

## The construct validity of over-claiming as a measure of egoistic enhancement

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Over-claiming is the tendency to claim knowledge about nonexistent items. Findings of the previous research suggest that it might serve as a measure of unconscious egoistic bias, one form of socially desirable responding. The aim of this study was to examine the convergent and divergent validity of over-claiming within Paulhus two-tiered model of socially desirable responding. Total of 382 participants filled in the Over-claiming Questionnaire, together with Comprehensive Inventory of Desirable Responding and 300-item International Personality Item Pool inventory, under honesty instructions. Results showed that over-claiming bias indices correlated more with egoistic than moralistic scales. At the same time, contrary to Paulhus' two-tiered model, they were more strongly correlated with impression management scales, compared to self-enhancement scales. These findings indicate that over-claiming might represent a measure of egoistic bias, while its specification on the process level is yet to be investigated.

*Key words:* over-claiming, socially desirable responding, Paulhus' two-tiered model

Socially desirable responding (SDR) refers to presenting oneself favorably regarding current social norms and standards (Zerbe & Paulhus, 1987). In the beginning of its empirical research, mid 20<sup>th</sup> century, SDR was looked upon as one-dimensional construct that contaminates personality self-reports (Edwards, 1953; Ellis, 1946). However, some of the psychometrically sound SDR scales showed surprisingly low intercorrelations, indicating multidimensional nature of the construct. Wiggins (1964) collected all the available socially desirable responding measures into one single study. Factor analyses revealed that social desirability scales tend to cluster around two distinct factors, labeled Alpha and Gamma. For many years, researchers debated how to interpret these two factors of SDR. By integrating and broadening the models based on Wiggins's idea, Paulhus (1984) set a very influential SDR model, defining the two SDR factors as self-deception and impression management. Self-deception refers to the unconscious tendency to see oneself in overly favorable light, while impression manage-

ment represents a conscious distortion with intention to impress others. As an operationalization of the two-component social desirability model Paulhus introduced the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1988). Although, subsequent analyses of BIDR consistently revealed one factor of impression management and two self-deception factors - enhancement (promoting positive qualities) and denial (disavowing negative qualities) (Paulhus & Reid, 1991). Hence, they created a revised version of the BIDR consisting of three scales: Self-deceptive enhancement, Self-deceptive denial and Impression management. Nevertheless, the revised model did not fit the empirical data well. Numerous tests have shown that the crucial difference between model components is not in the level of consciousness but in the content of created self-presentation (Galić & Jerneić, 2006; Pauls & Crost, 2004; Pauls & Stemmler, 2003;).

These results were in accordance with findings of the studies that examined structure of self-favoring bias. In their research, Paulhus and John (1998) created personality and intelligence bias scores by regressing personality and intelligence self-ratings on their corresponding criteria (other-ratings on personality questionnaire and intelligence test results). The residual scores represented "objective" measure of the departure of self-ratings from reality. Factor analysis of a comprehensive set of such residuals revealed two forms of self-presentation different in content. High inter-correlation of agreeableness and conscientiousness bias results de-

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fined the first, while inter-correlation of distortions on extraversion and intellect explained the second factor. Emotional stability bias scores loaded on both factors. In addition, the relationship of those factors with various SDR measures revealed that the structure of self-favoring bias closely resembles very well known Wiggins's Alpha and Gamma factors.

