

PERSONALITY PROCESSES AND INDIVIDUAL DIFFERENCES

Two-Component Models of Socially Desirable Responding

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A recent two-factor model of socially desirable responding based on denial and attribution components was reviewed and disputed. A second model distinguishing self-deception and impression management components was reviewed and shown to be related to early factor-analytic work on desirability scales. Two studies were conducted to test the model. A factor analysis of commonly used desirability scales revealed that the two major factors were best interpreted as Self-Deception and Impression Management. A second study employed confirmatory factor analysis to show that the attribution/denial model does not fit the data as well as the self-deception/impression management model. A third study compared scores on desirability scales under anonymous and public conditions. Results showed that those scales that had loaded highest on the Impression Management factor showed the greatest mean increase from anonymous to public conditions. It is recommended that impression management, but not self-deception, be controlled in self-reports of personality.

Over the last 25 years a variety of instruments have been designed to assess individual differences in socially desirable responding. Wiggins (1968) cited references to at least 12 such scales. Other scales introduced since that time include the Approval-Motivation scale (Larsen, Martin, Ettinger, & Nelson, 1976), the Self- and Other-Deception Questionnaires (Sackeim & Gur, 1978), and the Social Desirability Inventory (Jacobson, Kellogg, Cauce, & Slavin, 1977). Evidence has been accumulating that the various measures of socially desirable responding can be incorporated within a two-factor model. This article reviews several such approaches and reports some new evidence concerning the underlying structure of social desirability.

Attribution Versus Denial

One approach has focused on the distinction between attribution and denial responses to

self-report items (see Millham & Jacobson, 1978). Attribution responses involve claiming socially desirable characteristics for the self; denial responses involve disclaiming that undesirable characteristics apply to the self. To assess these components Millham (1974) partitioned the items of the Marlowe-Crowne scale into attribution and denial subscales. He found mixed evidence that the two components were differentially related to cheating behavior. Jacobson et al. (1977) used a larger item pool to develop a social desirability inventory that explicitly separated attribution and denial subscales. They found that the subscale intercorrelations (average, .60) were substantially lower than the correlations of the subscales with total scores (average, .82) and concluded that the subscales tapped different constructs. This conclusion, however, was not justified by their data. The subscale intercorrelations must be stepped up to the total test length and then compared with the observed reliability of the total test. Indeed, after being stepped up with the Spearman-Brown formula, the subscale intercorrelations range from .85 to .89, figures very close to the observed reliability of the whole test (Kuder-Richardson 20 = .90). Therefore, a more appropriate conclusion

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would be that the attribution and denial components are equivalent measures of the same construct. A similar conclusion was drawn by Ramanaiah and Martin (1980). After balancing for direction of keying, they found that the attribution and denial subscales of the Marlowe-Crowne scale correlated at the same level as the individual scale reliabilities. As a whole, then, the case for separate attribution and denial components of social desirability is weak.

Self-Deception Versus Impression Management

A second approach to partitioning socially desirable responding centers on distinguishing self-deception, where the respondent actually believes his or her positive self-reports, from impression management, where the respondent consciously dissembles. This distinction was articulated in early articles by Frenkel-Brunswik (1939) and Meehl and Hathaway (1946). Several subsequent researchers have made similar distinctions but have applied different labels to the constructs. For instance, Sackeim and Gur (1978) preferred the terms "self-deception" and "other-deception." Millham and Kellogg (1980) used both sets of terms interchangeably. In a similar distinction, Damarin and Messick (1965) contrasted "autistic bias in self-regard" with "propagandistic bias." Kusyszyn and Jackson (1968) compared "desirability" with "defensiveness." The distinctions made by all of these writers are consistent with the terms, *self-deception* (in self-regard) and *impression management*, which are used in this article.

This two-factor model of socially desirable responding can be linked to a venerable series of factor-analytic studies showing that social desirability scales tend to cluster around two distinct factors, termed the *Alpha* and *Gamma* factors (Block, 1965; Wiggins, 1964). The Alpha factor is usually well-marked by Edwards's (1957) Social Desirability (SD) scale and Byrne's (1961) Repression-Sensitization scale. Other instruments falling within this cluster include Ullmann's (1962) facilitation-inhibition index and the Minnesota Multiphasic Personality Inventory (MMPI) Test-Taking Attitude (K) scale (Meehl & Hathaway, 1946). The Gamma factor is typically defined by

Wiggins's (1959) Social Desirability (Sd) scale, the Positive Malingering scale (Cofer, Chance, & Judson, 1949), and, to a lesser extent, by the MMPI Lie (L) scale (Meehl & Hathaway, 1946).

