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A Better Bullshitter Does Not Have to Be a Bigger Bullshitter: Relations Among Bullshitting Measures and Cognitive and Personality Predictors of Bullshitting Ability

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Bullshitting, defined as communication intended to impress or persuade without concern for truth or accuracy, is a common part of interpersonal interaction. However, we still know little about who can produce convincing bullshit and, specifically, whether this ability is actively used to manage social impressions. Our understanding is complicated by the fact that bullshitting is currently assessed with multiple tools (objective, performance-based tasks as well as subjective self-report measures), yet the field lacks a clear framework that clarifies their distinctions and points of overlap. Therefore, in our cross-sectional study (N = 390), we focused on how different approaches to measuring bullshitting (bullshitting willingness, overclaiming, and self-reported bullshitting frequency) relate to one another. In addition, we examined predictors of bullshitting ability (verbal ability and divergent thinking) and its correlates in the personality domain (Dark Triad traits). We did not find a statistically significant relationship between bullshitting ability and bullshitting frequency, nor between overclaiming and bullshitting frequency. As for predictors, verbal ability and divergent thinking both positively predicted bullshitting ability, suggesting that cognitive resources support the production of more persuasive bullshit. Among personality variables, only Machiavellianism showed a small positive association. Our results provide new insights into individual differences among bullshit producers and, for the first time, simultaneously examine whether commonly used measurements of bullshitting relate to the quality of bullshit people are able to produce.

Key words: bullshitting frequency, overclaiming, verbal ability, divergent thinking, personality traits, bullshitting ability

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Introduction

The prevalence of misinformation has reached critical levels (West & Bergstrom, 2021), leading to significant negative outcomes. Belief in misinformation can adversely affect health behaviors (Jolley & Douglas, 2014), and has been linked to negative social consequences (Pummerer et al., 2022). While research has focused on the predictors of misinformation discernment and how to boost it, little is known about the individual differences of the people disseminating misinformation. Moreover, while political and health misinformation has received significant attention, one specific form – bullshit – has been overlooked.

The term bullshit is relatively recent and typically refers to a statement that is presented as true, but where the speaker shows little to no concern for its actual truth value. Unlike a lie, which is a statement made by someone who knows or believes the statement to be false, bullshit is not necessarily untrue, but rather unconcerned with accuracy altogether. Its primary aim is not to mislead about facts, but to create a specific impression or achieve a rhetorical goal (Frankfurt, 2005; Pennycook et al., 2015). Supporting this distinction, Littrell et al. (2020) found that bullshitting frequency, the self-reported tendency to produce statements without concern for the truth, and everyday lying are strongly positively correlated but represent factorially distinct constructs. They differ not only in their underlying motivations and cognitive processes but also in social consequences (Petrocelli et al., 2023a; 2023b). People tend to perceive lies as more harmful, which makes bullshitting a more effective tool for influencing opinions and attitudes.

To date, most research has focused on the reception of bullshit – examining cognitive styles (Pennycook et al., 2015; George & Mielicki, 2023) and personality traits (Evans et al., 2020; Čavojová et al., 2020) related to bullshit receptivity. However, individual differences in bullshitting remain understudied. Thus, investigating who produces bullshit, and why, may offer critical insights into the motivations behind such behavior and its broader social consequences.

Different Ways of Conceptualizing and Measuring Bullshitting

The lack of research focusing on bullshitting is further complicated by conceptual confusions and related measurement issues. Currently, we have several ways of measuring bullshitting. One is the use of a measure of familiarity with non-existent concepts (i.e., overclaiming) (Jerrim et al., 2019) sometimes conceptualized as *bullshitting willingness* (Turpin et al., 2021). It is true that when people claim to know non-existent concepts, this behavior reflects a greater *bullshitting willingness,* but willingness represents a behavioral count (the tendency to endorse fictitious items), whereas overclaiming bias provides a signal-detection estimate of response bias that considers both responses to real and non-existent items (Paulhus et al., 2003). In other words, the Signal Detection Theory allows researchers to capture not only the degree to which participants claim familiarity with non-existent constructs but also their general response criterion, that is, how strong their subjective sense of familiarity must be before they respond positively to any item in the same task.

Another approach was taken by Littrell et al. (2021a), who created a self-report Bullshitting Frequency Scale consisting of two subscales. *Persuasive bullshitting* involves positive misrepresentations of one's skill or knowledge. Persuasive bullshitting is strategic and goal-oriented, often used to gain so-

cial, professional, or rhetorical advantages. On the other hand, *evasive bullshitting* refers to avoiding direct answers or bluffing in situations where a person feels it may result in social losses.