The revelation of the two SDR components different in content led Paulhus (2002) to the latest conceptualization of SDR - the two-tiered model. This model incorporates a process level as well as an orthogonal content level of SDR (Paulhus, 2002). On the process level, socially desirable responding can be conscious and unconscious. Self-enhancement is an unconscious tendency to see oneself in too favorable manner, whilst impression management refers to conscious faking. On the content level, there are egoistic and moralistic biases. The egoistic bias (Alpha) is a tendency of individuals to overestimate their own abilities, social and intellectual status, that is, displaying the "superhero" qualities. The egoistic bias is derived from the agentic value and manifests in emphasizing one's extraversion, dominance and intellect. The moralistic bias (Gamma) refers to a tendency to deny socially deviant impulses and claim sanctimonious, "saint-like" attributes. This tendency is reflected in self-descriptions on traits such as agreeableness and conscientiousness, with origins in communal value (Paulhus & John, 1998). The terms "agency" and "communion" characterize two fundamental modalities of human existence – agency for the existence as an individual and communion for the participation of the individual in society (Bakan, 1966). Thus, the agentic value appreciates autonomy and well-being of the individual over everything else, compared to the communal value which cherishes group and interpersonal relationships (Wiggins and Trapnell, 1996).

Combining the two orthogonal levels results in four different SDR components (Figure 1), finally named (Paulhus, 2006): *agentic enhancement* (unconscious egoistic bias), *agentic management* (conscious egoistic bias), *communal enhancement* (unconscious moralistic bias) and *communal*

*management* (conscious moralistic bias). For measurement of these components, Paulhus developed Comprehensive Inventory of Desirable Responding (CIDR, 2006). The inventory consisted of the BIDR scales, Self-deceptive enhancement, Self-deceptive denial and Impression management, renamed into Agentic enhancement, Communal enhancement, and Communal management, respectively. In addition, new scale for measuring Agentic Management was developed.

Parallel with development of the CIDR, Paulhus has introduced additional measures of the model components. The main drawback of SDR scales is questionable success in discriminating valid personality content from desirable responding (Paulhus, 2002). Items included in SDR questionnaires usually refer to favorable, but very rare behaviors as well as frequent but undesirable behaviors (Paulhus, 1991). However, rare does not necessarily mean being impossible, and by claiming that behaviors some people may actually be telling the truth. For example, Paulhus, Harms, Bruce and Lysy (2003) ask how do we know whether someone is really faking when, for example, one denies swearing on one of the CIDR items.

To avoid the problem entailed by SDR questionnaires, Paulhus et al. (2003) introduced the over-claiming technique (OCT). The over-claiming technique is a self-report measure as well. At the same time, unlike common SDR scales which ask respondents about their attitudes and behaviors, OCT requires estimations of the familiarity with general knowledge items, some of which are real (for example Bill Clinton in category *Politicians*), while others are made-up ("foils", for example Fred Gruneberg in category *Famous Athletes*). Relying on the content of the questionnaire, participants believe they are dealing with a general knowledge questionnaire, which leaves measuring socially desirable responding covert. Appropriately analyzed, data collected with the over-claiming technique result with accuracy and bias indices. While accuracy index shows the level of participant's knowledge related to school grades

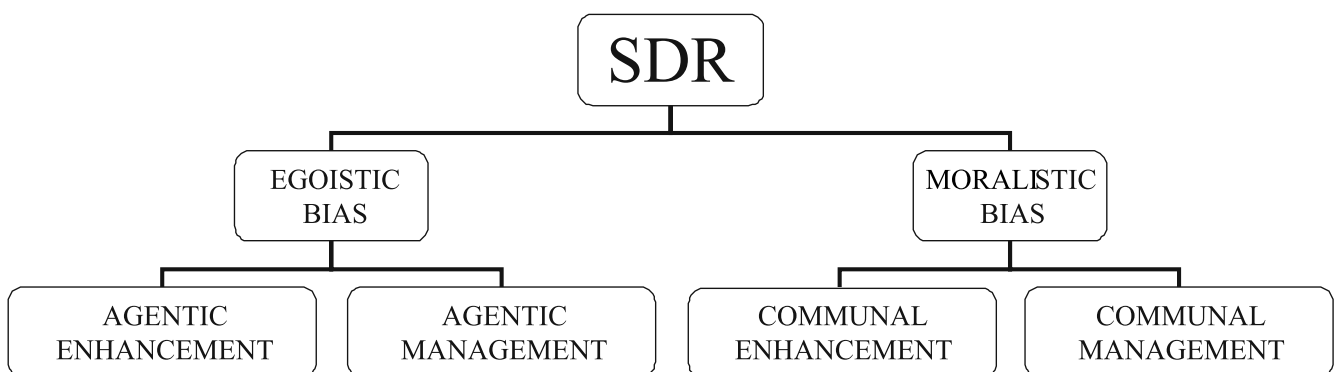


Figure 1. Paulhus' two-tiered model (2006) including components matching Comprehensive Inventory of Desirable Responding.

