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The Content of Several Measures of Social Desirability

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Abstract: Some investigators assert that a correlation between personality and social desirability measures is an indictment of the former, while others assert that it represents content overlap. The goal of this study was to address this issue by assessing the content of three SDR scales from with Paulhus' two-component framework.

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The question of whether to remove socially desirable responding (SDR) variance from self-report personality inventories, or to treat it as a facet of personality, has been the center of a debate spanning the last 25 years (Furnham, 1986). Recently, this controversy again came to the forefront of the literature via an exchange between a group of researchers (Block, 1990; Edwards, 1990; Nicholson & Hogan, 1990; Walsh, 1990). The essence of this debate is whether the correlation between a SDR scale and a personality scale indicates that the personality scale is contaminated by SDR bias, or if it merely indicates that there is content overlap between the two types of scales. If the obtained correlation represents bias, this would indicate that the respondents consciously faked (either good or bad) on the SDR items, as well as on the personality items (Marsh, Antill, & Cunningham, 1987), but if the observed correlation represents overlap, this would indicate that the respondents answered the SDR items in such a way as to include the SDR scale in the nomological network of the personality construct under investigation. That is, respondents are not consciously faking, but are responding honestly to the SDR scale items.

It is apparent that how one interprets the correlation between a personality inventory and a SDR scale will have a substantial impact on how one negotiates SDR response bias in paper-and-pencil personality testing (Nicholson & Hogan, 1990). It is equally apparent that sides have formed in the literature as to what this bivariate correlation means. For example, Walsh (1990) takes the contamination position, whereas Nicholson and Hogan (1990) take the overlap position. This viewpoint polarity, however, is called into question by the two-component model of SDR forwarded by Paulhus (1984, 1986, 1990). Paulhus, following the lead of several other researchers (Block, 1965; Sackeim & Gur, 1978; Wiggins, 1964), separated SDR into two components: Self-Deception, or a tendency to give "an honest but overly positive self-presentation" (Paulhus, 1990; p. 21), and Impression Management, or positive "self-presentation tailored to an audience" (1990; p. 21). In sum, Paulhus' model opens up the distinct possibility that different SDR scales may measure very different facets of SDR, and thus debating whether

such scales are exclusive measures of contamination or overlap seems to be a frivolous exercise in this light. Furthermore, the same SDR scale can assess both contamination and content overlap (Marsh et al., 1987), and the proportionality of this dual existence may be altered by the situation in which the respondent completes the scale (Birenbaum & Montag, 1989).

The importance of understanding what a SDR scale is actually measuring revolves around addressing the question of whether these scales should be used to control for SDR response bias in personality inventories. If a SDR scale represents conscious faking aimed at putting the respondent in a positive light for a specific audience (e.g., as in an employee selection situation), it has been suggested that the SDR scale score should be controlled for (either by partialling out the variance accounted for in the personality inventory by the SDR scale or by the use of SDR cut-off scores; Paulhus, 1984, 1986, 1990). Conversely, if the respondents are answering the SDR items in an honest manner, thus causing their scores to reflect facets of their personality, it has been suggested that such SDR scores should not be controlled for when the facets of personality being tapped by the SDR scale is similar to the ones tapped by the personality inventory (Paulhus, 1984, 1986, 1990).

From this brief introduction of the social desirability controversy, it is apparent that assessing the specific item content of SDR scales is of paramount importance. Having this information would allow users of personality and SDR scales to make informed decisions as to whether specific SDR scales are primarily measuring SDR response bias or facets of the respondents' personality. Even of more practical importance, however, is that content analyses of SDR scales would afford test-users valuable information about which facets of personality are actually being measured by specific SDR scales, and this would allow them to make decisions about when statistical (e.g., partialling) or rational (e.g., cut-off scores) control is appropriate. A short-coming of the research on the content of SDR scale items is that this content has been assessed primarily by way of bivariate correlations between basic personality traits and SDR

measures (e.g., Krug, 1978; Paulhus, 1989). As we have seen, these correlations can have at least two possible interpretations; the observed correlation can be indicative of contamination and/or content overlap. Thus, there is a need to determine the specific item content of disparate SDR measures using a statistical procedure that is open to fewer possible interpretations, and that was the goal of this study. Specifically, the content of the Marlowe-Crowne SDS (MC-SD; Crowne & Marlowe, 1960), Edwards SDS (E-SD; Edwards, 1957), and Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1989) was evaluated via a factor-analytic procedure. The definition of personality traits used was the Sixteen Personality Factors Questionnaire (16PF; Cattell, Eber, & Tatsuoka, 1970).