Damarin and Messick (1965) were the first to argue that the Alpha factor represented an unconscious evaluative bias in self-reports. They agreed with others in interpreting the Gamma factor as deliberate falsification¹ (Edwards, Diers, & Walker, 1962; Jackson & Messick, 1962). Subsequently, Jackson and Messick developed scales to index each of these factors (Jackson, 1967; Kusyszyn & Jackson, 1968). In the latter study, the two measures were shown to form distinct factors in a large-scale factor analysis.² No validation studies have been reported for these scales.

Another approach to constructing separate measures of self-deception and impression management was recently described by Millham and Kellogg (1980). They compared subjects' responses under standard and bogus pipeline conditions to yield separate measures of self-deception and impression management. The utility of the separate indexes was then demonstrated by showing an appropriate pattern of correlations in a subsequent laboratory study of the same subjects. In particular, recall of negative information about the self was positively related to impression management scores but negatively related to self-deception scores. This research approach appears promising, although administration of the elaborate bogus pipeline technique as a standard prelude to laboratory experiments is clearly impractical.

Self-report instruments designed specifically for measuring self- and other deception have recently been developed by Sackeim and Gur (1978). The Self-Deception Questionnaire (SDQ) and the Other-Deception Questionnaire (ODQ) are rationally developed scales, each

¹ The Damarin and Messick model also incorporates a third component, namely, the accurate reporting of one's attributes.

² To further confuse the issue, the term *defensiveness* has been applied to both of the factors. Kusyszyn and Jackson (1968) applied the term to the Gamma factor in the sense of naive test-taking defensiveness. Others have applied the term to the Alpha-factor scales (e.g., Liberty et al., 1964).

Table 1
Interscale Correlations from Study 1

Scale	1	2	3	4	5	6
1. Marlowe-Crowne		.24	.29	.50	.40	.60
2. Edwards SD	.24		.41	.07	-.12	.15
3. SDQ	.29	.41		.13	-.04	.31
4. ODQ	.50	.07	.13		.48	.39
5. Wiggins Sd	.40	-.12	-.04	.48		.54
6. MMPI Lie	.60	.15	.31	.39	.54	

Note. SD and Sd = Social desirability scale; SDQ = Self-Deception Questionnaire; ODQ = Other-Deception Questionnaire; MMPI = Minnesota Multiphasic Personality Inventory. $n = 425$.

with 20 Likert-type items. The SDQ items are statements judged to be universally true but psychologically threatening. The ODQ items are questions about socially desirable but statistically infrequent behaviors. The convergent and divergent validity of the scales have been supported in a series of experimental and correlational studies (Gur & Sackeim, 1979; Paulhus, 1982; Sackeim & Gur, 1978, 1979).

By determining the relationship of these two scales to the Alpha and Gamma factors, the nature of this two-factor model may be clarified. If the Alpha factor truly represents self-deceptive responding, then the SDQ should load highly on that factor. Similarly, if the Gamma factor represents impression management, then the ODQ should load highly on that factor.

Accordingly, the first study reported in the present article was designed as (a) a factor-analytic replication of the Alpha-Gamma two-factor structure and (b) an attempt to clarify the meaning of the two factors by relating them to the SDQ and ODQ instruments. The second study is a confirmatory factor analysis involving a direct comparison of the attribution/denial model with the self-deception/impression management model.

The third study reported here is an experimental study of the impact of instructional sets on six commonly used social desirability scales. To the extent that a scale measures differences in impression management, scores under public-disclosure conditions should be higher than scores under totally anonymous conditions. In contrast, scores on measures of self-deception should be relatively unaffected by this manipulation. Thus the degree of impact of impression management cues on the

mean scale scores should provide an index of the degree to which each instrument is tapping impression management.

Study 1

Method

Subjects were 425 undergraduates participating for course credit (205 males and 220 females). In a group-testing situation, subjects completed a battery of six scales: the 39-item SD scale (Edwards, 1957); the 15-item MMPI Lie scale (Meehl & Hathaway, 1946); the 40-item Sd scale (Wiggins, 1959); the 33-item Marlowe-Crowne (MC) scale (Crowne & Marlowe, 1964); the SDQ and the ODQ, 20 items each (Sackeim & Gur, 1978). The first four scales are in true/false format. The latter two scales are presented as 7-point Likert items but are scored dichotomously: Only extreme responses (1 or 2 on SDQ items, 6 or 7 on ODQ items) count as socially desirable responses.