and intelligence (Paulhus & Harms, 2004), bias index is a measure of the tendency to overclaim familiarity with the items that actually do not exist. Within the two-tier model of social desirability, this bias result should represent agentic enhancement, i.e., unconscious egoistic bias. Potential practical advantage of the over-claiming technique is that it reduces defensiveness common for traditional measures of self-enhancement (Paulhus et al., 2003). Namely, social desirability items can be perceived to pry into the personal affairs of respondents, while over-claiming technique resembles less threatening general knowledge tests.

The potential of the OCT in measuring of SDR had already been revealed by Randall and Fernandes (1991). In their research they used the technique as a control of bias in self-reports of unethical behavior and found significant positive correlation between sum of nonexistent items familiarity reports and self-deceptive enhancement (i.e. agentic enhancement) measured by the BIDR (Paulhus, 1991). Interpretation of over-claiming as an enhancement measure is further confirmed by Paulhus et al. (2003) who, in addition to significant relationship with self-deceptive enhancement/agentic enhancement ( $r = .30$ ), found significant correlation between the OCT bias index and narcissism ( $r = .35$ ). In the same research Paulhus et al. found that bias index positively correlated with personality bias scores ( $r = .22$ ) and intelligence bias scores ( $r = .25$ ). The bias scores were defined as a discrepancy between self-descriptions and objective criterion and calculated as the residual of the self-ratings after the corresponding observer-ratings/IQ scores were removed with regression. The fact that OCT bias indices correlated most strongly with discrepancy self-enhancement on intelligence, Extraversion and Openness, the most agentic traits, confirmed that over-claiming was agentic in nature (see Paulhus et al., 2003 for details). Participants whose Extraversion and Openness self-reports were to more extent positive than reports given by their colleagues, together with participants whose intelligence self-ratings were to more extent higher than their cognitive ability test results, tended to have higher OCT bias indices. As an evidence of their discriminate validity, the bias index showed correlation neither with the two remaining BIDR scales, nor with self-monitoring scale. In addition, a potential of OCT for measuring the self-enhancement bias has also been shown by its correlation with adjustment measures. If it represents a self-enhancement measure, OCT bias score should correlate positively with adjustment measures indicating its adaptive value (Campbell, Rudich, & Sedikides, 2002; Sedikides & Green, 2004; Taylor & Brown, 1994). As expected, Paulhus' et al. study (2003) yielded positive correlation of OCT-bias index with self-esteem ( $r = .30$ ) and resourceful adaptation to everyday stressors – ego-resiliency ( $r = .25$ ).

However, some other research did not find the expected relationship of OCT bias index with other constructs. For example, in a more recent study, Mesmer-Magnus, Viswesvaran, Deshpande and Joseph (2006) found a negative cor-

relation of OCT bias index with self-esteem ( $r = -.16$ ), and zero correlation with emotional intelligence. Mesmer-Magnus et al. therefore concluded that self-enhancement cannot be measured with the over-claiming technique. Furthermore, Paulhus et al. (2003) reported an increase of bias indices in high-stake situations, what challenged the fact it taps (only) unconscious self-enhancement. The contradiction in results reveals the need for additional empirical validation of the over-claiming bias index as a measure of egoistic enhancement especially by concurrently examining its relationship with all four components of the two-tier model.