A third line of work focuses on the "quality" of bullshit produced rather than its frequency. Turpin et al. (2021) developed a Bullshit Generation Task to assess individuals' *bullshitting ability*, that is, their capacity to produce convincing and coherent explanations of non-existent concepts. Participants provide written explanations of non-existent concepts (e.g., subjunctive scaling), and these explanations are then rated by independent judges. The raters evaluate each explanation on two dimensions: *accuracy* and *satisfactoriness*. Although the constructs themselves do not exist, *accuracy* here means how plausible and internally coherent the explanation appears, while *satisfactoriness* captures how complete and convincing it seems to the raters. The final bullshitting ability score is calculated as the average of the accuracy and satisfactoriness ratings.

Together, these approaches highlight that bullshitting can be conceptualized in several, partly overlapping ways, which makes it important to clearly distinguish among related constructs.

In the present work, we follow this distinction and discuss four main constructs: a) *bullshitting willingness* – a behavioral tendency to claim knowledge of fictitious items, b) *overclaiming* – a signal-detection estimate of response bias on the same task, c) *bullshitting frequency* – self-reported tendency to produce bullshit in everyday life, and lastly d) *bullshitting ability* – rater-based quality of producing convincing explanations of non-existent concepts. **Our first aim is to examine how these four indices relate to one another when considered within a single framework.**

Are Better Bullshitters Bigger Bullshitters?

Among the relations outlined above, one question is especially relevant: do people who report bullshitting more often also produce more convincing bullshit? Existing work suggests that this need not be the case. Turpin et al. (2021) showed that bullshitting ability is associated with higher cognitive ability and with raters' judgments of intelligence, which means that when people actually have to produce bullshit, cognitive resources help them make it sound coherent, fluent, and plausible. By contrast, Littrell et al. (2021b) reported that persuasive bullshitting is negatively associated with cognitive ability. These findings indicate that the propensity to bullshit and the ability to produce convincing bullshit can dissociate.

Building on this evidence, one plausible interpretation is that individuals with greater cognitive resources (better verbal ability, more flexible/divergent thinking) may be fully capable of generating high-quality, convincing bullshit when the situation calls for it, for example, in front of an expert audience or when status is at stake, but they do not need to rely on it as a routine strategy. Their other resources (knowledge, actual competence, argumentation skill) make constant bullshitting unnecessary. Individuals with lower resources, on the other hand, may not be able to produce bullshit that is equally persuasive to external raters, but they may resort to bullshitting more often as a functional, impression-management tool: to avoid loss of face, to fill knowledge gaps, to keep up in conversations, or to maintain a desirable image. In other words, ability and frequency may follow different functional logics.

Against this background, a negative relationship between self-reported bullshitting frequency and performance-based bullshit-

ting ability would be a theoretically coherent outcome rather than a surprising one.

Cognitive Abilities Relevant for Bullshitting

As noted above, we treat bullshitting ability as a performance-based construct already operationalized by Turpin et al. (2021), where the quality of explanations of non-existent concepts is judged by independent raters. In other words, ability in our study refers to how convincing the produced bullshit looks to others. Turpin et al. (2021) found that bullshitting ability positively correlated with both perceived and actual intelligence of the bullshit producers. While intelligence, especially verbal, is undoubtedly important when an individual is asked to produce an explanation for obscure constructs, as it provides them with a reservoir of vocabulary they can draw from, another important, and overlooked, component in the successful generation of persuasive explanations is the ability to combine known elements to create new outcome. In the context of explaining non-existent concepts, such as 'subjunctive scaling', it appears that divergent thinking, the ability to creatively combine familiar concepts to explain unfamiliar ones, plays a more significant role than verbal ability alone. This capacity for generating meaningful associations between words facilitates the construction of a convincing and coherent explanation, even when the concept being explained is unknown to the individual. Divergent thinking is characterized by the generation of meaningful associations between concepts that may not be jointly related (associative component) and the generation of concepts that are distant from the original concept (dissociative component) (Benedek et al., 2012). This ability to form creative and plausible connections is essential in the construction of explanations that sound logical, even if the concepts themselves do not exist. While verbal ability can support fluency in communication, divergent thinking enables individuals to 'fill in the gaps' with original and convincing explanations, making them appear coherent and credible.

Interestingly, the link between divergent thinking and bullshitting remains largely unexplored. Turpin et al. (2021) suggest that the bullshitting ability, often associated with perceived intelligence, helps individuals achieve their social goals and manage relationships. However, divergent thinking may also serve this purpose, as it plays a key role in various deceptive behaviors (Walczyk et al., 2008; Palmer et al., 2020; Zhang et al., 2022). Specifically, the components of divergent thinking, such as originality and fluency, have been found to correlate with the ability to lie (Walczyk et al., 2008), a construct closely related to bullshitting. **Thus, the second aim of this paper is to examine whether divergent thinking (fluency and originality) will correlate positively with bullshitting ability.**

Dark Triad Traits and Their Link to Bullshitting Ability

While the link between bullshitting and cognitive ability seems well-supported, the link between bullshitting and personality is less clear. Previous studies in this field focused mostly on traits most conceptually linked with undesirable behavior, such as lying and deceit. For example, Littrel et al. (2021a) found that bullshitting frequency was negatively associated with sincerity and honesty. Even though a connection between bullshitting frequency and honesty has been found, traits from the Dark Triad, often considered conceptual opposites of Honesty-Humility, may offer a more nuanced understanding of the motivational basis behind bullshitting behavior. Rather than simply reflecting a lack of sincerity or fairness, Dark Triad traits capture stra-

tegic manipulation, self-enhancement, and emotional coldness, which may help explain why people choose to engage in bullshitting in the first place. Indeed, Blötner and Bergold (2023) found positive relationships between Machiavellianism and bullshitting frequency, and Eckhert's (2023) results support a positive relationship between bullshitting frequency and Narcissism.