Results and Discussion

The 6×6 matrix of interscale correlations in Table 1 was subjected to a principal-factor extraction followed by varimax rotation. In addition, the items were separated into 84 odd and 83 even items. To test the stability of the solution,³ each interitem correlation matrix (phi coefficients) was factor analyzed separately using a principal-factor extraction, again followed by a varimax rotation. The six scale totals were also included in each analysis—the small amount of item overlap introduced should not noticeably affect the results.

³ It seemed worthwhile to evaluate the stability of the solution because some statisticians suggest a minimum of five respondents per variable even when the total sample is large (Gorsuch, 1974). The present sample size of 425 barely exceeds this minimum for the largest number of variables submitted (84).

Table 2
Factor Loadings on Six Scales From Three
Factor Analyses

Scale	Factor analysis					
	6 scales		Odd items		Even items	
	F1	F2	F1	F2	F1	F2
Marlowe-Crowne	68	40	74	27	79	45
Edwards SD	02	61	02	81	09	66
Self-Deception	14	65	06	64	17	75
Other-Deception	61	08	80	-06	75	-14
Wiggins Sd	79	-23	67	-11	64	-11
MMPI Lie	72	27	69	28	77	23

Note. Decimal points have been omitted. F1 and F2 = Factor 1 and Factor 2, respectively. SD and Sd = Social desirability scale; MMPI = Minnesota Multiphasic Personality Inventory.

In the factor analysis of the scale totals the first three factors explained 43%, 24%, and 10% of the total variance. In the analysis of the odd items, the first three factors explained 15%, 13%, and 7% of the total variance. For the even items, the comparable figures were 16%, 13%, and 5%. Because the same "elbow" appeared in all three analyses, only the first two factors were retained for rotation. The factor loadings of the six scale totals from the three analyses are presented in Table 2.

The configuration of the six total scales was very similar whether or not the individual items were included in the factor analysis. The correlations of their factor loadings across the three analyses were above .90 for both Factor 1 and Factor 2. It is clear from Figure 1 that the pattern of loadings is quite consistent with previous factor-analytic studies: Edwards's SD scale loads strongly on the first factor; Wiggins' Sd scale has its highest loading on the second factor; and the Marlowe-Crowne scale loads highly on both factors. Results for the SDQ and ODQ were even more clearcut. The SDQ is the highest loading scale on the first factor; the ODQ is the purest marker of the second factor.

The highest loading items on each factor⁴ are listed in Table 3. An examination of the highest loading items on Factor 1 aids in its interpretation. Five of the top 10 items are drawn from the SDQ, and the other five are

from the Edwards scale. Many of the high-loading items refer to sexual and parental conflicts and other deep personal concerns. These kinds of conflicts play a primary role in the psychoanalytic conceptions underlying Sackeim and Gur's view of self-deception. The item results, along with the fact that the SDQ was the best overall marker of the factor, argue strongly for a self-deception interpretation of the first factor.

On the second factor, five of the 10 highest loading items originate from the ODQ. These items generally involve socially desirable but relatively infrequent overt behaviors. Moreover, the items generally concern matters of fact whose truth or falsity is known to the correspondent. For instance, the best single item is "Do you tell the truth?" Another strong item is "When you take sick leave, are you always as sick as you say you are?" Note that they do not have the personal threat quality typical of the items loading on Factor 1. Finally, the ODQ is the best marker variable, providing further evidence that the second factor represents impression management.⁵

Study 2

Although the factor pattern of the SDQ and ODQ on the Alpha and Gamma factors supports the self-deception/impression management model, the attribution/denial model is not entirely ruled out. An ambiguity arises from the method of keying the SDQ and ODQ scales. Specifically, the SDQ contains only negatively keyed items and the ODQ contains only positively keyed items. Thus the SDQ items are primarily denials of negative attributes: The scale confounds self-deception with denial. Similarly, the ODQ scale confounds impression management with attribution. Note that in Study 1, an examination of the items loading on Alpha and Gamma indicated that the factors were not fully confounded with positive and negative keying: Items of both

⁴ The complete list of items and their factor loadings is available from the author.

⁵ Neither factor seems to be related to the construct of self-monitoring (Snyder, 1974), which appears to tap skill rather than motivation in impression management (Collins, Paulhus, & Graziano, 1983; Danheiser & Paulhus, 1981). The correlations of self-monitoring with the SDQ and ODQ were -.10 and .23, respectively.

