 2018). While we explored the correlation between SAC and different personality traits, we did not assess the relationship between these traits and actual empirically tested or assessed creativity, by either behavioral or observer ratings. It would be beneficial for future research to include empirical/other-assessed creativity as an additional factor; this would make it possible to compare and identify the traits that are more or less accurate than others regarding introspection and self-awareness. It would further highlight

whether the issue of the discrepancy lies with the participant's ability to self-estimate accurately or whether items in the SAC need to be revised to measure the construct better.

There are a number of intriguing results from this study. Studies on SAIQ and SAEQ consistently show significant differences, with males giving higher scores to the former and lower to the latter. Yet there were no sex differences in this study; men and women did not differ in their SAC. Similarly, there were no education effects in the regression, suggesting perhaps that people do not believe higher education impacts creativity. On the other hand, this may be due to relative lack of variance in this sample of essentially middle-aged professionals. The lack of sex differences is possibly unsurprising as, unlike IQ and EQ, creativity seems less associated with any gender stereotypes. Likewise, higher education is known more for enhancing critical thinking than fostering creativity (Alencar et al., 2017).

Whilst there were marginally significant ideological effects in the correlational analysis (more religious as opposed to less and more politically liberal people gave higher SAC), the regression suggested that these factors had little influence on how people understood their own creativity. Indeed few studies have shown any strong relationship between religious and political beliefs and creativity, though this is an area worth pursuing as it appears to be the case that many famous artists and novelists have held strong political views. Clearly it is important to get a more complex and nuanced view of an individual's ideology. The results for Optimism and Self-Esteem were more apparent. The more optimistic and the higher one's overall rating of themselves (attractiveness, EQ, etc.), the higher their SAC. This suggests that possibly all self-ratings of desirable characteristics (e.g., integrity, empathy, insight) would be significantly positively correlated, suggesting a halo effect: self-confident people are confident about many (all) of their characteristics, including creativity.

The strongest relationship between the six personality traits and SAC was Curiosity (Openness), which is expected as this trait is the most related to creativity (Furnham, 2020). This, no doubt, partly explains the positive significant association between SAC and creativity tests. Open, curious people are aware that they tend to be creative in many ways. The second trait related to SAC was Adjustment, indicating that those who were more Neurotic and less emotionally stable gave lower scores. This may be due to the lower self-confidence of neurotic individuals or their lower test performance on all sorts of tests (including creativity), not because of their abilities but rather because of their test-taking ability (Furnham et al., 2005). The third significant trait was particularly fascinating; those who were more Competitive (Disagreeable) tended to give lower SAC scores. This relationship may be due to competitive people underplaying the importance of creativity and subsequently deciding it is not worth competing in this area. Further exploration into this association would be beneficial to identify additional rationales, such as whether creative occupations are considered "easy" or whether this relationship links to the increasing importance placed on academic success.

LIMITATIONS

This study had a number of limitations. First, our SAC, as well as a number of other ratings was a simple single item. People understand different types of creativity (i.e., artistic, verbal, and puzzle solving), thus, it may have been better to use more items. There has been an active debate on the validity of using single-item measures in many areas of psychology. Indeed, a whole issue of the *European Journal of Psychological Assessment* (Volume 38:1) was dedicated to this topic and the editors of the special concluded that “most research published on single-item measures shows that they are often as valid and reliable as their multi-item counterparts” (Allen et al., 2022, p4).

Second, our measure of self-esteem was based on four ratings used in other studies (e.g., Cuppello et al., 2023ab) and was rated on the same 100-point scale as our SAC. It could be that this led to rating style error variance, where a large portion of SAC results is due to the measurement of SE rather than SE as a variable. It also could have encouraged a halo effect. Interestingly, when we reran the regression removing SE and optimism, it remained significant ($F(11, 809) = 19.72, p < .001, R^2 = .16$), with Curiosity still the most powerful correlate. An additional outcome of this regression was that education and religion became significant so that graduates more than non-graduates and those who were more religious gave themselves higher SAC scores.