However, bullshitting ability is distinct from bullshitting frequency. Bullshitting ability is not just about how often one engages in this behavior, but about how convincing and effective the product of their bullshitting is. The ability to generate persuasive bullshit likely depends on a combination of both motivational (personality factors) and cognitive factors to craft and present bullshit that is convincing. Previous research suggests that people with higher levels of Machiavellian traits are generally better at misleading others (Bereczkei, 2018). As the process of bullshitting can be framed as a way of managing social interactions, Machiavellian traits that offer both cognitive and social skills to respond promptly in changing social situations can also serve in the production of convincing bullshit. However, the relationship with other dark traits is less clear. Byrne and Worthy (2013) argue that people scoring higher on narcissistic traits may be more focused on task completion as a means of self-empowerment. Research suggests that narcissistic individuals engage in compensatory behaviors to maintain their grandiose self-image, such as persisting in tasks despite setbacks (Wallace et al., 2008). This may suggest that they could be more motivated to complete bullshit generation tasks to avoid feelings of inadequacy when confronted with unfamiliar concepts. Lastly, there is psychopathy, which can be characterized by a lack of remorse, the tendency to act deviantly, and participating in lying and manipulation. Frequent engagement in manipulation may offer better manipulation skills, as they may improve through training (Van Bockstaele et al., 2012). People high in psychopathy may be less inhibited about bullshitting because they do not fear social consequences or feel bad about misleading others. Research related to lying ability, however, found no significant relationship with Dark Triad traits (Michels et al., 2020). Nevertheless, lying differs from bullshitting in various ways, one of which is social costs. These social costs are lower in bullshitting and participants might not be "held back" in performing successfully. So far, no study has directly **examined the relationship between dark traits and the bullshitting ability, which is the last objective of this paper**.

Current Study

To summarize, based on the afore-mentioned literature we formulated the following hypotheses.

H1. We expect a positive association between overclaiming and bullshitting frequency (Littrell et al., 2021a).

H2. For the relationship between bullshitting frequency and bullshitting ability, we expect a negative correlation (Turpin et al., 2021; Littrell et al., 2021a).

H3. We expect a positive association between perceived intelligence and bullshitting ability (Turpin et al., 2021).

H4. We expect verbal intelligence to positively predict bullshitting ability (Turpin et al., 2021). Unlike the original study, we use a different instrument to measure verbal intelligence, which may contribute to the robustness of our results.

H5. We expect originality and fluency to relate positively to bullshitting ability, in line with research showing a positive relationship between deceptive behavior and divergent thinking (e.g., Walczyk et al., 2008; Palmer et al., 2020).

H6. Finally, we expect a positive association between all three Dark Triad traits and bullshitting ability (Blötner & Bergold, 2023).

The study was preregistered at https://osf.io/tevxy/overview. In addition, one non-preregistered hypothesis was added (H1). Order of the hypotheses in the present study differs from the pre-registration.

Methods

Participants

We used the statistical program G*Power, version 3.1.9.7 (Faul et al., 2009) to determine the sample size. To achieve .95 power to capture an effect size of r = .20 at α = .05, a priori analysis indicated that the sample size should be a minimum of 319 participants. In order to increase the robustness of our results, we decided to set the participant threshold at 400. Participants were recruited by a recruitment agency using quota samples based on age, gender, and education. The only inclusion criterion was the age of 18 years.

Sample 1

Five hundred and twenty-two participants started the survey, but due to failing attention checks, or not finishing the survey, 89 participants were not included in the data analysis. The other 43 participants either did not participate in the bullshit generation task or provided nonsensical answers, so they were also excluded (more details in Materials). Thus, the final sample consisted of 390 respondents (48% female). The age range of the participants was 18 to 66 years (M = 41.78, SD = 13.27). 22.5% of participants achieved a bachelor's degree or higher.

Sample 2

A separate group of participants (N = 67) assessed the level of accuracy and satisfactoriness of the responses generated by Sample 1 in the bullshit generation task. They also assessed the degree of perceived intelligence of the author of these responses. These were undergraduate students majoring in psychology and this task was part of the course curriculum. They did not participate in the other parts of the study.

Materials

All study materials, task instructions, and stimuli are openly available at the Open Science Framework (OSF): https://osf.io/f5s8b/overview.