Therefore, the aim of this study is to examine convergent and divergent validity of the over-claiming bias indices within the Paulhus' two-tiered SDR model framework. In order to test the convergent validity, correlations with another agentic enhancement measure will be investigated. The divergent validity will be tested by examining the correlation with theoretically different constructs (e.g., agentic management, communal enhancement and communal management). Consequently, we assume the following:

*Hypothesis 1.* Bias indices will show stronger relationship to the Agentic Enhancement Scale, compared to other model's components scales.

In addition, considering that factor-analytic studies of self-report residuals have shown that egoistic and moralistic biases affect different personality dimensions (Paulhus & John, 1998), we assume the following:

*Hypothesis 2.* Bias indices will correlate more strongly with extraversion and openness, than with agreeableness and conscientiousness scales.

## METHOD

### Participants

Participants were 382 students and alumni graduated within a year (55% female), mostly from the University of Zagreb. Participants' age ranged from 18 to 30 years averaging 22.8 ( $SD = 2.19$ ). Psychology students and alumni were not included.

### Procedure

Participants were tested individually, within a larger research project examining nature of social desirability and its relationship with personality traits. Test administration began with the over-claiming questionnaire. Participants were told it is a general knowledge test and were asked to rate their familiarity with each of the 150 items included.

In the next step, participants filled in the socially desirable responding and personality inventories under honest responding instructions. Both inventories' items were mixed, in order to leave SDR items covert. Prior to administration, half of participants ( $N = 191$ ) received additional warning

that faking can be detected. At the end participants filled in a short socio-demographic questionnaire.

The subjects' anonymity was assured by the fact that participants themselves posted the filled-in questionnaires in the stamped envelope back to the researcher. Each participant could put a password on his questionnaire, in order to get the personality feedback. The pollster was present in the room during the whole testing procedure in order to prevent the participants to check up the OCT items and ensure that the questionnaires are filled in in appropriate order.

### Instruments

*Over-claiming.* The Over-Claiming Questionnaire (OCQ-150; Paulhus, Harms, Bruce, & Lysy, 2001) consists of 150 general knowledge items, divided into 10 domains: *Historical Names and Events, Fine Arts, Language, Books and Poems, Authors and Characters, Social science and Law, Physical Sciences, Life Sciences, Popular Culture, Current Consumer Products.* There are 12 existent and 3 nonexistent items ("foils") in each domain. Participants' task is to rate their familiarity with each item, on the scale ranging from 0 (*never heard of it*) to 6 (*very familiar with it*).

Considering that general knowledge items are culturally specific, we had to adapt the OCT-150 for the Croatian population. The adaptation process began with translating the original items into Croatian. Items that were, in our opinion, culturally specific for the USA were discarded (e.g., Jackie Robinson – first African American Mayor League baseball player), all others were kept. In addition, a group of psychology students created a number of new items, whose existence was checked via Internet search. After logical/content analysis a total of 300 items were kept, including culturally unspecific items from original questionnaire. In each domain, there were 20 existent items and 10 foils. The preliminary OCQ-300 was administered on a sample of 100 students. This data served for the purpose of the final OCQ-150 construction. The item analysis was made separately for each domain. Finally, 12 existent items and three foils were chosen in each domain. Criterion for the foils was the item's discrimination potential – the items with moderate *difficulty* indices were selected. On the other hand, the combination of existent items along the whole scale span (easy, moderate and difficult) was chosen. It was important to include existent items with low average recognition rates, so that foils do not seem obvious. High average rate items were needed as well, to assure that the questionnaire resembles general knowledge tests.