References

- Ackerman, P., & Wolman, S. (2007). Determinants and validity of self-estimates of ability and self-concept measures. *Journal of Experimental Psychology: Applied, 13*(2), 57–78. <https://doi.org/10.1037/1076-898X.13.2.57>
- Allen, M.S., Iliescu, D., & Greiff, S. (2022). Single item measures in psychological science: A call to action [Editorial]. *European Journal of Psychological Assessment, 38*(1), 1–5. <https://doi.org/10.1027/1015-5759/a000699>
- Alencar, E.M.L.S., Fleith, D.S., & Pereira, N. (2017). Creativity in Higher Education: Challenges and Facilitating Factors. *Temas Em Psicologia, 25*(2), 553–561. <https://doi.org/10.9788/tp2017.2-09>
- Cuppello, S., Treglown, L., & Furnham, A. (2023a). Personality and Management Level: Traits that get you to the top. *Personality and Individual Difference, 206*, 112108. <https://doi.org/10.1016/j.paid.2023.112108>
- Cuppello, S., Treglown, L., & Furnham, A. (2023b). Intelligence, Personality and Tolerance of Ambiguity. *Journal of Intelligence, 11*(6), 102. <https://doi.org/10.3390/jintelligence11060102>
- Freund, P.A., & Kasten, N. (2012). How smart do you think you are? A meta-analysis on the validity of self-estimates of cognitive ability. *Psychological Bulletin, 138*(2), 296–321. <https://doi.org/10.1037/a0026556>
- Furnham, A. (2016). Whether You Think You Can, or You Think You Can't – You're Right. Differences and Consequences of Beliefs about Your Ability. In R. Sternberg, S. Fiske, & D. Foss (Eds.), *Scientists Making a Difference* (pp. 297-230). Cambridge University Press. <http://dx.doi.org/10.1017/CBO9781316422250.065>
- Furnham, A., & Chamorro-Premuzic, T. (2004). Estimating one's own personality and intelligence scores. *British Journal of Psychology, 95*(2), 149–160. <https://doi.org/10.1348/000712604773952395>
- Furnham, A., Chamorro-Premuzic, T., & Moutafi, J. (2005). Personality and Intelligence: Gender, the Big-Five, Self-Estimated and Psychometric Intelligence. *International Journal of Selection and Assessment, 13*(1), 11–24. <https://doi.org/10.1111/j.0965-075X.2005.00296.x>
- Furnham, A. (2020). Personality and Creativity at Work. In M. Mumford, & M. Todd (Eds.), *Creativity and Innovation in Organizations: Personality and Creativity* (1st ed., pp. 89–103). Routledge. <https://doi.org/10.4324/9781315192598>
- Furnham, A., & Robinson, C. (2023). Correlates of Self-Assessed Optimism. *Current Directions in the Behavioral Science, 4*, 100089.