Bullshit-Related Measures

We distinguish objective (*task-based/rater-based*) and subjective (*self-report*) indices. Below, we first describe the objective measures (starting with the *bullshitting willingness task* from which *bullshitting willingness* and *overclaiming* are derived, followed by *bullshitting ability* and *perceived intelligence*), and then the subjective measure (*bullshitting frequency*).

Bullshitting willingness. Participants were presented with 10 concepts: 6 real concepts (e.g., cognitive dissonance) and 4 non-existent (e.g., subjunctive scaling) and they rated their familiarity with each concept on a 5-point scale (1 = *never heard of it*; 5 = *know it well*). We summed familiarity ratings on the four non-existent items to form the *bullshitting willingness index* (range 4–20; higher values = greater willingness to claim knowledge of fictitious concepts).

Overclaiming. Using the same willingness task, we computed hit (endorsements of real items) and false-alarm rates (endorsements of fictitious items) under four thresholds (≥2, ≥3, ≥4, ≥5 on the 5-point scale) and derived criterion (c) at each threshold based on Mac-

millan and Creelman's (1991) signal detection formulas. The bias index is the mean c across thresholds. A positive score of bias indicates a conservative bias (participants are more likely to respond that they do not know the stimulus) and a negative score indicates a liberal bias (participants are more likely to respond that they know the stimulus). This bias index will be further referred to as *Overclaiming* as per work of Paulhus et al. (2003).

Bullshitting ability. For measuring bullshitting ability, participants were asked to provide explanations for non-existent concepts from the Bullshitting Willingness Task (Turpin et al. 2021) (*subjunctive scaling, declarative fraction, genetic autonomy, neural acceptance*). These explanations were then rated by a separate group of raters (Sample 2) based on the extent to which they found them to be satisfying and accurate, both on a 5-point scale *(1 = not at all satisfying/accurate; 5 = very satisfying/accurate)*. Each bullshit producer was assigned six independent raters, who were blind to the study's goal. To eliminate potential outlier ratings, the highest and lowest ratings were removed from each rating. Ratings for each response were averaged across raters for both accuracy and satisfactoriness. Ratings for accuracy and satisfactoriness were then averaged to form a single measure for bullshitting ability for each statement. The highest-rated explanation was used as a representation of the participant's bullshitting ability as in the Turpin et al. (2021) study.

In addition, raters assessed the perceived intelligence of the author of each explanation by responding to the question, *"How intelligent is the person who provided this explanation?"*. Responses were given on a 5-point scale (1 = *Not intelligent at all*; 5 = *Very*). To maintain consistency with our measure of bullshitting ability, we included only the perceived intelligence rating for the highest-rated explanation, which served as the representation of each participant's bullshitting ability.

Bullshitting frequency. To measure the frequency of bullshitting we used Bullshitting Frequency Scale (Littrell et al., 2021a). The scale contains 13 items divided into two factors. Persuasive bullshitting (e.g., *In my daily life, I embellish, exaggerate, or otherwise stretch the truth just a little when I want to impress the person or people I'm talking to.*) involves producing statements intended to impress or convince. Evasive bullshitting (e.g., *I embellish, exaggerate, or otherwise stretch the truth just a little when a direct answer might get me in trouble*.) reflects a tendency to obscure meaning or avoid direct responses. Participants respond using a 5-point Likert scale (1 = *Never*; 5 = *A lot/ All the time*). Mean scores were calculated separately for each subscale.

Cognitive Predictors

Verbal ability. Verbal ability was measured using the "Verbal analogies" subtest of the Intelligence Structure Test (Amthauer et al., 2001; Slovak standardization: Dočkal et al., 2017). This subtest consists of 20 items, and the participant is always presented with three words, with a semantic relationship between the first and the second. This relationship must be discovered, recognized, and then applied to the third and fourth words of which the fourth has to be chosen from the four words presented (e.g., Big: Small = Far: ? (A) distant (B) wide (C) high (D) deep (E) close). Participants were given 7 minutes to complete this section. The final score was calculated by summing up the number of correctly solved items.

Divergent thinking. To measure divergent thinking, we used the Alternate Use task (Guilford, 1967). The participants were asked two questions (*"What would happen if a person could become invisible?"; "What could you use a broken pencil for?"*) for which

they had to produce as many possibilities as they could think of. Participants were given 2 minutes to complete this task. We calculated separate scores for fluency and originality. The fluency score represents the sum of the answers produced in the two tasks. Participants in this task were limited only by time and not the maximum number of answers they could provide. Repetitive answers were counted only once and nonsensical responses (e.g., the juxtaposition of randomly clicked characters with no semantic meaning) were not counted. Originality was assessed by the authors of the study based on how infrequently each response occurred and the going "beyond" obvious and simple answers. Responses with a frequency of occurrence of less than 5% of respondents were assigned 1 point, less than 3% were given 2 points, and less than 1% were given 3 points. Another point was also assigned to responses based on higher elaboration rates ("going beyond the obvious") when the two raters agreed (example for the question: *"What would happen if a person could become invisible?"*– "*I would watch how my food was being prepared in the restaurant.*"). This elaboration score was added to the originality score, contributing to the overall assessment of each response.