As mentioned above, the over-claiming technique provides information about respondent's knowledge/accuracy, expressed with *accuracy index*, and over-claiming/bias, expressed with *bias index*. According to the Signal Detection Theory (SDT) principles, these indices can be calculated with formulae combining hit (H) and false-alarm (FA) rate. The hit rate is calculated as the proportion of the 120 real

items with which the individual claims some familiarity. The false-alarm rate is the corresponding proportion of the 30 foils with which the participant claims some familiarity (Paulhus & Harms, 2004). Among many SDT indices that can be calculated from these values, Paulhus and Petrusic (2002) recommend two pairs: a) the common-sense pair and b) the traditional SDT pair. An accurate individual is not the one scoring the most hits, but the one showing the best ability to discriminate between existent and nonexistent items (Paulhus et al., 2003). Thus, using the common-sense formula, accuracy is indexed by the proportion of hits ( $pH$ ) relative to the proportion of false alarms ( $pFA$ ):

$$\text{Accuracy index (difference score)} = pH - pFA$$

Its traditional SDT alternative is  $d'$  prime, where  $pH$  and  $pFA$  are standardized ( $zH$  and  $zFA$ ):

$$\text{Accuracy index (d' prime)} = zH - zFA.$$

Response bias is the stylistic tendency to say "Yes, I recognize that item" versus "No, I don't recognize that item" (Paulhus et al., 2003). Assuming it influences ratings of both existent and nonexistent items, the common-sense bias index formula is *yes-rate*:

$$\text{Bias index (yes-rate)} = (pH + pFA)/2.$$

Accordingly, its traditional alternative is *criterion location (c)*:

$$\text{Bias index (criterion location)} = (zH + zFA)/2.$$

In order to calculate hits and false alarms, item values should be dichotomized, so that estimates greater or equal to 1 are treated as if the participant has recognized the item, while estimates equal to 0 remain unrecognized. Paulhus et al. suggest calculating the SDT indices not only on the 0/1 recognition threshold, but on the five rest, as well: less or equal to 1 as "unrecognized"/greater or equal to 2 as "recognized" (1/2 threshold), less or equal to 2/greater or equal to 3 (2/3), etc. Thus, item values should be dichotomized six times, varying the recognition threshold. Six accuracy scores should then be calculated and standardized. The final accuracy index is an average of the six accuracy scores. The same sequence has to be followed for calculating the bias index (Paulhus & Harms, 2004).

*Socially desirable responding.* Socially desirable responding was measured with the Comprehensive Inventory of Desirable Responding (CIDR; Paulhus, 2006; JerneiĆ, Galić & Parmač, 2007a, for registered Croatian translation). The CIDR contains four subscales that correspond to the dimensions of the Paulhus' two-tiered model: (a) Agentic Enhancement (for example: «I am a completely rational person.»); (b) Agentic Management (for example: «My persuasive powers are impossible to resist.»); (c) Communal Enhancement (for example: «I have never felt joy over someone else's failure..»), and (d) Communal Management

(for example: «I have never dropped litter on the street.»). Each subscale consists of 20 items, describing people’s attitudes and behavior. Participants’ task was to rate their agreement with each item on the seven–point scale, 1 meaning “completely false” and 7 meaning “completely true”.

In order to form the scale results, Paulhus suggests summing extreme responses only. More specifically, items should be recoded so that 1 expresses minimal and 7 maximal socially desirable responding. Only responses equal to 6 or higher are considered as socially desirable and are summed in scale results.

However, Stöber, Dette and Musch (2002) showed that continuous scoring may be preferable to dichotomous scoring when assessing socially desirable responding with earlier version of this scale (i.e., the BIDR). The continuous scores showed higher Cronbach’s Alphas than dichotomous scores. Moreover, the continuous scores showed higher correlations with other measures of social desirability, as well as more consistent effects with different self-presentation instructions (fake-good vs. fake-bad instructions). Continuous scoring resulted in higher scale reliabilities in our sample as well, varying between .72 for AM scale and .82 for CM scale, in comparison to .62 for AM, and .76 for CM when dichotomous coding was used. In line with this, continuously scored CIDR scales were used in further analyses.

