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SOCIALLY DESIRABLE RESPONDING IN CHINESE UNIVERSITY STUDENTS: DENIAL AND ENHANCEMENT?[1, 2, 3]

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Summary.—This study examined the Balanced Inventory of Desirable Responding (BIDR) with one-, two-, three-, and four-dimensional models and tested the BIDR's discriminant validity with personality variables. A confirmatory and exploratory factor analysis of responses from 600 Chinese university students (314 men, 282 women, 4 missing; *M* age=20.0 yr.) provided results indicating that the four-factor model fit the data best; i.e., self-deception and impression management split into denial and enhancement. The Denial and Enhancement subscales with personality variables show significant differences, confirming the four-factor model. The cultural differences as a possible reason for the split were discussed.

Socially desirable responding continues to prominently challenge the validity of psychological measurement and personality assessment (Paulhus, 2002; Fan, Wong, Carroll, & Lopez, 2008; Holden & Passey, 2010; Fleming & Zizzo, 2011). Consequently, various instruments have been designed to assess individual differences in socially desirable responding. One approach studies the underlying structure of social desirability and distinguishes between self-deception and impression management; another distinguishes between the attribution of positive attributes and the denial of negative attributes (for a detailed review, see Paulhus, 1991, 2002). To clarify the two approaches, Paulhus and Reid (1991) conducted three studies to examine these two structural models and found that enhancement items of the Self-deception subscale formed a second factor, whereas denial items fell closer to the impression management component, and that self-deception enhancement best predicted adjustment. Then in the final standard 40-item version of the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991), they eliminated the Self-deceptive denial scale partly because it highly correlated with impression management.

The BIDR is currently one of the most widely-used scales (Stöber, Dette, & Musch, 2002), although researchers continue to debate the structure of social desirability. Helmes and Holden (2003) tested the one- and

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two-dimensional models of social desirability within a nomological network of related psychological constructs but failed to distinguish self-deception from impression management and even found some support for a three-dimensional structure. Leite and Beretvas (2005) reached a similar conclusion when they conducted a confirmatory factor analysis. Moreover, Kroner and Weekes (1996) attained a three-factor model splitting the self-deception enhancement subscale into denial of the negative and overconfident rigidity. However, Li and Li (2008) failed to confirm the three-factor model in a Chinese sample. Furthermore, a follow-up principal components factor analysis yielded four dimensions suggesting that both items on the two subscales split into enhancement and denial.

Clearly, as Leite and Beretvas (2005) noted, there is still a general lack of consensus regarding the factorial structure of the socially desirable responding construct. If the latent variable(s) underlying the construct cannot be validated, controlling for socially desirable responding may have unexpected consequences because it fails to capture the range of responses (Kroner & Weekes, 1996) or to clarify what is being partialled out (Leite & Beretvas, 2005). Although Li and Li's (2008) factor analysis documented four dimensions indicating that both approaches might be possible—distinguishing between self-deception and impression management or distinguishing between the attribution of positive attributes and the denial of negative attributes, they did not examine external correlates. Here, the current study partly replicates Paulhus and Reid's (1991) study to further investigate the structural and discriminant validity of responses to the BIDR in a Chinese context. Specifically, the study examined the dimensionality underlying responses to the BIDR by assessing several previous models with confirmatory factor analysis (CFA). Each of the four subscales was factor-analyzed along the denial and enhancement of self-esteem to confirm the spilt of these two components. Discriminant validity was determined by examining correlations between socially desirable responding and several personality variables such as self-esteem, trait anxiety, and Big Five personality dimensions.

The current study makes several contributions to the extant literature on the conceptualization and measurement of socially desirable responding. First, prior studies have employed either exploratory or confirmatory factor analysis. Instead, the current research examines the structural validity through both confirmatory and exploratory factor analysis. Second, the current study examines its discriminant validity with related personality variables that previous validation analyses have seldom used. Third, although the BIDR has been used to assess personality in the Chinese context (Fan, *et al*., 2008) and to compare cultural differences (Lalwani, Shrum, & Chiu, 2009), it has not been validated for systematic use in non-Western cultures. However, one society

may see some images as desirable while another may disdain such images, so that validation may not transfer directly across cultures (Blake, Valdiserri, Neuendorf, & Nemeth, 2006). This study is intended to fill that gap.