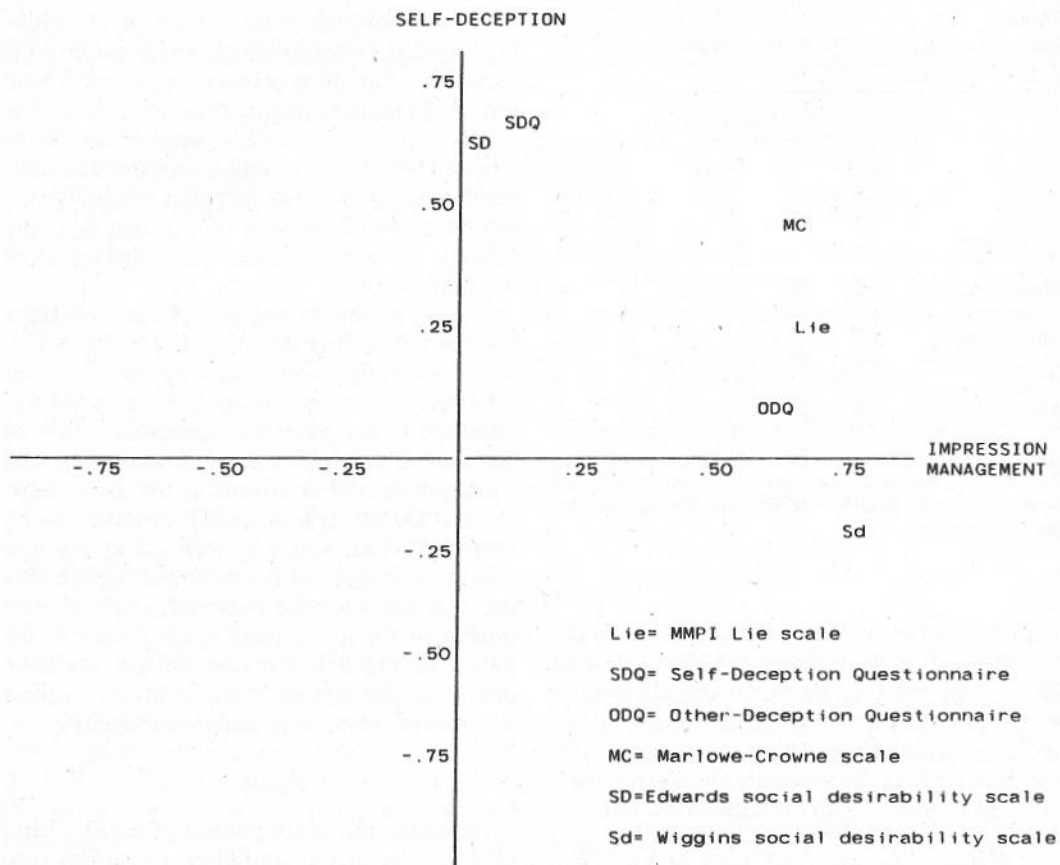


Figure 1. Plot of factor loadings of six social desirability scales.

valences showed up on each factor. Nonetheless, a clear separation of keying direction and content in the SDQ and ODQ would facilitate a comparison of the two models of socially desirable responding.

In the present study, the items from the SDQ and ODQ were rewritten so that (a) all items were worded as statements rather than questions, (b) all statements were worded as trait *affirmations* (I am nice); *negations* (I am not nice) were eliminated; and (c) equal numbers of attribution and denial items appear on each scale.⁶ For instance, the ODQ item, "I am honest," was changed to "I sometimes tell lies if I have to." The SDQ item, "Is it important to you that others think highly of you," was changed to "It's alright with me if others happen to dislike me." To get a perfect score on either scale, the respondent must now en-

dorse 10 socially desirable attributes and deny 10 socially undesirable attributes. The overall

⁶ There is an ambiguity in operationalizing the attribution/denial model. Millham (1974, p. 382) partitioned the 33 Marlowe-Crowne items into positively and negatively keyed statements. The attribution score was defined as the number of agreements with positively keyed items; the denial score was the number of disagreements with negatively keyed items. Thus the items "I am a saint" and "I am not a crook" would both be considered attribution items. The items "I am a crook" and "I am not a saint" would be denial items because disagreement, is the socially desirable response. However, Millham (1974, p. 380) and Millham and Kellogg (1980, p. 371) defined the attribution component as a "tendency to attribute socially desirable statements to one's self" and denial as a "tendency to deny undesirable characteristics." This definition of attribution implies that the attribution items are "I am a saint" and "I am not a saint" because agreement with the

Table 3
Highest Loading Items on Factors 1 and 2 From Separate Factor Analyses of Odd and Even Items