*Personality.* The personality dimensions were measured with Goldberg’s IPIP-300 questionnaire (*International Personality Item Pool*, Goldberg et al., 2006; JerneiĆ, Galić & Parmač, 2007b, for registered Croatian translation). The IPIP-300 inventory measures the Big Five personality factors (Extraversion, Neuroticism, Agreeableness, Conscientiousness and Openness). Each personality scale consisted of 60 items. Participants rated their agreement with the statements on a 7-point scale, which was used in order to make mixing of IPIP and CIDR items possible. Scale reliabilities were very high, with Alpha coefficients varying between .87 for Openness and .94 for Conscientiousness. IPIP inter-correlations in this study range from -.34, between Extraversion and Neuroticism, to .35, between Agreeableness and Conscientiousness.

RESULTS

Before main analyses, we had tested whether warning instruction significantly influenced the results of our participants on social desirability and personality scales. The conducted t-tests showed that significant difference between the two samples existed only on Communal Enhancement scale ( $t(370) = 2.179, p < .05$ ). Since even this difference was small in size ( $d = 0.23$ ), we concluded there is no need for separate analyses on the subsamples.

The average rating on OCT items was 3.5, compared to 2.4 for foils indicating that, as could be expected, partici-

pants had shown more familiarity with existing items. All over-claiming technique indices were based on hit and false alarm rates calculated on six cutoff points. Hit rates varied between 0.80 (cutoff between 0 and 1) and 0.34 (cutoff between 5 and 6), and false alarm rates between 0.72 (cutoff between 0 and 1) and 0.12 (cutoff between 5 and 6). Averaging values on six cutoff points yielded a hit rate of 0.58 ( $\alpha = .95$ ) and false alarm rate of 0.39 ( $\alpha = .95$ ).

Accuracy and bias indices were calculated using both traditional and common-sense formulae. The two bias indices, *yes-rate* and *criterion location*, correlated almost perfectly ( $r(382) = .99, p < .01$ ), as well as the two accuracy indices, *difference score* and *d’ prime* ( $r(382) = .96, p < .01$ ). The overall Alphas for the accuracy and bias pairs were .95 and .93 for the traditional pair and both .94 for the common-sense pair. Accuracy and bias correlated, -.39 and -.21 for the standard and common-sense pairs, respectively. Kolmogorov-Smirnov test proved that all indices’ distributions do not significantly deviate from normal. Considering that the goal of our study was to test the usefulness of OCT for measuring agentic enhancement, only bias indices were used in further analyses.

In order to test the first hypothesis, correlations between bias indices and the CIDR scales were calculated (Table 1). Both *yes-rate* and *criterion location* significantly correlated with all the CIDR scales. However, these coefficients did not exceed .20, indicating that over-claiming shares less than 4% variance with each SDR dimension. When entered in regression analysis, the percentage of variance in bias indices explained by all four components remained the same (3.2% for *yes-rate* and 3.7% for *criterion location*), leaving the Agentic Management the only significant predictor (*yes rate* -  $\beta = .156, p < .05$ ; *criterion location* -  $\beta = .156, p < .05$ ). Thus, the results did not prove our first hypothesis that the bias indices will show the strongest relationship to the Agentic Enhancement, compared to other CIDR scales.

In order to test the second hypothesis, we calculated the correlations between the bias indices and the Big Five personality dimensions. Both *yes-rate* and *criterion location* significantly correlated with all the IPIP scales, but correlation coefficients were quite low (Table 2). In accordance

Table 1  
Correlations between the bias indices and the CIDR scales (N = 382)

	Agentic Enhancement	Agentic Management	Communal Enhancement	Communal Management
Yes-rate	.13*	.19**	.14**	.15**
Criterion location	.14**	.20**	.15**	.15**

\*  $p < .05$ . \*\*  $p < .01$ .

with the hypothesis, criterion location and yes-rate correlated slightly stronger with Extraversion and Openness than with Conscientiousness and Agreeableness. Both yes-rate and criterion location are low-negatively correlated with Neuroticism. When put in regression analysis, personality dimensions explained 7.5% of the both bias indices. In accordance with the second hypothesis, the only two significant predictors were Extraversion and Openness (yes rate – Extraversion:  $\beta = .149$ ; Openness:  $\beta = .138$ , both  $p < .05$ ; criterion location – Extraversion:  $\beta = .162$ ;  $p < .01$ ; Openness:  $\beta = .123$ ,  $p < .05$ ).