Method

Participants

This study's participants were 600 Chinese undergraduates (314 men, 282 women, 4 missing; M age = 20.0 yr., SD = 1.4) from a major public university in Beijing, China. After they completed consent forms, they were randomly distributed a version of the questionnaire battery at the beginning or end of class. They received a small gift for completing the survey.

Measures and Procedure

Two versions of the questionnaire battery (A, n = 302; B, n = 298) were randomly distributed among participants. Both batteries included the 30-item BIDR on the base of principal component factor analysis (Li & Li, 2008) and the Rosenberg Self-Esteem Scale (Rosenberg, 1965). Battery A also included the 60-item NEO Five-Factor Inventory (NEO–FFI; Costa & McCrae, 1989) measures of the Big Five personality dimensions. Battery B included the 20 trait items of the State–Trait Anxiety Inventory (STAI; Spielberger, 1983). All three measures have been validated in Chinese contexts. Wu (2008) proved that the Rosenberg Self-Esteem Scale had a global factor with both negative and positive wording effects by comparing different confirmatory factor models in the Chinese context. Yao and Liang (2010) found that the five-factor model of the NEO–FFI fit the data from 1,255 undergraduates adequately and each subscale had high reliability. The means of neuroticism, extraversion, openness, agreeableness, and conscientiousness were 37.93 (SD = 6.31), 45.88 (SD = 6.08), 43.13 (SD = 5.06), 40.80 (SD = 6.05), and 49.37 (SD = 6.13) for men; and 37.72 (SD = 6.00), 47.00 (SD = 5.70), 42.29 (SD = 5.02), 39.07 (SD = 5.98), and 49.17 (SD = 5.42) for women, respectively. Li and Qian (1995) validated the STAI in Chinese undergraduates and presented its new norm with the mean of state anxiety 45.31 (SD = 11.99) and the mean of trait anxiety 43.31 (SD = 9.20).

Paulhus and Reid (1991) suggested that researchers could clarify the distinction between enhancement and denial measures by using established personality measures to look for different relations. Socially desirable responding has usually been negatively correlated with self-reported anxiety (Arndt, Hoglund, & Fujiwara, 2013). Also, a meta-analysis indicated non-zero correlations between self-deception and all dimensions of Big Five personality and non-zero correlations between impression management and conscientiousness, agreeableness, and emotional stability (Li & Bagger, 2006). Accordingly, the STAI and the NEO–FFI were included in

the survey. The Rosenberg Self-Esteem Scale is the most commonly used measure of the global form of adjustment and has been proven unidimensional in the Chinese context (Wu, 2008), although it includes both enhancement and denial items. Moreover, Paulhus and Reid (1991) found the Rosenberg Self-Esteem Scale to be differently associated with self-deception denial and enhancement.

All items were presented in Chinese with 7-point Likert-type scales using verbal anchors of 1: Strongly disagree and 7: Strongly agree. The participants received no specific instructions except to honestly answer each question.

Analysis

A CFA was conducted by Lisrel 8 (Jöreskog & Sorböm, 1996) to test the fitness of the five models of socially desirable responding: the one-factor model, the two-factor model of enhancement versus denial (Roth, Snyder, & Pace, 1986), the two-factor model of self-deception versus impression management (Paulhus, 1984), the three-factor model (Kroner & Weekes, 1996), and the four-factor model (Li & Li, 2008). Following the two-index strategy (Hu & Bentler, 1999), the standardized root mean square residual (SRMR) and the root mean square error of approximation (RMSEA) were used to assess the fitness of the models to the data. The corresponding cut-off values of the two indexes were 0.09 and 0.06, respectively. Moreover, to determine whether the five models had statistically significant differences, the chi-squared difference test ($\Delta\chi^2$) was used. The Akaike information criterion (AIC) and the expected cross-validation index (EVCI) were also presented to assist in model comparison. Models with the smallest AIC and EVCI are usually considered the best fitting models (Loehlin, 2004).