Personality Predictors

Dark Triad. We used the Short Dark Triad (SD3) (Jones & Paulhus, 2014; Slovak adaptation: Čopková & Šafár, 2021). It consists of 27 statements reflecting Machiavellianism (e.g., *Most people can be manipulated*.), Narcissism (e.g., *I am compared to famous people*.) and Psychopathy (e.g., *Is it true that I can be mean to others*.). Participants express their degree of agreement with the statements presented on a 5-point Likert scale (1 = *strongly disagree*; 5 = *strongly agree*). Mean scores were calculated for each subscale.

Procedure

The study was designed in Qualtrics using cross-sectional correlational design. Data collection was conducted in November 2023. The tasks were presented in the same order for all participants (sociodemographic information, verbal ability, divergent thinking, bullshitting willingness, Bullshit Generation Task, Dark Triad, bullshitting frequency), but the order of items in each section was randomized. Materials were provided in the Slovak language and are available at https://osf.io/f5s8b/overview. A visual representation of our design is shown below in Figure 1.

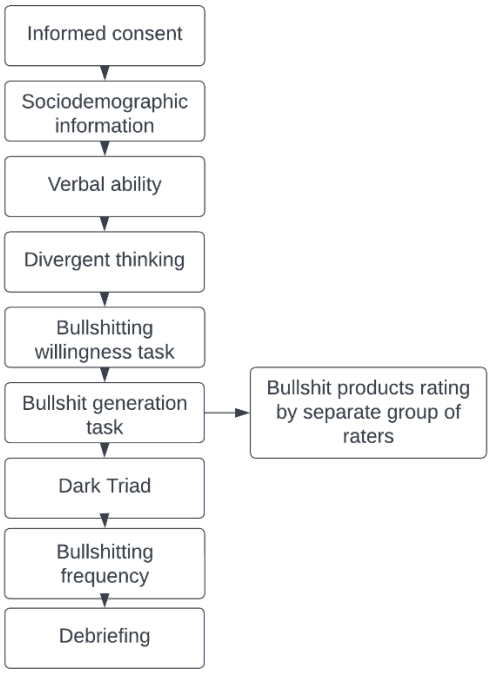

Figure 1 Study design.

Results

The analyses and results presented here relate to the group of participants who participated in the generation of explanations of concepts in the Bullshit Generation Task (Sample 1). Descriptive statistics and Cronbach's alpha for all measured variables are presented in Table 1.

Prior to the actual data analysis, we focused on the reliability of the raters' group ratings (Sample 2). To test reliability, we used Two-way random effects measured for absolute agreement with multiple raters. The mean intraclass correlation for accuracy ratings was .67, 95% CI [.43, .78], and for satisfactoriness ratings .70, 95% CI [.38, .78]. According to Cicchetti and Sparrow's (1981) guidelines, these values can be considered good, although the lower bounds of the confidence intervals fall on the border between fair and poor. This weaker agreement may be related to the nature of the evaluated task (explaining non-existent constructs) which is prone to subjective assessment influenced by individual receptivity to bullshit. We therefore consider ICC values to be sufficient.

We first tested the hypotheses in the order specified in the "Current study" section. Correlations among all study variables are presented in Table 2, including exploratory correlations that were not directly tied to the hypotheses. Because H4 (verbal ability) was additionally examined using regression analysis, we elaborate on this hypothesis in a separate section titled "Verbal ability as a predictor of bullshitting ability."

Relations between Self-Reported and Behavioral Indices of Bullshitting

We first tested the non-preregistered hypothesis that overclaiming would be positively related to self-reported bullshitting frequency (H1). Overclaiming was operationalized using signal detection indices: we calculated hit rates (correctly identified existing constructs) and false-alarm rates (failure to reject non-existent constructs) for all four possible cut-offs of the 5-point familiarity scale, derived four bias values (Macmillan & Creelman, 1991), and averaged them into a single Bias score, with higher scores reflecting higher overclaiming. Contrary to our expectation, over-

Table 1 *Descriptive statistics for all variables*

	α	*M*	*SD*	*Min*	*Max*	*Skewness*	*Kurtosis*
Verbal ability	.85	8.81	4.72	0.00	20.00	0.41	-0.97
Perceived intelligence	-	2.70	0.76	1.00	5.00	0.23	-0.17
Fluency	-	8.95	4.74	0.00	40.00	1.36	4.93
Originality	-	2.98	2.95	0.00	20.00	1.64	3.95
Machiavellianism	.76	3.02	0.68	1.00	5.00	0.08	0.35
Narcissism	.72	2.42	0.63	1.00	4.67	0.14	-0.04
Psychopathy	.72	2.14	0.64	1.00	4.56	0.56	0.37
Persuasive bullshitting	.91	2.34	0.77	1.00	5.00	0.22	-0.18
Evasive bullshitting	.79	2.65	0.77	1.00	5.00	-0.01	-0.04
Overclaiming	-	0.00	0.68	-3.23	1.38	-1.16	3.00
Bullshitting ability	-	2.30	0.80	1.00	5.00	0.69	0.20
Bullshitting willingness	-	6.97	3.02	4.00	18.00	1.19	1.11

Note. We present observed Min and Max values.