Item	Loadings	
	I	II
Factor 1: Self-Deception		
1. Have you ever enjoyed your bowel movements? (SDQ)	67	36
2. Have you ever been uncertain as to whether or not you are homosexual? (SDQ)	66	20
3. People often disappoint me. (SD)	63	-15
4. Life is a strain for me most of the time. (SD)	63	-18
5. Have you ever doubted your sexual adequacy? (SDQ)	62	12
6. I worry quite a bit over possible misfortunes. (SD)	62	11
7. Have you ever thought that your parents hated you? (SDQ)	61	16
8. I have several times given up doing something because I thought too little of my ability. (SD)	61	05
9. In a group of people I have trouble thinking of the right things to talk about. (SD)	58	28
10. Have you ever thought of committing suicide in order to get back at someone? (SDQ)	60	10
Factor 2: Impression Management		
1. Do you tell the truth? (ODQ)	25	63
2. When you take sick-leave from work or school, are you as sick as you say you are? (ODQ)	14	60
3. I am always courteous, even to people who are disagreeable. (MC)	-18	58
4. Once in a while I laugh at a dirty joke. (Sd)	19	-57
5. I sometimes try to get even, rather than forgive and forget. (MC)	-07	-55
6. I always apologize to others for my mistakes. (ODQ)	-18	54
7. Would you declare everything at customs, even if you knew that you could never be found out? (ODQ)	-04	54
8. I never attend a sexy show if I can avoid it. (Sd)	-33	54
9. Sometimes at elections I vote for candidates I know little about. (Sd)	12	-53
10. I am sometimes irritated by people who ask favors of me. (MC)	21	-52

Note. Decimal points have been omitted. The source of each item is in parentheses after the item. $n = 425$. SDQ = Self-Deception Questionnaire; ODQ = Other-Deception Questionnaire; SD and Sd = Edwards Social Desirability and Wiggins Social desirability scales respectively; MC = Marlowe-Crowne Scale.

set of 40 items was labeled the Balanced Inventory of Desirable Responding (BIDR).

To compare the relative utility of the self-deception/impression management and attribution/denial models, a series of confirmatory factor analyses were performed.

Method

Subjects were 86 undergraduates (38 males and 48 females) who volunteered to participate in a class setting.

first and denial of the second would both imply that the respondent has the socially desirable attribute of sainthood.

This ambiguity is avoided in the present study by using only assertions (e.g., "I am a saint," "I am a sinner"). Unfortunately this means that agreement acquiescence will be confounded with acceptance acquiescence. This should not be a serious problem because agreement acquiescence has been shown to be of minor importance (Bentler, Jackson, & Messick, 1971).

All subjects completed the BIDR, the Marlowe-Crowne scale and the Edwards SD scale.

Results

Responses on the BIDR were categorized and summed to yield four composites: (a) attribution/impression management items, (b) attribution/self-deception items, (c) denial/impression management items, and (d) denial/self-deception items. The correlations among these four measures, the Edwards SD scale, and the Marlowe-Crowne scale are given in Table 4.

A series of confirmatory factor analyses were performed on this correlation matrix. Three hypothesized factor patterns are depicted in Table 5. A "0" indicates a factor loading fixed at zero; a "1" indicates a factor loading that was left free to be estimated by the program. Each factor pattern was submitted to two stan-

Table 4
Intercorrelations of Subscales in Study 2

Subscale	1	2	3	4	5	6
1. SD-attribution		.51	.31	.43	.41	.46
2. SD-denial	.51		.18	.36	.42	.45
3. OD-attribution	.31	.18		.48	.40	.02
4. OD-denial	.43	.36	.48		.49	.04
5. Marlowe-Crowne	.41	.42	.40	.49		.25
6. Edwards	.46	.45	.02	.04	.25	

Note. SD = Self-Deception; OD = Other Deception; $n = 86$.

standard computer programs designed for the analysis of covariance structures: (a) LISREL (Joreskog & Sorbom, 1978), and (b) COSAN (Fraser, 1979; McDonald, 1978). In all cases both programs yielded identical estimates.

Also given in Table 5 are the test statistics based on each model. It is clear from the table that Model 2 shows the best fit of the three models. Only Model 2 shows nonsignificant chi-squares for both orthogonal and oblique versions. All other chi-squares are significant, indicating that the badness of fit is significantly worse than a fully unconstrained model. Because it has more degrees of freedom, Model 1 can be tested against Model 2 (oblique) by testing the difference in chi-squares, $(33.7 - 12.4) = 21.3$, using the difference in degrees of freedom, $(9 - 7) = 2$. This comparison is highly significant ($p < .001$). A similar comparison of Model 1 against Model 3 was not significant. A comparison of Model 1 against Model 2 (orthogonal) also showed a significantly better fit for Model 2, chi-square difference was 19.3 ($p < .001$).