Following Paulhus and Reid (1991), an exploratory factor analysis (EFA) principal-components extraction was used to test the independence of the component scores of the BIDR. Finally, the correlations between social desirability and personality measures were calculated, and the corresponding correlation differences (Steiger, 1980) were tested to determine the discriminant validity.

Results

CFA

Table 1 contains model fit results for the five models. The four-factor model fit the data adequately (SRMR = 0.058, RMSEA = 0.047) and best with a significantly enhanced fit over the other four models. The changed chi-squared values with the other models were all significant, and the AIC and EVCI were the lowest of the five models. This means that both items on self-deception enhancement and impression management can be split into enhancement and denial.

TABLE 1
CFA Results of Different Models

Model	χ^2	*df*	χ^2/df	SRMR	RMSEA	ECVI	90%*CI*	AIC	$\Delta\chi^2$
Model 1: One-factor	2,660.04	405	6.6	0.092	0.096	4.64	4.37–4.92	2,780.04	1,729.42
Model 2: D+E	1,534.05	404	3.8	0.074	0.065	2.76	2.57–2.97	1,656.05	603.43
Model 3: SDE+IM	2,173.89	404	5.4	0.086	0.086	3.83	3.60–4.08	2,295.89	1,243.27
Model 4: SDE_ D+SDE_ E+IM	1,812.49	402	4.5	0.081	0.077	3.24	3.02–3.46	1,938.49	881.87
Model 5: SDE_ D+SDE_ E+IM_ D+IM_E	930.62	399	2.3	0.058	0.047	1.77	1.63–1.93	1,062.62	

Note.—D=Denial; E = Enhancement; SED = Self-deception; IM = Impression Management; NW = Negative Wording. $\Delta\chi^2$: changed chi square between Model 5 and the others.

Figure 1 presents the CFA results of the four-factor model with all factor loadings significant on the 0.05 level. Table 2 presents the intercorrelations of the four subscales. In addition, alpha reliabilities appear in the diagonal in bold; means and standard deviations are presented to the left. Note that the intercorrelation of the two SDE subscales ($r = .22$) and the intercorrelation of the two IM subscales ($r = .19$) were significantly lower than the intercorrelations for enhancement items ($r = .32$; $Z = 1.93$, $p = .053$) and denial items ($r = .39$; $Z = 3.14$, $p < .01$) of the BIDR.

EFA Results

To further explore the separation of enhancement and denial, the Self-esteem scale was partitioned into separate measures containing true- and false-keyed items, and the correlations of the six subscales were factored by principal-components extraction followed by varimax rotation. Two factors with eigenvalues above 1.00 were extracted, with 59.7% of the total variance explained. The correlations were factored by principal axis factoring with oblique rotation, and the results were similar. Figure 2 presented the plot of the rotated factor loadings. The self-esteem subscales and the enhancement items of self-deception and impression management subscales were loaded onto one component, whereas the denial items of self-deception and impression management fell on a second component. The results confirmed the separation of the enhancement and denial items of the two subscales of BIDR.

Correlations with Personality Measures

One effective method to clarify the distinction between enhancement and denial measures would be to look for differential relationships with