Table 2 *Correlations of all measured variables*

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
1. Verbal ability											
2. Perceived intelligence	.31**										
3. Fluency	.28**	.18**									
4. Originality	.32**	.18**	.68**								
5. Machiavellianism	-.04	.07	-.03	.00							
6. Narcissism	-.08	.01	-.12*	-.12*	.30**						
7. Psychopathy	-.04	-.02	.00	.00	.53**	.40**					
8. Persuasive bullshitting	-.01	-.01	.03	.05	.40**	.27**	.44**				
9. Evasive bullshitting	.04	.03	.07	.17**	.38**	.06	.29**	.66**			
10. Overclaiming	-.07	-.14**	-.09	-.06	-.07	-.18**	-.08	-.03	-.01		
11. Bullshitting ability	.35**	.87**	.18**	.21**	.11*	.04	-.01	.00	.05	-.17**	
12. Bullshitting willingness	-.06	.10*	.03	-.03	.05	.19**	.14**	.09	.02	-.82**	.11*

Note. For variables: Fluency, Originality, Bullshitting willingness, and Overclaiming, we used Spearman's correlation coefficient, for a relationship with other variables Pearson's correlation coefficient.

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

claiming was not significantly associated with either persuasive or evasive bullshitting frequency. Our findings indicate that self-reported bullshitting frequency and overclaiming do not correspond in a way that would justify their interchangeable use.

We then examined whether self-reported bullshitting frequency would be negatively related to bullshitting ability (H2). This hypothesis was likewise not supported: individuals who reported bullshitting more frequently did not receive lower evaluations of their explanations from the raters. This suggests that how often people report bullshitting in everyday life is largely independent of how convincing their produced bullshit appeared to our raters.

Cognitive and Personality Correlates of Bullshitting Ability

As expected, perceived intelligence of the author showed a positive association with bullshitting ability (H3). Participants whose explanations of non-existent constructs were rated as more convincing were also judged as more intelligent, replicating the pattern observed by Turpin et al. (2021).

In line with our expectations, we confirmed a statistically significant positive relationship of bullshitting ability with both fluency and originality (H5). In both cases, there was a weak relationship. This indicates that individuals who can generate more ideas and more original responses tend to produce bullshit that is evaluated more favorably, although the effects were small.

Finally, we expected positive associations between Dark Triad traits and bullshitting ability (H6). This hypothesis was only partially supported. Of the three traits, Machiavellianism showed a significant positive relationship with bullshitting ability, whereas narcissism and psychopathy did not. People who are less concerned with morality and are focused on achieving self-interests are better equipped at presenting bullshit that seems convincing.

Verbal Ability as a Predictor of Bullshitting Ability

For testing hypothesis H4, we conducted a hierarchical regression analysis in which bullshitting ability acted as the dependent variable, and verbal ability was added to the regression analysis in the first step. We also

decided to add originality and fluency into our model in the second step as part of the exploratory analysis to better understand the role of divergent thinking in bullshitting ability. The results of this analysis are presented in Table 3. When checking the assumptions of the regression analysis, we found a strong correlation between originality and fluency ρ = .68, $p < .001$. Based on this result, we decided to calculate a composite score (referred to as Divergent Thinking in Table 3) by calculating the mean of the two variables. Both variables were standardized prior to calculating the mean. In the first step, verbal ability was added to the model. Verbal ability emerged as a significant predictor and explained 12% of

Table 3 *Regression analysis of the predictors (Verbal ability and Divergent thinking) of bullshitting ability*

			95% Confidence Interval			
Model	Predictors	*β*	Lower	Upper	*F*	R^2 / ΔR^2
1	Verbal ability	.35***	.26	.45	54.70	.12***
2	Verbal ability	.31***	.22	.41		
	Divergent thinking	.11*	.01	.21	4.88	ΔR2 = .01***
	Total R^2					.13***

Note. All R^2 coefficients have been adjusted.
* $p < .05$, ** $p < .01$, *** $p < .001$

Table 4 *Regression analysis of the Machiavellianism, Verbal ability, and their interaction as predictors of bullshitting ability*

			95% Confidence Interval			
Model	Predictors	*β*	Lower	Upper	*F*	R^2 / ΔR^2
1	Machiavellianism	.13*	0.04	0.23		
	Verbal ability	.36***	0.27	0.46	31.03	.13***
2	Machiavellianism*Verbal ability	.07	-0.03	0.17	1.95	ΔR2 = .01
	Total R^2					.14***