Hypotheses

The principal components/oblique analyses of the 16PF first-order factors and first-order SDR factors comprised of MC-SD, E-SD, and BIDR items was designed specifically to assess the location of the SDR factors in 16PF second-order personality trait space, with there being two possible ways in which such factors could load in relationship to the 16PF factors. First, those SDR factors that measure "pure" response bias (i.e., faking) will load separately from the existing 16PF second-order personality factors because such factors are not measuring any facet of personality. Second, "biased" SDR factors (i.e., those that tap various facets of personality) will load with the 16PF second-order personality factors that the SDR factors are representing.

Because SDR measures on the Self-Deception factor of Paulhus' (1986, 1989) two-component model consistently show high correlations with measures of adjustment, as well as with other basic personality traits (Paulhus, 1989), it is hypothesized that the E-SD first-order factors (i.e., those factors comprised of sets of E-SD items) will load extensively on 16PF second-order factors, especially Anxiety. Because SDR measures on the Impression Management component of Paulhus' model have been demonstrated empirically to load on second-order personality factors under low faking conditions (cf., Birenbaum & Montag, 1989), it is

hypothesized that a majority of MC-SD factors will load on 16PF second-order factors (such as Behavior Control) because of the high level of subject anonymity prevalent in the present study. Regarding the BIDR scales, it is hypothesized that the Self-Deception Enhancement scale will parallel the E-SD and load on the Anxiety factor of the 16PF, while the Impression Management scale will parallel the MC-SD and load with the 16PF second-order factor Behavior Control. Finally, because the BIDR Denial scale is correlated highly with the Impression Management scale, it will parallel the IM scale and load with the 16PF second-order factor Behavior Control.

METHOD

Subjects

The sample consisted of 302 undergraduate students enrolled in psychology classes at a medium-sized Midwestern university. Of that number, 210 were females, and 92 were males, ranging in age from 16 to 39 ($M = 18.9$; $SD = 2.0$).

Procedure

Groups of 10 to 30 subjects were given the 16PF, Balanced Inventory of Desirable Responding, Marlowe-Crowne SDS, and Edwards SDS, along with a consent form, and a demographic form in one session lasting approximately two hours. The subjects' complete anonymity was assured.

RESULTS

Factor analyses of the MC-SD & E-SD. The initial step in the item content analysis of the SDR scales was to factor analyze the MC-SD and E-SD items into first-order factors. This was undertaken for two reasons: (1) because evidence from previous studies suggests that the scales are multidimensional (Holden & Fekken, 1989); and (2) so the scales would be on an equivalent factor-analytic level with the 16PF first-order factors for the individual analyses that followed. Individual item scores from both scales were entered separately into principal components analyses, with the number of factors extracted being contingent upon minimum eigenvalues

(1.00), and the extracted factors being rotated obliquely (all analyses to follow use this strategy). This strategy yielded 13 first-order factors for both scales.

The MC-SD factors in personality factor space. The principal components analysis (see Table 2 below) extracted 10 second-order factors that accounted for 65.9% of the total variance, and that could be separated into three content categories: (1) pure MC-SD factors (i.e., factors consisting of significant MC-SD first-order factor loadings); (2) mixed factors (i.e., factors consisting of significant 16PF and MC-SD first-order factor loadings); and (3) pure 16PF factors (i.e., factors consisting of significant 16PF factor loadings). Regarding Category 1, 11 of the 13 MC-SD first-order factors identified earlier in this study loaded on 4 pure MC-SD factors in second-order space (Factors 1, 4, 8, and 9; Factor 8 also contains a slight loading of the 16PF factor N-, but is most clearly a MC-SD factor). These 4 factors accounted for 45% of the variance explained by the overall group of 10 factors.