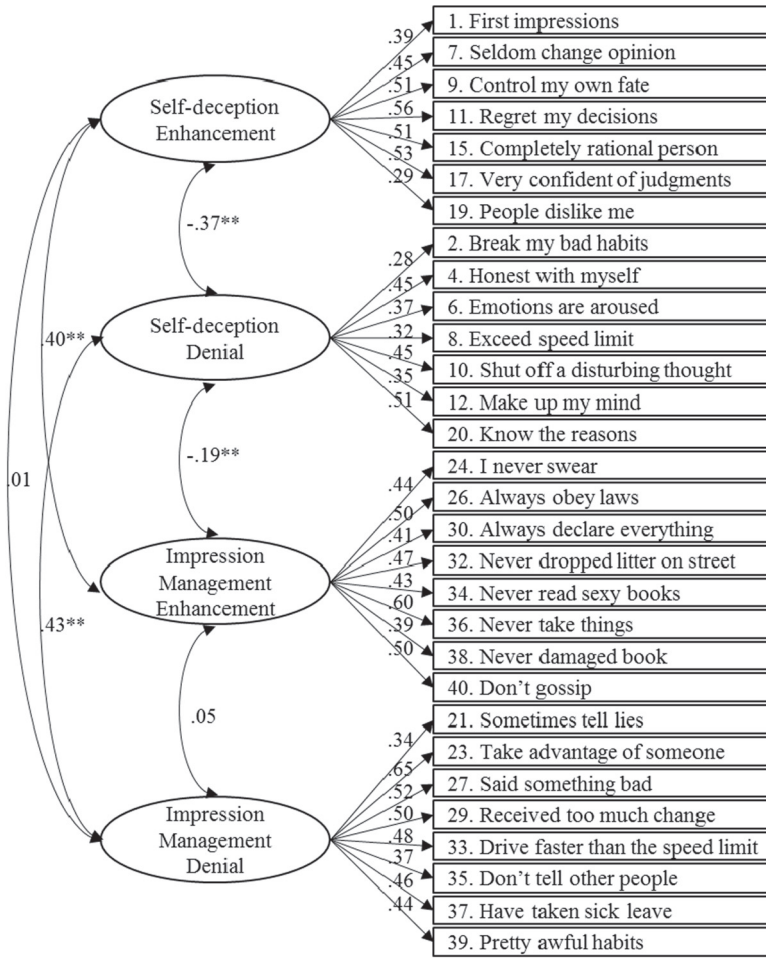

FIG. 1. Item loadings for confirmatory factor analyses. The number of each item is in accordance with the original BIDR. No additional links among items or links between items and any of the constructs were used in assessing the fit of this model.

established personality measures (Paulhus & Reid, 1991). Therefore, correlations were calculated between the four subscales of the BIDR and several personality measures related to social desirability. Table 3 presents the correlation results and the alpha reliabilities of each personality measure.

The pattern of correlations shown in Table 3 further suggested that enhancement and denial items in both self-deception and impression management subscales may actually be assessing different constructs because individual differences on the subscales were correlated with different per-

TABLE 2
MEANS AND INTERCORRELATIONS OF BIDR

Measure	No. Items	*M*	*SD*	Intercorrelation			
				1	2	3	4
1. SDE–E	7	4.26	0.92	**.65**			
2. SDE–D	7	3.96	0.88	0.22†	**.57**		
3. IM–E	8	4.54	0.94	0.32†	0.10*	**.68**	
4. IM–D	8	3.95	0.90	−0.03	0.39†	0.19†	**.69**

Note.—$N = 600$. Alpha reliabilities appear in diagonal in bold. E = Enhancement items; D = Denial items; SDE = Self-deception subscale; IM = Impression management subscale. *$p < .05$. †$p < .01$.

sonality variables. As Table 3 shows, several indexes correlated more positively with the enhancement items in self-deception subscales than with the corresponding denial items: self-esteem ($Z = 3.98$, $p < .001$) and conscientiousness of the NEO–FFI ($Z = 3.01$, $p < .01$). For the impression management subscale, the enhancement items correlated higher than the denial items with the following indexes: self-esteem ($Z = 4.57$, $p < .001$), conscientiousness of the NEO–FFI ($Z = 2.00$, $p < .05$), and trait anxiety ($Z = 1.95$, $p = .05$). Again, the results supported the distinction between the enhancement and denial items of the two subscales of the BIDR.