The finding that the bias indices correlated weakly with both personality and SDR scales could partially be explained by the fact that they are correlated with the accuracy indices. Hence, these measures of bias could be considered impure. In order to make the bias index a measure independent of knowledge, when calculating the correlations with other measures, the criterion variables (i.e., social desirability and personality scales) were regressed simultaneously on both accuracy and bias indices (Paulhus et al., 2003), and standardized regression coefficients instead of correlation coefficients were used as relationship indicators. The results are shown in Table 3 for social desirability and Table 4 for personality scales.

Both indicators were associated only with Agentic Management and Communal Management scales. The largest

Table 2

Correlations between the bias indices and the IPIP scales (N = 382)

	Extraversion	Agreeableness	Conscientiousness	Openness	Neuroticism
Yes-rate	.21**	.13*	.17**	.19**	-.11*
Criterion location	.22**	.13*	.17**	.18**	-.12*

\*  $p < .05$ . \*\*  $p < .01$ .

Table 3

Association between the bias indices and the CIDR scales expressed with standardized regression coefficients (N = 382)

	Agentic Enhancement	Agentic Management	Communal Enhancement	Communal Management
Yes-rate (controlled for difference score)	.09	.16**	.11	.12*
Criterion location (controlled for $d'$ prime)	.08	.15**	.09	.11*

\*  $p < .05$ . \*\*  $p < .01$ .

Table 4

Association between the bias indices and the IPIP scales expressed with standardized regression coefficients (N = 382)

	Extraversion	Agreeableness	Conscientiousness	Openness	Neuroticism
Yes-rate	.17**	.11*	.14**	.25**	-.11*
Criterion location	.14*	.09	.10	.29**	-.12*

\*  $p < .05$ . \*\*  $p < .01$ .

squared part correlation coefficient of “yes-rate” and criterion location with CIDR scales was .03 indicating even weaker relationship with SDR scales when accuracy index is controlled for. In addition, when correlation between CIDR scales within regression equation is taken in concern, Agentic Management remained only significant predictor of both bias indicators (yes rate -  $\beta = .135$ ,  $p < .05$ ; criterion location -  $\beta = .111$ ,  $p = .06$ ).

Controlling for accuracy scores had similar effect on the relationship between the bias indices and personality traits (Table 4). Both indicators were associated with Openness and Extraversion. In addition yes-rate correlated with Agreeableness and Conscientiousness as well. Comparison of zero-ordered and part correlation coefficients indicated weaker relationships in case of controlling for accuracy score. However, when controlled for covariation between personality scales within regression equation, the only significant predictor of both bias indicators remained Openness to experience (yes rate -  $\beta = .216$ ,  $p < .01$ ; criterion location -  $\beta = .254$ ,  $p < .01$ ).

## DISCUSSION

The adapted Over-Claiming Questionnaire showed satisfactory psychometrical properties. Both traditional and common-sense pairs of indices distributed normally and yielded inter-correlations at the level of their Alpha coefficients. Accordingly, they correlated with IPIP and CIDR scales similarly, so we find no need for using both pairs in further research. Considering that they have firm basis in the Signal Detection Theory, we suggest using the traditional indices, criterion location and  $d'$  prime, only.

The problem of this research was to test the construct validity of the over-claiming within Paulhus’ two-tier model of socially desirable responding. It is assumed that the construct of over-claiming might be used as a measure of agentic enhancement (Paulhus et al., 2003), one of the four SDR components, which refers to the unconscious tendency of individuals to describe themselves socially and intellectually competent. Therefore we expected that over-claiming

bias indices should be more closely correlated with Agentic Enhancement scale in comparison to the remaining three scales of the Comprehensive Inventory of Desirable Responding. Results of conducted analyses showed that OCT bias indices correlated weakly with social desirability scales - percentage of explained variance in both indices was below 4%. Regardless of whether accuracy scores were controlled for or not, the only significant predictor was Agentic Management and not Agentic Enhancement scale.