Regarding Category 2, 4 second-order factors were combinations of 16PF and MC-SD first-order factors. Factor 3 is the 16PF Anxiety second-order factor mixed with 1 MC-SD factor (MC2; Endurance). Factor 5 is the 16PF Tough Poise second-order factor mixed with one MC-SD factor (MC9; Adherence to Social Norms). Factor 6 is the 16PF Behavior Control second-order factor combined with one MC-SD factor (MC9). Lastly, Factor 10 is the 16PF General Ability second-order factor mixed with one MC-SD factor (MC9). These four mixed factors accounted for 32% of the variance explained by the group of ten factors. Regarding Category 3, two second-order factors were pure 16PF factors. Factor 2 was the Extraversion factor, and Factor 7 the Independence factor. These two factors accounted for 23% of the variance explained by the overall second-order model.

Insert Table 1 about here

The E-SD first-order factors in personality factor space. The principal components analysis (see Table 3 below) extracted 10 second-order factors that accounted for 64.3% of the variance. Regarding Content Category 1 delineated above, 8 of the 13 E-SD first-order factors identified earlier in the present study loaded on 3 pure E-SD factors in second-order space (Factors 7, 9, and 10). These 3 factors accounted for 17% of the variance explained by the overall group of 10 second-order factors.

Regarding Content Category 2, 6 second-order factors were combinations of 16PF and E-SD first-order factors. Factor 1 is the 16PF Anxiety second-order factor mixed with 2 E-SD factors (ESD1 & ESD6; Calmness and Social Integration, respectively). Factor 2 is part of the 16PF Independence second-order factor mixed with two E-SD factors (ESD7 & ESD13; Coping and Social Integration). Factor 3 is the 16PF Behavior Control second-order factor combined with one E-SD factor (ESD5; Social Integration). Factor 4 is another part of the 16PF Independence factor combined with one E-SD factor (ESD5). Factor 6 is the 16PF General Ability second-order factor with one E-SD factor (ESD8; Concentration). Finally, Factor 8 is the 16PF Tough Poise second-order factor mixed with one E-SD factor (ESD6). These six mixed factors accounted for 75% of the variance explained by the group of ten second-order factors. Regarding Content Category 3, Factor 2 was the Extraversion 16PF factor accounting for 8% of the variance explained by the second-order structure.

Insert Table 2 about here

The BIDR factors in second-order factor space. The principal components analysis (see Table 4 below) extracted 7 second-order factors that accounted for 66.4% of the total variance. Regarding Content Category 1, all three of the BIDR factors loaded significantly on one pure BIDR factor in second-order factor space (Factor 4). This factor accounted for 12% of the

variance explained by the group of 7 second-order factors. Regarding Category 2, Factor 1 is the 16PF Anxiety second-order factor mixed with the SDE factor. This factor accounted for 26% of the variance explained by the seven second-order factors. Regarding Category 3, Factors 2, 3, 5, 6, and 7 are the pure 16PF second-order factors: Extraversion, Behavior Control, Independence, General Ability, and Tough Poise, respectively. These 5 factors accounted for 62% of the variance explained by the seven second-order factors.

Insert Table 3 about here

DISCUSSION

The Marlowe-Crowne SD. As expected, one MC-SD first-order factor loaded with the 16PF Behavior Control second-order factor. Also as expected, MC-SD factors loaded with two other 16PF factors: Anxiety and Tough Poise. Unexpected from Paulhus' earlier findings, however, was that only two of the thirteen MC-SD factors loaded on these 16PF factors. The balance loaded on four "pure" MC-SD second-order factors. This is contrary to the factor-analytic results reported by Paulhus (1986, 1989) that put the MC-SD directly between the Self-Deception and Impression Management SDR components. If the MC-SD was comprised of equal parts of these components, one would not expect the pure MC-SD factors (representing response bias) to be so prominent in the second-order factor structure.