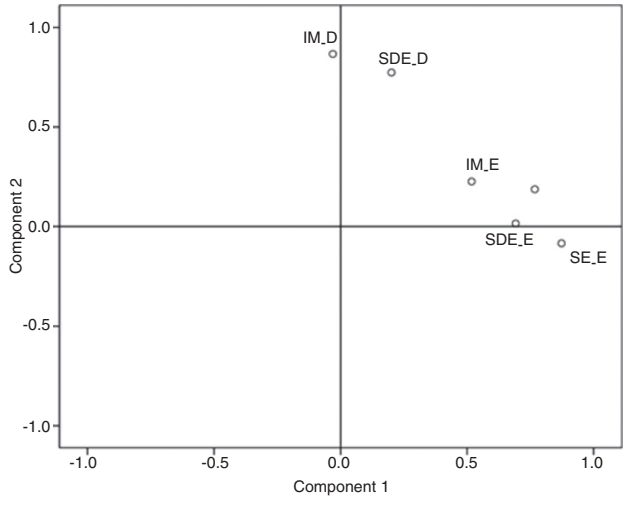

FIG. 2. Factor loadings from EFA. SE = Rosenberg Self-Esteem Scale; E = Enhancement items; D = Denial items; SDE = Self-deception subscale; IM = Impression Management subscale.

TABLE 3
PERSONALITY CORRELATES OF SOCIALLY DESIRABLE RESPONDING

Measure	α	SDE–E	SDE–D	IM–E	IM–D
Self-Esteem ($N = 600$)					
Enhancement	.84	.42†$_a$	.09*	.30†$_a$	−.02
Denial	.87	.29†	.27†$_c$	.22†	.14†
Total	.90	.39†$_a$	.20†	.29†$_a$	.06
NEO–FFI ($n = 298$)					
Neuroticism	.85	−.49†	−.50†	−.26†	−.25†
Extraversion	.76	.23†	.14*	.03	.05
Openness	.46	.02	−.02	.01	−.04
Agreeableness	.64	.17†	.24†	.44†	.35†
Conscientiousness	.79	.42†$_a$	.23†	.31†$_a$	.17†
STAI Trait Anxiety ($n = 302$)	.83	−.42†	−.33†	−.31†$_a$	−.16†

Note.—E = Enhancement items; D = Denial items; SDE = Self-deception subscale; IM = Impression management subscale. A subscript beside a correlation in the SDE–E and IM–E column signifies that the value is significantly greater than the corresponding SDE–D and IM–D value ($p < .01$ or .05, two-tailed). The reverse is true for a subscript in the SDE–D and IM–D column. *$p < .05$. †$p < .01$.

DISCUSSION

The primary purpose for this study was to systematically examine the factor structure and discriminant validity of the BIDR, especially in a Chinese context. The BIDR has previously demonstrated satisfactory reliability and distinct validity in Western cultural domains (Stöber, *et al*., 2002). The present results support the usage of the BIDR in a Chinese sample.

Enhancement versus Denial

The results of the CFA and EFA indicate that the self-deception and impression management subscales can be split into enhancement and denial. That observation is supported by significantly different correlations between enhancement and denial factors with personality variables such as self-esteem, extraversion, conscientiousness of NEO, and trait anxiety. The self-deception subscale has shown such separation solely (Paulhus & Reid, 1991; Kroner & Weekes, 1996) and may reflect offense (gaining pleasure) and defense (avoiding pain) processes. Similar to Paulhus and Reid (1991), the current results found that the self-esteem link was stronger for self-deception enhancement than for denial, perhaps because "ego enhancement is superior to ego defense in promoting adjustment." Also, impression management showed similar distinctions, such as acquisitive and defensive forms of favorable self-presentation (Roth, *et al*., 1986). Aligned

with previous findings (Roth, *et al*., 1986), the current results found self-esteem to be positively correlated with impression management enhancement but not with denial, possibly because people high in self-esteem are more likely to unrealistically see themselves as having positive characteristics. Similar with previous findings on depression (Roth, *et al*., 1986), the current results on trait anxiety indicate that more anxious people show lower levels of both types of impression management, especially on attributing positive characteristics to the self.