Programs LISREL and COSAN also provide an estimate of the correlation between the two factors in the oblique case. For Model 3 this estimate was 1.017, clearly out of range and indicating an ill-fitting model. For Model 2 the correlation was .502—high but certainly not out of range.

Another indication that Model 2 is superior is the pattern of root mean square residuals (RMS). This measure indexes the degree of fit of the original correlation matrix to the correlation matrix reproduced from the model estimates. From Table 5 it is clear that the RMS for Model 2 is half the size of the RMS for Model 3 in both orthogonal and oblique models. Unfortunately, direct statistical tests are not yet available for testing RMS values.

On the basis of several different statistical indexes, it is clear that the self-deception/impression management model provides a better fit to the data than the attribution/denial model or a single-factor model.

Study 3

Another valuable source of information about social desirability scales is their performance under different instructional sets. Scores on impression management scales (e.g.,

Table 5
Confirmatory Factor Analyses of
Subscale Correlations

Scale	Model 1: Single factor	Model 2: Self- Deception/ Impression Management	Model 3: Attribution/ Denial
SD-attribution	1 0	1 0	1 0
SD-denial	1 0	1 0	0 1
OD-attribution	1 0	0 1	1 0
OD-denial	1 0	0 1	0 1
Marlowe- Crowne	1 0	1 1	1 1
Edwards	1 0	1 0	0 1
Oblique model			
Chi-square	33.7	12.38	33.26
df	9	7	7
Probability	.0001	.09	.0001
RMS	.12	.07	.12
Orthogonal model			
Chi-square		14.4	53.3
df		8	8
Probability		.072	.00001
RMS		.096	.21

Note. SD = Self-Deception; OD = Other Deception; RMS = root mean square residuals.

the Wiggins Sd scale) are generally more responsive than the SD scale to changes in instructional sets, for example, to fake good or fake bad (Boe & Kogan, 1964; Wiggins, 1959).

In Study 2, the same six scales from Study 1 were administered to subjects under either anonymous or public conditions. Under anonymous conditions, subjects are expected to give relatively honest self-reports. In contrast, the public-disclosure condition was designed to resemble typical psychology studies where the experimenter administers the instrument as a prelude to some experiment. This is usually a face-to-face situation where the experimenter knows the subject's face and name, as well as the course for which he or she is receiving credit. In short, the public-disclosure condition should evoke a degree of impression management that is characteristic of laboratory studies.

It is expected that the scales designated as impression management measures (ODQ, Sd) will show substantially higher scores in the public condition. In contrast, scores on self-deception scales (SDQ, SD) should not show as much difference between conditions.

Method

Subjects. Subjects were 100 undergraduates in introductory psychology who participated for course credit. Because no sex differences were found, the results reported were pooled across males and females.

Procedures. The inventory of social desirability scales was administered in several group sessions. Subjects were randomly assigned to either the public or the anonymous condition. In the public condition, 40 subjects completed the inventory in small group sessions in the presence of both a male and a female experimenter. Instructions in this condition requested that subjects write their name, address, and phone number on the cover sheet. They were also told that the experimenters would be reading through their answers to "ensure that they had read the questions carefully." They were asked to give their completed inventories directly to the experimenter "so that we will be able to recognize you later." This procedure was said to be necessary for selecting future experimental subjects. In the anonymous condition, 60 subjects completed the inventory in a large group-testing session. The test instructions emphasized that the experimenters would have no idea who completed the inventory. They were asked not to put any identifying marks on the inventory. They were told to drop their completed inventory in a box on their way out.

Results

The means of the six social desirability scales in the two experimental conditions are given

Table 6
Scale Scores Under Anonymous and Public Conditions

Scale	α	Condition		t value
		Anony-mous	Public	
SDQ	.73	9.16	10.01	1.39
Edwards SD	.82	28.44	30.25	1.51
Marlowe-Crowne	.73	13.25	15.51	2.35*
Wiggins Sd	.51	14.79	16.80	2.64*
MMPI Lie	.60	3.35	5.09	3.21*
ODQ	.74	9.54	11.96	3.25*

Note. SDQ = Self-Deception Questionnaire; SD and Sd = Social desirability; MMPI = Minnesota Multiphasic Personality Inventory; ODQ = Other-Deception Questionnaire. n = 100.

* p < .05 (two-tailed).

in Table 6. In every case, the scores are lower under anonymous conditions than under public conditions. Only the ODQ, Sd, Lie, and MC scales, however, are substantially and significantly lower.