Should the MC-SD be used to control for SDR via rational and statistical methods? According to Paulhus (1986, 1989), such use depends upon if the personality scale subject to correction is measuring a construct similar to the one tapped by the SDR measure used to make the correction. We can now describe accurately the constructs measured by the MC-SD. Although the scale is a consequential measure of the faking or impression management SDR component, the results of this, and other, studies indicate that it is not a pure measure of this. Thus, the scale

probably should not be used to correct for SDR bias whenever the personality scale of interest is measuring any construct related to anxiety, behavior control, and toughness. Indeed, a correlation between one of these types of personality scales and the MC-SD would not necessarily be indicative of a susceptibility on the part of the former scale to the contaminating effects of response bias. This correlation will often mean that the scales are measuring a similar construct, and that "good" variance would be removed if the MC-SD was used to correct for SDR bias.

The Edwards SD. As expected, two E-SD first-order factors loaded with the 16PF Anxiety second-order factor. Also as expected, E-SD factors loaded with three other 16PF factors: Independence, Control, and Toughness. While the overall second-order structure is heavily weighted with mixed E-SD and 16PF factors, it should be noted that three of the ten factors were "pure" E-SD second-order factors that included eight of the thirteen E-SD first-order factors. Contrary to the pure MC-SD factors, however, these factors accounted for only 11.1% of the total variance (The pure MC-SD factors, by comparison, accounted for 29.9% of the variance in their analysis).

As was asked of the MC-SD, should the E-SD be used to control for SDR response bias? Although the E-SD appears to measure some level of response bias, as implied by the emergence of the three "pure" E-SD factors, the scale certainly appears to be much more of a self-deception (i.e., personality-based) SDR measure, and, as such, is not a pure measure of contamination. Thus, the E-SD should not be used to correct for response bias whenever the personality scale of interest is measuring any construct related to anxiety, independence, behavior control, and toughness. Indeed, a high correlation between one of these types of scales and the E-SD would not indicate a susceptibility to response bias. More likely, this correlation would be indicative of overlap. In practice, this means that a substantial amount of "good" variance would be removed if the E-SD was used to correct scales tapping any of the four attributes listed above.

The Balanced Inventory of Desirable Responding. As expected, SDE loaded with the 16PF Anxiety second-order factor. Also as expected, IM and Denial loaded on the same "pure" BIDR second-order factor. An unexpected finding was that SDE loaded on the pure BIDR factor with IM and Denial in addition to loading on the Anxiety factor. This suggests that the SDE is not a pure measure of the personality-based form of SDR (self-deception).

As was asked for the MC-SD and E-SD, should one use the BIDR scales to control for SDR response bias? Regarding the SDE, such use depends upon if the personality scale to be corrected is measuring the same construct as is measured by the SDE (Paulhus, 1989, 1990). Earlier correlational and factor-analytic research by Paulhus (1989) indicated that the SDE shares content with measures of adjustment, such as anxiety, and this relationship has been forcefully replicated here. Following Paulhus' (1986, 1989, 1990) recommendations, then, it would not be prudent to remove the variance due to this SDR scale. Regarding IM and Denial, Paulhus (1989) characterized these two scales as measuring a conscious faking type of SDR not related to personality per se. This assertion was corroborated here. Again, following Paulhus' recommendations, these SDR scales, especially the IM, should be used to correct for response bias in personality scales that are measuring anything but conscious faking. What this means in practical terms is that a correlation between a personality scale and the IM would be indicative of a susceptibility to the contaminating effects of SDR bias.

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Table 1

Factor Analysis of the 16PF and MC-SD First-Order Factors.