The current results indicate that the BIDR factor structure in Chinese students differs from the two-factor and three-factor structures documented in Western samples (e.g., Paulhus, 1984; Paulhus & Reid, 1991; Kroner & Weekes, 1996; Helmes & Holden, 2003), although the BIDR was found to be equivalent with data from the United States and Singapore in two cultural values—horizontal individualism and horizontal collectivism (Li & Reb, 2009). The current difference may be due to naïve dialecticism, "a set of East Asian lay beliefs characterized by tolerance for contradiction, the expectation of change, and cognitive holism" (Spencer-Rodgers, Peng, Wang, & Hou, 2004; Spencer-Rodgers, Boucher, Mori, Wang, & Peng, 2009). Naïve dialecticism allows East Asians to be more comfortable with psychological contradiction and seemingly inconsistent self-ratings; i.e., they may agree with positive self-statements but not disagree with negative self-statements. Chinese students perceive themselves as both good and bad simultaneously, as evidenced by their tendencies to score higher than Euro-Americans on the explicit and implicit indices of dialectical self-esteem (Boucher, Peng, Shi, & Wang, 2009), to agree with negatively worded self-esteem items (Kim, Peng, & Chi-Yue, 2008), and to exhibit internal inconsistency in their subjective well-being judgments (Schimmack, Oishi, & Diener, 2002). Evidence from cross-cultural research shows that Western participants are more motivated to show stronger consistency (Cialdini, Wosinska, Barrett, Butner, & Gornik-Durose, 1999). For example, North Americans tend to agree with positive self-statements and disagree with negative self-statements and attribute themselves as having many more positive than negative characteristics (Spencer-Rodgers, *et al*., 2004). In the current study, Chinese students reflected inconsistency between the enhancement and denial items of the SDE and IM with significant difference between the means of the subscales and through correlations with personality variables. This inconsistency means that the enhancement and denial items may not be equivalent measurements of the SDE and IM, although at the initial design stage of the survey respondents were assumed to seek to maintain consistent responses across items assessing certain personality dimensions (e.g., Bailey, 1994). Other researchers have questioned such nonequivalence in the assessment of Rosenberg's

Self-Esteem Scale (e.g., Greenberger, Chen, Dmitrieva, & Farruggia, 2003). Moreover, the affirmation of positive enhancement self-aspects might not be psychologically equivalent to repudiation of negative denial self-aspects (Kim, *et al*., 2008). It is thus more appropriate to treat the enhancement and denial items as different components of the SDE and IM subscales of the BIDR, particularly in culture-specific research.

The results of this study are important for two reasons. First, it is one of the first validation studies to examine the BIDR in a Chinese sample. While the BIDR has been previously used in cross-cultural studies (Lalwani, *et al*., 2009) and in exploring socially desirable responding in personality assessment in non-Western cultures (Fan, *et al*., 2008), few have explored samples in Eastern cultures, much less in Chinese culture. Thus, the current study advances understandings of socially desirable responding as it relates to Chinese students. Second, the current research adds to the body of literature exploring the structure of social desirability and gives some support to the two current approaches. Also, this study's findings suggest that researchers must cautiously apply and interpret BIDR scores in Chinese contexts. For instance, elevated scores on the denial of self-deception scale may indicate that Chinese respondents categorically do not endorse the personality assessment items associated with negative or undesirable characteristics (Kroner & Weekes, 1996). Besides, elevated scores on the denial of impression management scale may suggest that lower scores on the personality assessment scale associated with negative content are reliable.

Limitations and Future Research

In the current research, enhancement and denial in Self-deception and Impression management subscales split along the positively and negatively worded items. A similar distinction in the Rosenberg Self-Esteem Scale has been found to be an additional method effect behind negatively worded items (Wu, 2008). So the first concern is whether the current distinction is substantively meaningful or an artifact of response styles associated with the positively and negatively worded items. Although further analysis indicated that when negative effects were controlled the four-factor model still fit the data better than the original two-factor model and the three-factor model (Kroner & Weekes, 1996), further study should reword the scale items to explore possible item-wording effects i.e., change negatively worded items to positively worded items and vice versa (e.g., Paulhus & Reid, 1991; Greenberger, *et al*., 2003) or use item response theory (IRT) methods (Sliter & Zickar, 2014).