- Furnham, A., & Treglown, L. (2018). High potential personality and intelligence. *Personality and Individual Differences*, 128, 81–87. <https://doi.org/10.1016/j.paid.2018.02.025>
- Furnham, A., & Treglown, L. (2021). The Dark Side of High-Fliers: The Dark Triad, High-Flier Traits, Engagement, and Subjective Success. *Frontiers in Psychology*, 12, 647676. <https://doi.org/10.3389/fpsyg.2021.647676>
- Gignac, G.E. (2021). People who consider themselves smart do not consider themselves interpersonally challenged: Convergent validity evidence for subjectively measured IQ and EI. *Personality and Individual Differences*, 174, 110664. <https://doi.org/10.1016/j.paid.2021.110664>
- Hofer, G., Mraulak, V., Grinschgl, S., & Neubauer, A.C. (2022). Less Intelligent and Unaware? Accuracy and Dunning–Kruger Effects for Self-Estimates of Different Aspects of Intelligence. *Journal of Intelligence*, 10(1), 10. <https://doi.org/10.3390/jintelligence10010010>
- Kaufman, J.C. (2019). Self-assessments of creativity: Not ideal, but better than you think. *Psychology of Aesthetics, Creativity, and the Arts*, 13(2), 187–192. <https://psycnet.apa.org/doi/10.1037/aca0000217>
- Kaufman, J.C. (2012). Self-estimates of general, crystallised, and fluid intelligences in an ethnically diverse population. *Learning and Individual Differences*, 22(1), 118–122.
- Kaufman, J.C. (2019). Self-assessments of creativity: Not ideal, but better than you think. *Psychology of Aesthetics, Creativity, and the Arts*, 13(2), 187–192. <https://psycnet.apa.org/doi/10.1037/aca0000217>
- Kaufman, J.C., & Baer, J. (2004). Sure I'm creative- But not in mathematics! Self-reported creativity in diverse domains. *Empirical Studies of the Arts*, 22(2), 143–155. <https://doi.org/10.2190/26HQ-VHE8-GTLN-BJMM>
- Kaufman, J.C., Plucker, J.A., & Russell, C.M. (2012). Identifying and assessing creativity as a component of giftedness. *Journal of Psychoeducational Assessment*, 30(1), 60–73. <https://doi.org/10.1177/0734282911428196>
- MacRae, I., & Furnham, A. (2020). A Psychometric Analysis of the High Potential Trait Inventory (HPTI). *Psychology*, 11(8), 1125–1140. <https://doi.org/10.4236/psych.2020.118074>
- Neubauer, A.C., & Hofer, G. (2020). Self-estimates of abilities are a better reflection of individuals' personality traits than of their abilities and are also strong predictors of professional interests. *Personality and Individual Differences*, 169, 109850. <https://doi.org/10.1016/j.paid.2020.109850>
- Neubauer, A.C., Pribil, A., Wallner, A., & Hofer, G. (2018). The self–other knowledge asymmetry in cognitive intelligence, emotional intelligence, and creativity. *Heliyon*, 4(12), e01061. <https://doi.org/10.1016/j.heliyon.2018.e0106>
- Neto, F., Pinto, M.C., Mullet, E., & Furnham, A. (2017). Estimates of reversal multiple intelligences for self and others: Sex and cross-cultural comparisons. *International Journal of Psychology*, 52(6), 436–444. <https://doi.org/10.1002/ijop.12241>
- Park, N.K., Chun, M.Y., & Lee, J. (2016). Revisiting Individual Creativity Assessment: Triangulation in Subjective and Objective Assessment Methods. *Creativity Research Journal*, 28(1), 1–10. <https://doi.org/10.1080/10400419.2016.1125259>
- Paulhus, D.L., Lysy, D.C., & Yik, M.S.M. (1998). Self-report measures of intelligence: Are they useful as proxy IQ tests? *Journal of Personality*, 66(4), 525–554. <https://doi.org/10.1111/1467-6494.00023>
- Szymanowicz, A., & Furnham, A. (2011). Gender differences in self-estimates of general, mathematical, spatial and verbal intelligence: Four meta-analyses. *Learning and Individual Differences*, 21(5), 493–504. <https://doi.org/10.1016/j.lindif.2011.07.001>
- Teodorescu, A., Furnham, A., & MacRae, I. (2017). Trait correlates of success at work. *International Journal of Selection and Assessment*, 25(1), 36–42. <https://doi.org/10.1111/ijasa.12158>
- Treglown, L., & Furnham, A. (2020). Birds of a feather work together: The role of emotional intelligence and cognitive ability in workplace interaction and advice networks. *Personality and Individual Differences*, 158, 109833. <https://doi.org/10.1016/j.paid.2020.109833>
- von Stumm, S. (2014). Intelligence, gender, and assessment method affect the accuracy of self-estimated intelligence. *British Journal of Psychology*, 105(2), 243–253. <https://doi.org/10.1111/bjop.12031>
- Zell, E., & Zlatan, K. (2014). Do people have insight into their abilities? A meta-synthesis. *Perspectives on Psychological Science*, 9(2), 111–25. <https://doi.org/10.1177/1745691613518075>