	1	2	3	4	5	6	7	8	9	10
A	.03	<u>.61</u>	.14	.04	<u>.30</u>	.12	-.05	<u>.08</u>	-.09	.14
B	-.18	.08	-.07	-.05	-.10	-.05	.02	.11	-.18	<u>-.79</u>
C	.04	.07	<u>-.74</u>	.02	-.11	-.09	.05	.06	.07	.01
E	.03	<u>.37</u>	-.12	.00	.12	.06	<u>.56</u>	-.18	-.14	-.05
F	-.08	<u>.73</u>	-.12	.04	-.20	-.06	.10	.04	.06	.03
G	-.06	.12	.11	-.00	-.14	<u>.80</u>	-.06	.13	.01	-.05
H	-.02	<u>.70</u>	-.23	-.04	.10	.18	.19	-.07	-.07	.02
I	-.03	.05	.04	.07	<u>.73</u>	-.20	-.14	.14	-.09	.13
L	-.07	.09	<u>.41</u>	.07	-.09	.06	<u>.55</u>	-.15	.09	.10
M	-.17	-.09	-.24	-.17	<u>.60</u>	-.25	.22	.10	.04	-.00
N	.01	-.14	.00	.18	.10	.09	<u>-.61</u>	<u>-.35</u>	.08	-.02
O	.04	-.02	<u>.82</u>	.04	-.06	-.09	-.01	.06	.07	.10
Q1	.06	-.18	-.05	.06	.03	-.05	<u>.77</u>	-.10	-.01	-.05
Q2	-.11	<u>-.72</u>	-.00	-.04	.11	.17	.16	-.00	-.15	.25
Q3	-.03	-.19	-.24	.10	-.17	<u>.62</u>	-.02	.18	.04	.19
Q4	-.25	.00	<u>.70</u>	-.16	.01	.09	.07	-.01	-.14	.03
MC1	<u>.78</u>	.00	-.01	-.16	-.01	.01	-.05	.06	.10	-.08
MC2	.09	.19	<u>-.47</u>	-.08	.14	.25	-.00	-.11	-.03	.26
MC3	-.08	.02	.11	-.03	-.08	-.06	.07	<u>-.55</u>	<u>-.44</u>	-.05
MC4	-.09	-.03	-.02	<u>-.81</u>	-.02	-.11	.01	-.03	.02	.00
MC5	-.14	.05	-.10	-.06	.04	-.02	-.04	.07	<u>.87</u>	.12
MC6	.12	-.01	-.03	.07	-.01	.23	.04	<u>.75</u>	.05	-.06
MC7	-.19	.03	-.07	<u>.87</u>	.01	-.12	.07	.03	-.03	.01
MC8	<u>.72</u>	.01	-.06	.04	-.15	.01	-.00	.09	-.06	.12
MC9	.11	-.04	.05	-.02	<u>.53</u>	<u>.42</u>	.00	-.06	.16	<u>-.39</u>
MC10	-.14	-.03	-.10	-.05	-.21	-.04	.10	<u>-.73</u>	-.03	.10
MC11	<u>.67</u>	.05	-.02	-.01	-.01	-.16	.08	.09	-.00	.16
MC12	-.12	-.04	-.09	-.01	.07	-.01	-.04	.03	<u>-.80</u>	-.01
MC13	<u>.57</u>	-.10	-.15	.08	.29	.21	.06	-.08	.14	-.28
% var.	16.2	10.5	7.1	5.9	5.7	4.8	4.4	4.0	3.8	3.5

Note. MC = Marlowe-Crowne first-order factor.

Table 2

Factor Analysis of the 16PF and E-SD First-Order Factors.