Moreover, the split of enhancement and denial on the two BIDR subscales is based on Li and Li's (2008) analyses that produced orthogonal

factors. As Digman (1997) argued the possibility of factoring correlations based on such studies, the four dimensions have some significant correlations. Similar correlations in the Big Five model of personality have been factored into higher-order dimensions (Digman, 1997; Hull & Beaujean, 2011). With such findings and previous approaches on socially desirable responding combined, it is necessary to examine the possibility of a higher order structure of social desirability using the BIDR.

Last but not least, the current research used undergraduate students and explored only the discriminant validity of the BIDR with several personality related variables. For generalizability, future research could sample other participants such as the general public and use more external variables such as coping strategies (e.g., Gravdal & Sandal, 2006).

REFERENCES

Arndt, J. E., Hoglund, W. L. G., & Fujiwara, E. (2013) Desirable responding mediates the relationship between emotion regulation and anxiety. *Personality and Individual Differences*, 55, 147-151.

Bailey, K. D. (1994) *Methods of social research*. (4th ed.) New York: Free Press.

Blake, B. F., Valdiserri, J., Neuendorf, K. A., & Nemeth, J. (2006) Validity of the SDS–17 measure of social desirability in the American context. *Personality and Individual Differences*, 40, 1625-1636.

Boucher, H. C., Peng, K., Shi, J., & Wang, L. (2009) Culture and implicit self-esteem: Chinese are 'good' and 'bad' at the same time. *Journal of Cross-Cultural Psychology*, 40, 24-45.

Cialdini, R. B., Wosinska, W., Barrett, D. W., Butner, J., & Gornik-Durose, M. (1999) Compliance with a request in two cultures: the differential influence of social proof and commitment/consistency on collectivists and individualists. *Personality and Social Psychology Bulletin*, 25, 1242-1253.

Costa, P. T., Jr., & McCrae, R. R. (1989) *The NEO–PI/NEO–FFI manual supplement*. Odessa, FL: Psychological Assessment Resources.

Digman, J. M. (1997) Higher-order factors of the Big Five. *Journal of Personality and Social Psychology*, 73, 1246-1256.

Fan, J., Wong, C. C., Carroll, S. A., & Lopez, F. J. (2008) An empirical investigation of the influence of social desirability on the factor structure of the Chinese 16PF. *Personality and Individual Differences*, 45, 790-795.

Fleming, P., & Zizzo, D. J. (2011) Social desirability, approval and public good contribution. *Personality and Individual Differences*, 51, 258-262.

Gravdal, L., & Sandal, G. M. (2006) The two-factor model of social desirability: relation to coping and defense, and implications for health. *Personality and Individual Differences*, 40, 1051-1061.

Greenberger, E., Chen, C., Dmitrieva, J., & Farruggia, S. P. (2003) Item-wording and the dimensionality of the Rosenberg Self-Esteem Scale: do they matter? *Personality and Individual Differences*, 35, 1241-1254.

Helmes, E., & Holden, R. R. (2003) The construct of social desirability: one or two dimensions? *Personality and Individual Differences*, 34, 1015-1023.

Holden, R. R., & Passey, J. (2010) Socially desirable responding in personality assessment: not necessarily faking and not necessarily substance. *Personality and Individual Differences*, 49, 446-450.

Hu, L., & Bentler, P. M. (1999) Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling*, 6, 1-55.

Hull, D. M., & Beaujean, A. A. (2011) Higher order factors of personality in Jamaican young adults. *Personality and Individual Differences*, 50, 878-882.

Jöreskog, K. G., & Sörbom, D. (1996) *LISREL 8: user's reference guide*. Chicago, IL: Scientific Software International.

Kim, Y., Peng, S., & Chi-Yue, C. (2008) Explaining self-esteem differences between Chinese and North Americans: dialectical self (vs. self-consistency) or lack of positive self-regard. *Self & Identity*, 7, 113-128.

Kroner, D. G., & Weekes, J. R. (1996) Balanced Inventory of Desirable Responding: factor structure, reliability, and validity with an offender sample. *Personality and Individual Differences*, 21, 323-333.

Lalwani, A. K., Shrum, L. J., & Chiu, C. (2009) Motivated response styles: the role of cultural values, regulatory focus, and self-consciousness in socially desirable responding. *Journal of Personality and Social Psychology*, 96, 870-882.