To determine whether the impression management scales changed significantly more than the self-deception scales, a 2 x 2 mixed analysis of variance (ANOVA) was analyzed. The within-subjects factor was test type (impression management vs. self-deception). Each subject's impression management scores (ODQ, Sd) were summed after dividing each score by the standard deviation pooled across the two conditions. Similarly the two self-deception scales (SDQ, SD) were summed. The between-subjects factor was condition (anonymous vs. public). The effect of interest was the interaction between condition and test type—this was highly significant, $F(1, 97) = 12.48, p < .01$, confirming that the impression management scales changed significantly more than the self-deception scales. This result further corroborates the impression management interpretation of the Gamma factor. In sum, those scales that best index the Gamma factor are also those that are affected most by impression management cues.

General Discussion

The studies reported here support a two-factor theory of socially desirable responding.

A reliable distinction between self-deception and impression management components has been evidenced in three studies. An exploratory factor analysis of over 150 social desirability items and scale totals revealed two major factors, which were best interpreted as Self-Deception and Impression Management. A confirmatory factor analysis verified the superior fit of this model compared to the attribution/denial model. Finally, an experimental study demonstrated that the scales that had best marked the Impression Management factor (the ODQ and Sd scale) were most affected by variations in demand for social desirability. On these scales, socially desirable responding was significantly higher when subjects expected that their responses would be made public. In contrast, scales which fell on the Self-Deception factor (the Edwards SD scale, SDQ) were not significantly influenced by administration conditions. Taken together, these three studies argue strongly for a self-deception plus impression management theory of socially desirable responding in self-reports.

This investigation provides a link between a venerable line of factor-analysis research on social desirability scales and the more recent work concerned with distinguishing self-deception from impression management. The traditional factor-analytic work consistently yielded two factors related to socially desirable responding, but their interpretation was never clear. The present study demonstrated that these two factors are well-marked by the Self and Other-Deception Questionnaires, which do have demonstrated behavioral correlates (e.g., Gur & Sackeim, 1979; Paulhus, 1982). The bogus pipeline approach to separating self and other-deception measures has also demonstrated behavior correlates (Millham & Kellogg, 1980). With behavioral criteria as data, stalemated debates about the nature of socially desirable responding are more likely to be resolved.

Need for Approval Behavior

The results for the Marlowe-Crowne scale are of special interest. The scale loaded strongly on both the Self-Deception and Impression Management factors. This dual loading pattern has been found in previous factor analyses (Edwards & Walsh, 1964; Liberty, Lunneborg,

& Atkinson, 1964; Wiggins, 1964) and confirms that the scale is tapping both components of social desirability. The scale was affected significantly by administration context, but less so than the Other-Deception Questionnaire or the Wiggins Sd scale.

Interestingly, the Marlowe-Crowne scale has exhibited behavioral correlates more clearly than other social desirability scales (see Crowne & Marlowe, 1964; Millham & Jacobson, 1978; Strickland, 1977). It may be that both tendencies (impression management and self-deception) are necessary for an individual to display need-for-approval behavior. If so, perhaps an even more predictive scale might be derived by partitioning the Marlowe-Crowne items into subscales of items loading primarily on one of the two factors. If both impression management and self-deception are necessary for approval behavior, then some multiplicative combination of the two components should provide the best index for predicting behavior. It may be, however, that the items that have the most predictive value are those that already load on both factors. In this case, it would be futile to attempt to separate the items into mutually exclusive sets. Instead of separating the Marlowe-Crowne items, a more useful index might be developed as the product of two scales that are already known to index the two components (e.g., the SDQ and ODQ).

Self- and Other-Deception Scales and the Two-Factor Theory

This investigation reflects favorably on Sackeim and Gur's Self- and Other-Deception scales. The internal consistencies were acceptably high. Of the six scale totals included in the exploratory factor analyses, the SDQ was the best marker of the Self-Deception factor; the ODQ was the strongest marker of the Impression Management factor.

Moreover, many individual items from the SDQ and ODQ were the highest loading items on their respective factors. The content of these items helps clarify the nature of the two factors. The best loading items on the Self-Deception factor were characterized by deep personal threat, especially in relation to sexual and parental conflicts. Individuals scoring high on this factor seem to display a defensiveness toward psychologically threatening suggestions.

This defensiveness is not simply conscious dissembling because responses were not strongly influenced by the anonymity versus public context manipulation. Apparently it is an unconscious defensiveness that underlies self-deceptive responding. Note that item content is important in understanding the self-deception factor. Rather than a uniform denial of undesirable behaviors, the self-deceiver is defending against thoughts and feelings representing fundamental threats to the psyche (Paulhus, in press).