Note. R^2 coefficient has been adjusted.
* $p < .05$, ** $p < .01$, *** $p < .001$

Table 5 *Simple slope estimates*

			95% Confidence Interval			
	β	SE	Lower	Upper	*Z*	*p*
Average	.13	.05	.04	.23	2.78	.005
Low (-1SD)	.06	.06	-.06	.19	.95	.342
High (+1SD)	.21	.08	.06	.35	2.71	.007

Note. The table shows the effect of the predictor (Machiavellianism) on the dependent variable (Bullshitting ability) at different levels of the moderator (Verbal ability).

the variance of bullshitting ability. In the second step, divergent thinking was added to the model. Divergent thinking was also a significant predictor and together with verbal ability explained 13% of the variance of the bullshitting ability. All models were significant. These results support our hypothesis about the role of verbal ability (H4) and also help us understand the role of divergent thinking in bullshitting ability.

Interaction between Machiavellianism and Verbal Ability in Predicting Bullshitting Ability

Our results suggest potential avenues for further investigation. Specifically, bullshitting ability may not be solely a function of cognitive ability or personality factors (Machiavellianism) but rather may emerge from the interaction of the two. Individuals high in Machiavellianism may possess the motivation to use bullshitting strategically to influence others, but without adequate cognitive resources, their efforts may be less convincing. Building on this possibility, we conducted an additional analysis to explore the moderating role of Verbal ability in the relationship between Machiavellianism and bullshitting ability. The results are presented in Table 4 and Table 5.

While the interaction between Machiavellianism and Verbal ability did not reach statistical significance, the analysis of the simple slopes suggested a meaningful pattern. Machiavellianism was significantly associated with bullshitting ability at average and high levels of verbal ability, but not at low levels. This suggests that although the moderating effect of verbal ability was not statistically significant, the interaction pattern suggested a trend worth exploring.

Discussion

The present study had three main objectives. First, we wanted to see how four commonly used or proposed indicators of bullshitting behave when they are examined within a single framework, specifically, bullshitting frequency, bullshitting willingness, overclaiming and bullshitting ability. Second, we asked whether cognitive resources beyond verbal ability, namely divergent thinking (fluency and originality), help people produce more convincing bullshit. Third, we examined whether dark personality traits are linked to bullshitting ability. Below we discuss our findings.

Relations among Bullshitting Indicators

Rather surprisingly and in contrast to our expectations, we did not find a statistically significant positive relationship between various measures of bullshitting (bullshitting frequency and overclaiming) (H1). These results contradict the findings of Littrell et al. (2021a), who found a positive relationship between persuasive bullshitting and overclaiming. A possible explanation for the differing results lies in the variation of tools used to measure overclaiming. While Littrell et al. (2021a) used an adapted version of the Overclaiming Questionnaire (OCQ; Paulhus et al., 2003), in our work we used a bullshitting willingness task. Supporting this perspective is the fact that nearly a quarter of participants correctly recognized that they were unfamiliar with all non-existent constructs, potentially biasing our results. However, given the relatively low strength of the relationship between persuasive bullshitting and overclaiming in the original study (r = .20) and the absence of a significant relationship in our study, these results suggest that while overclaiming has been used as an indicator of bullshitting propensity in some studies (Jerrim et al., 2019), it may not adequately capture the same construct as measures of actual bullshitting behavior.

A related observation concerns personality correlates: in our data, self-reported bullshit-

ting showed clearer links to Dark Triad traits than overclaiming did. This pattern is consistent with the idea that frequent bullshitting may be more strategic and socially manipulative (hence its links to Machiavellianism, narcissism, and psychopathy), whereas overclaiming may partly reflect self-enhancing or self-deceptive tendencies, which are more typical of narcissism.

Next, we investigated the relationship between bullshitting ability and bullshitting frequency to answer the question of whether a bigger bullshitter is a better bullshitter. Our assumption that these two factors would be negatively correlated (H2) was not supported. Littrell et al. (2021b) suggest that more intelligent people, who may have higher bullshitting ability, tend to engage in bullshitting less frequently because they are less likely to find themselves in situations of intellectual unpreparedness. However, this relationship is likely more complex. The lack of a statistically significant relationship in our study suggests that further research is needed. Our findings revealed that individuals with high bullshitting ability varied in how frequently they engaged in bullshitting, some reported doing so often, while others did so rarely. This variation suggests that bullshitting ability does not necessarily predict bullshitting frequency, and there is no straightforward or negative relationship between the two. Rather, individuals may differ in how and when they choose to use their bullshitting skills. This points to the potential importance of contextual or situational factors in shaping the strategic use of bullshit. Future research could explore what specific circumstances prompt individuals to utilize their bullshitting ability, whether to gain social advantage, mitigate social risks, or navigate complex interpersonal dynamics. This aligns with Gibbons' (2023) conceptualization of bullshitting as a strategic social behavior, used selectively when perceived as advantageous.