Leite, W. L., & Beretvas, S. N. (2005) Validation of scores on the Marlowe-Crowne Social Desirability Scale and the Balanced Inventory of Desirable Responding. *Educational & Psychological Measurement*, 65, 140-154.

Li, A., & Bagger, J. (2006) Using the BIDR to distinguish the effects of impression management and self-deception on the criterion validity of personality measures: a meta-analysis. *International Journal of Selection and Assessment*, 14, 131-141.

Li, A., & Reb, J. (2009) A cross-nations, cross-cultures, and cross-conditions analysis on the equivalence of the Balanced Inventory of Desirable Responding. *Journal of Cross-Cultural Psychology*, 40, 214-233.

Li, F., & Li, Y. J. (2008) The Balanced Inventory of Desirable Responding (BIDR): a factor analysis. *Psychological Reports*, 103, 727-731.

Li, W., & Qian, M. (1995) The norm of the State–Trait Anxiety Inventory in Chinese undergraduates. *Acta Scientiarum Naturalium Universitatis Pekinensis*, 31, 108-114.

Loehlin, J. C. (2004) *Latent variable models: an introduction to factor, path, and structural equation analysis*. (4th ed.) Mahwah, NJ: Erlbaum.

Paulhus, D. L. (1984) Two-component models of socially desirable responding. *Journal of Personality and Social Psychology*, 46, 598-609.

Paulhus, D. L. (1991) Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social psychological attitudes*. New York: Academic Press. Pp. 17-59.

Paulhus, D. L. (2002) Socially desirable responding: the evolution of a construct. In H. Braun, D. N. Jackson, & D. E. Wiley (Eds.), *The role of constructs in psychological and educational measurement*. Hillsdale, NJ: Erlbaum. Pp. 49-69.

Paulhus, D. L., & Reid, D. B. (1991) Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology*, 60, 307-317.

Rosenberg, M. (1965) *Society and the adolescent self-image*. Princeton, NJ: Princeton Univer. Press.

ROTH, D. L., SNYDER, C. R., & PACE, L. M. (1986) Dimensions of favorable self-presentation. *Journal of Personality & Social Psychology*, 51, 867-874.

SCHIMMACK, U., OISHI, S., & DIENER, E. (2002) Cultural influences on the relation between pleasant emotions and unpleasant emotions: Asian dialectic philosophies or individualism-collectivism? *Cognition and Emotion*, 16, 705-719.

SLITER, K. A., & ZICKAR, M. J. (2014) An IRT examination of the psychometric functioning of negatively worded personality items. *Educational and Psychological Measurement*, 74, 214-226.

SPENCER-RODGERS, J., BOUCHER, H. C., MORI, S. C., WANG, L., & PENG, K. (2009) The dialectical self-concept: contradiction, change, and holism in East Asian cultures. *Personality and Social Psychology Bulletin*, 35, 29-44.

SPENCER-RODGERS, J., PENG, K., WANG, L., & HOU, Y. (2004) Dialectical self-esteem and east-west differences in psychological well-being. *Personality and Social Psychology Bulletin*, 30, 1416-1432.

SPIELBERGER, C. D. (1983) *Manual for the State–Trait Anxiety Inventory (STAI)*. Palo Alto, CA: Consulting Psychologists Press.

STEIGER, J. H. (1980) Tests for comparing elements of a correlation matrix. *Psychological Bulletin*, 87, 245-251.

STÖBER, J., DETTE, D. E., & MUSCH, J. (2002) Comparing continuous and dichotomous scoring of the Balanced Inventory of Desirable Responding. *Journal of Personality Assessment*, 78, 370-389.

WU, C. (2008) An examination of the wording effect in the Rosenberg Self-Esteem Scale among culturally Chinese people. *The Journal of Social Psychology*, 148, 535-551.

YAO, R., & LIANG, L. (2010) Analysis of the application of simplified NEO-FFI to undergraduates. *Chinese Journal of Clinical Psychology*, 18, 457-459.

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