	1	2	3	4	5	6	7	8	9	10
A	-.18	.12	.20	.05	<u>.44</u>	-.23	-.01	<u>.38</u>	-.15	.09
B	-.24	.01	-.15	.03	.10	<u>.69</u>	.10	-.05	.08	.14
C	<u>.57</u>	.16	-.10	.03	.05	-.08	-.02	-.18	-.09	.22
E	-.06	<u>.63</u>	-.03	<u>.40</u>	.03	.14	.14	.09	.12	-.01
F	.04	<u>.34</u>	-.04	.10	<u>.63</u>	-.18	.02	-.12	.11	.06
G	-.18	.05	<u>.78</u>	-.06	.03	.09	-.01	-.11	-.11	.09
H	.03	<u>.68</u>	.13	.07	<u>.37</u>	.03	.14	.11	-.02	-.04
I	-.04	.09	-.06	-.21	-.07	-.01	.08	<u>.81</u>	.05	-.12
L	<u>-.41</u>	.11	-.01	<u>.50</u>	-.04	-.21	.10	-.14	.15	.01
M	.10	.02	<u>-.30</u>	.24	-.16	.01	-.11	<u>.58</u>	-.06	.13
N	-.01	.04	<u>.08</u>	<u>-.68</u>	-.17	.03	-.02	.04	.21	-.04
O	<u>-.65</u>	-.23	-.04	-.06	.06	-.03	-.03	-.07	.01	-.11
Q1	.11	.18	-.03	<u>.68</u>	-.21	.05	-.09	-.03	.08	-.09
Q2	-.12	-.02	.10	.08	<u>-.83</u>	-.12	.02	.09	.03	.01
Q3	.26	-.00	<u>.75</u>	-.05	-.20	-.10	.02	-.06	.06	.02
Q4	<u>-.85</u>	.04	-.04	.05	-.13	.05	-.10	.02	-.03	.04
ESD1	<u>.62</u>	.09	-.03	.13	-.06	.01	.05	.12	-.05	.25
ESD2	.10	-.09	.02	-.02	.06	-.09	.01	-.05	.18	<u>.77</u>
ESD3	.15	-.15	.04	.17	-.11	.10	<u>.78</u>	.03	-.07	-.04
ESD4	-.05	-.20	-.21	.05	.10	-.07	.07	-.03	<u>.34</u>	<u>-.65</u>
ESD5	-.05	-.21	<u>.36</u>	<u>.32</u>	.23	.06	.06	.09	<u>.39</u>	.00
ESD6	<u>.37</u>	-.24	.06	-.01	.27	.18	.02	<u>.34</u>	.01	.22
ESD7	.13	<u>.57</u>	.06	-.08	-.08	.07	-.11	.07	-.03	.25
ESD8	.13	.14	.14	-.05	-.07	<u>.74</u>	-.06	.02	-.05	-.08
ESD9	.04	-.15	.05	.26	-.04	.07	<u>-.76</u>	.01	.05	-.10
ESD10	.01	-.03	.06	.12	.04	-.02	.11	.00	<u>-.87</u>	-.05
ESD11	.14	.24	-.03	-.08	-.07	-.09	.25	-.03	.15	<u>.71</u>
ESD12	.03	.10	-.03	-.06	-.05	-.20	-.01	-.03	.12	<u>-.73</u>
ESD13	.11	<u>.67</u>	-.08	.02	.09	.03	-.04	-.01	-.10	-.04
var.	18.4	9.2	7.0	5.2	4.9	4.6	4.0	3.9	3.6	3.5

Note. ESD = Edwards SD first-order factor.

Table 3

Factor Analysis of the 16PF and BIDR First-Order Factors.

	1	2	3	4	5	6	7
A	-.05	<u>.69</u>	.15	-.00	-.16	-.08	.18
B	-.07	-.07	.01	.05	-.04	<u>.97</u>	-.03
C	<u>.75</u>	.15	-.02	-.03	.05	-.07	-.02
E	-.01	<u>.39</u>	.15	-.10	<u>.61</u>	.12	.14
F	.10	<u>.71</u>	-.11	-.06	.18	-.00	-.12
G	-.12	.06	<u>.84</u>	.08	-.05	.07	-.12
H	.16	<u>.70</u>	.17	-.01	.28	.05	.14
I	-.08	.12	-.06	.10	-.09	-.09	<u>.83</u>
L	-.48	.11	-.02	-.04	<u>.56</u>	-.19	-.17
M	.12	-.12	-.15	-.02	.15	.09	<u>.69</u>
N	-.06	-.17	.14	.05	-.47	-.17	.04
O	-.78	-.05	-.12	.07	-.04	-.13	-.07
Q1	.05	-.24	-.09	.01	<u>.76</u>	-.08	.07
Q2	-.06	-.70	.28	-.17	.12	-.02	.17
Q3	.25	-.11	<u>.70</u>	.06	-.05	-.11	-.12
Q4	-.81	.02	.07	-.10	.09	.12	.03
SDE	<u>.43</u>	-.06	.11	<u>.48</u>	.27	-.03	-.06
IM	-.12	-.01	.09	<u>.91</u>	-.00	.00	.11
DENIAL	.01	.09	-.04	<u>.90</u>	-.04	.05	-.01
% variance	17.1	15.0	9.0	7.9	6.5	5.5	5.4

Note. SDE = BIDR Self-Deception Enhancement; IM = BIDR Impression Management; DENIAL = BIDR Denial.