Intermixed with these items are other items reporting low anxiety and high self-esteem. It is well-known that standard measures of anxiety, self-esteem, repression, and social desirability are difficult to tease apart psychometrically. Even worse, these measures are hard to distinguish from accurate self-reports. One explanation is that these constructs are all linked to the same underlying mechanism (Paulhus, in press). Byrne's theory of repression-sensitization provides one such integrative system (e.g., Bell & Byrne, 1978). Sackeim and Gur's elaboration of self-deception also shows promise in linking this complex nomological network (e.g., Sackeim, 1983; Sackeim & Gur, 1978). Schlenker (1980) has gone further to explicate some links between impression management and self-deception.

The highest loading items on the Impression Management factor were characterized, not by personal threat, but by socially desirable behaviors of an overt nature. They concern matters of fact whose truth value is known to the respondent. Subjects' responses to these items were affected substantially by the anonymous versus public manipulation.

The success of the Self- and Other-Deception scales in this study adds to the construct validity demonstrated in previous work (Gur & Sackeim, 1979; Paulhus, 1982; Sackeim & Gur, 1979). A psychometric deficiency was corrected in the BIDR by balancing each scale with respect to attribution and denial items. Further psychometric work is in progress (Paulhus & Campbell, 1983). The BIDR is available from the author.

Conclusions

The two-factor model based on denial versus attribution components has not been sustained

by the present data. Its limited success (Millham, 1974) is probably due to its similarity to the self-deception versus impression management model. The latter model was strongly supported by a direct comparison of the models in Study 2. Thus the first factor of socially desirable responding is best interpreted as Self-Deception. The items appear to be characterized by threatening thoughts and reported insecurity.⁷ The second factor is best interpreted as Impression Management. Here the item content centers on socially desirable overt behaviors whose truth or falsity is clear-cut.

The acceptance of this two-factor model carries strong implications for the control of socially desirable responding in personality scales and other self-reports. First, attempts to preclude or control social desirability must attend to both factors. In cases where either self-deception or impression management might interfere with the assessment of content dimensions, then the usual correction techniques (e.g., covariance, target rotation, factor deletion) must simultaneously control the variance attributable to each factor (see Paulhus, 1981).⁸

In other situations, it is clear that only one component should be controlled. For instance, in an instrument assessing perceived control, it seems inappropriate to eliminate the self-deception component because self-deception may be an intrinsic aspect of that construct (Paulhus & Christie, 1981). Another important example is the case of the first factor of the MMPI, variously labeled *Anxiety*, *Ego resiliency*, and *Neurosis*. Block (1965) and others have argued at some length that this general adjustment factor is intrinsically linked with social desirability. Although evidence for a substantive interpretation is strong, any attempt to control socially desirable responding (as measured by the Edwards SD scale) has been shown to weaken the factor dramatically (Edwards, 1970).

⁷ It is still possible that personal threats are best assessed with items requiring denials of undesirable traits. This is supported by the fact that the self-deception denial items had the highest loading in Study 2.

⁸ The potentially more complicated role of the two-factor model in a priori or "rational" methods for controlling desirability (e.g., forced-choice format, differential validity selection) has not yet been addressed.

The present interpretation of Edward's SD scale as a self-deceptive bias in self-regard suggests that any desirability bias in self report that is honestly believed by the respondent should *not* be eliminated in assessing constructs like ego resiliency or perceived control because these constructs entail biases in self-perception. For perceived control, it is a bias in expectancy of control over reinforcements (Paulhus, 1983); for ego resiliency it is a general-evaluative bias or degree of self-esteem.

In contrast, for all of these substantive dimensions, the impression management component should be controlled. This component represents a conscious bias that may shift with the situation. There is little reason to believe that individual differences in impression management bear any intrinsic relation to central content dimensions, so its elimination can be generally recommended. Use of the Marlowe-Crowne scale in controlling social desirability should take into consideration its two-factor nature—it provides a crude control for both factors.

The separate consideration of self-deception and impression management appears to be consistent with the socioanalytic theory of personality forwarded by Hogan and colleagues (e.g., Cheek & Hogan, 1983; Hogan, 1983; Mills & Hogan, 1978). Hogan argued that responses in self-report inventories are guided by underlying self-images that are unconscious and not situationally contingent.⁹ The self-concepts are said to be organized for a socially desirable self-presentation but do not involve conscious dissimulation. Thus self-definition may entail a self-deceptive bias in self-regard (cf. Tesser & Paulhus, 1983). Again, to purge individual differences in this bias from a personality instrument would be to eliminate a central component of individual differences in personality.

⁹ Related, but less developed views, are given by Wiggins (1966), Rogers (1974), and Taylor, Carithers, and Coyne (1976).

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