Cognitive Correlates of Bullshitting Ability

We predicted a positive association between perceived intelligence and bullshitting ability, and this was confirmed (H3). Explanations that raters evaluated as more convincing were also accompanied by higher ratings of how intelligent the author seemed to be, replicating Turpin et al. (2021). Part of this association likely reflects evaluation alignment: the same raters formed judgements about accuracy/satisfactoriness and about intelligence. Even so, the result is theoretically meaningful, since it shows that form and fluency can create an impression of intelligence even in the absence of real content (the constructs were non-existent).

We expected verbal ability to positively predict bullshitting ability (H4). This expectation was supported in both correlational and regression analyses, despite the fact that we used a different instrument to measure verbal ability than the original study by Turpin et al. (2021). This strengthens the claim that the association is not measure-specific. A plausible explanation is that higher verbal ability provides the tools, vocabulary, syntactic flexibility, discourse organization, needed to build coherent, plausible narratives from minimal or fictitious information. In other words, verbal ability gives people the "linguistic scaffolding" for bullshit.

In regards to divergent thinking, we expected originality and fluency to relate positively to bullshitting ability (H5). Both fluency and originality showed positive, though small, correlations with bullshitting ability, and they remained predictive even after controlling for verbal ability.

This finding supports the idea that divergent thinking plays a role in generating plausible but potentially misleading statements (bullshitting ability). However, our data indi-

cate that verbal ability is a stronger predictor of bullshitting ability than divergent thinking, suggesting that linguistic competence provides a foundational structure for convincing bullshit production. It seems that while fluency and originality may contribute to small embellishments or motivation to engage with the task, their role is not critical. Additionally, while intelligence and creativity were significant predictors, they accounted for 13% of the variance in bullshitting ability, indicating that other unexamined factors likely play a role. Future research should explore potential interactions between verbal ability and divergent thinking to determine whether their combined effect enhances bullshitting ability.

While the replication of the original findings (Turpin et al., 2021) about the predictive role of intelligence on bullshitting ability adds robustness to previous findings, another significant contribution of our work is exploring the role of divergent thinking as an additional, independent contributor to this skill.

Dark Traits and Bullshitting Ability

Besides cognitive ability we were also interested in relationships of Dark Triad traits and bullshitting ability. Only Machiavellianism correlated positively with bullshitting ability, though this relationship was weak. Blötner's (2024) study sheds light on this by distinguishing between motivational and ability-oriented components of bullshitting. While verbal ability likely captured the ability aspect of bullshitting, the Dark Triad traits might represent the motivational drive to engage in it.

To explore this interaction further, we tested whether verbal ability would moderate the relationship between Machiavellianism and bullshitting ability. The moderation analysis revealed that the effect of Machiavellianism on bullshitting ability was stronger among individuals with higher verbal ability. Although the interaction term did not reach conventional levels of significance, the analysis of the simple slopes suggested a meaningful pattern: the relationship between Machiavellianism and bullshitting ability was non-significant at low levels of verbal ability, but became significant at higher levels. In other words, if people want to use bullshit as effective manipulation, they also need to possess adequate cognitive resources. Our data partially support this premise, as cognitive factors are linked to bullshitting ability, while personality factors more strongly correlate with evasive and especially persuasive bullshitting, which reflects deliberate engagement in bullshitting (Table 2). However, this pattern was less consistent for objectively measured forms of bullshitting. Specifically, narcissism and psychopathy were positively associated with bullshitting willingness, while only narcissism showed a significant relationship with overclaiming.

Limitations and Future Directions

While this study provides new insights into the cognitive and personality correlates of bullshitting ability, several limitations should be acknowledged. First, the measurement of bullshitting ability relied on subjective ratings. Although this approach aligns with prior research, it introduces potential biases related to rater perceptions and inter-rater variability. As we mentioned in the results section, intraclass correlations between the ratings of different raters were considerably low. Future studies should explore alternative or more objective measures, such as linguistic analyses of bullshit content, to further validate the construct of bullshitting ability.

Additionally, while we found no significant relationship between bullshitting ability and bullshitting frequency, this does not rule out situational factors that may influence when and why individuals choose to bullshit. Fu-

ture studies should investigate contextual variables, such as social norms, incentives, or audience expertise, to determine under what conditions individuals high in bullshitting ability are more likely to engage in the behavior.

Conclusion

This study provides compelling evidence that bullshitting ability is primarily driven by verbal ability and divergent thinking, particularly originality and fluency. While Machiavellianism was modestly linked to bullshitting ability, other Dark Triad traits did not show consistent effects, suggesting that cognitive skills, rather than personality traits, are more critical for producing high-quality bullshit. Importantly, the study found no significant link between bullshitting ability and bullshitting frequency, indicating that being good at bullshitting does not mean one does it often, and vice versa. While some individuals may be naturally better at crafting convincing nonsense due to their cognitive abilities, their actual use of this skill is likely influenced by motivation, context, or ethical boundaries, not just ability alone.

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