These results are in line with our earlier findings, which question usefulness of CIDR scales in capturing process dimension of the two-tiered model (Galić, JerneiĆ & Belavić, 2009). The main finding was that differences in results on the CIDR scales between different motivational contexts and their correlation with personality scales supported only content dimension of the model. Therefore, both Agentic Enhancement and Agentic Management scales were shown to measure egoistic bias, but it was not confirmed that the first refers to unconscious and second to conscious distortion. However, there are obvious differences between the two scales. Inspection of the CIDR items reveals that the Agentic Management items tap exaggerating of one's intellectual status, extreme asset promotion and bragging (for example: "Some people call me a genius.", or negatively coded "I have met people smarter than myself."). On the other hand, Agentic Enhancement relates to behaviors and attitudes that are also socially desirable but more common and less extreme (for example: "I am very confident in my judgments."; or reversed "I rarely appreciate criticism."). This difference between scales could explain stronger correlation of OCT bias indices with Agentic Management - claiming familiarity with non-existent OCT items represents bragging in general knowledge domain and is more similar to Agentic Management than Agentic Enhancement. The finding that even this relationship was relatively weak probably comes from the fact that over-claiming technique is limited only to knowledge, which is only a small part of egoistic domain. As far as we know, this is the first study using the OCQ together with all CIDR scales. The significant relationship between OCT-bias indices and self-deceptive enhancement (i. e., agentic enhancement in the two-tier model) found in earlier studies could be explained by the fact that Agentic Management, a newly constructed scale, was not controlled for. Further research is needed to clarify the nature of the over-claiming construct and its relationship with differently operationalized components of the two-tiered model of social desirability.

Contrary to problematic nature of CIDR, validity of the IPIP, used for measuring traits included in the Five-factor personality model, was confirmed in numerous researches (Gow, Whiteman, Pattie, & Deary, 2005; Lim & Ployhart, 2006). Hence, we find it served as more solid criteria for validation of the over-claiming construct. As expected in our second hypothesis, the correlation between the over-claiming and personality dimensions follows the pattern

assumed by the two-tier model indicating that OCT-bias indices might represent a measure of egoistic bias. Regardless of whether accuracy index was controlled for, personality traits that correlated with bias indices were those that Paulhus and John (1998) related to egoistic bias. Therefore, we find this fact to be yet another support for the conclusion that OCT bias indices might represent an indicator of egoistic type of distortion. Nevertheless, the relationships of OCT with other constructs were low, and additional tests of its construct validity are needed.

## CONCLUSION AND FUTURE RESEARCH

Altogether, our findings indicate that over-claiming bias indices might represent measures of egoistic bias. However, whether this bias is conscious, unconscious or both is unclear. We find that there are still not enough arguments that it measures only the unconscious component.

Both traditional and common sense pairs of over-claiming indices showed satisfactory psychometrical characteristics. Considering its high inter-correlation for both accuracy and bias, there is no need for using both pairs. Since the criterion location represents well established SDT index, in future research we recommend using only the traditional pair.

The limitation of this study is that the over-claiming technique was administered under honest instructional set only. Paulhus et al. (2003) claim the validity of the over-claiming for measuring self-enhancement holds even when respondents are: a) warned about the foils or b) asked to fake good. Thus, in future research the Over-claiming Questionnaire should be administered in different motivational contexts and compared with some additional agentic enhancement measures to define its status regarding the process component of the Paulhus' SDR model. In addition, participant samples other than student are required. It would be interesting to test OCT validity in situations in which participants are motivated to present themselves in favorable light, such as for example personnel selection context.

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