

THE BI-DIMENSIONAL IMPRESSION MANAGEMENT INDEX (BIMI):
A MEASURE OF AGENTIC AND COMMUNAL IMPRESSION MANAGEMENT.

by

Sabrina Kitching

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS

in

The Faculty of Graduate Studies

(Psychology)

THE UNIVERSITY OF BRITISH COLUMBIA

(Vancouver)

August 2009

© Sabrina Kitching, 2009

Abstract

Although a number of impression management scales are available in the literature, none seem to be concerned with what kind of content is being managed. Previous research suggests that impression management can be separated into two fundamental types of content: agency and communion. Agentic impression management is the tendency to exaggerate one's courage, leadership or intellectual status. Communal impression management is the tendency to exaggerate one's claims to be a nice person and good citizen. In Study 1, we developed a new measure of impression management named the Bi-Dimensional Impression Management Index (BIMI): It comprises subscales designed specifically to tap into agentic and communal content. For each content area, we selected the 10 items that shifted the most from honest to fake-good conditions. The resulting subscales were relatively independent ($r = .18$) and preliminary statistics showed good reliabilities. In Study 2, the BIMI subscales were cross-validated in a new sample, showing good reliabilities and coherent personality correlates. The implications and applicability of the BIMI are discussed, specifically focusing on how this advance is relevant to the literature on faking behaviour.

Table of Contents

Abstract.....	ii
Table of Contents.....	iii
List of Tables	iv
List of Figures.....	v
Introduction.....	1
Study 1	4
Method	5
Results.....	6
Discussion.....	8
Study 2	14
Method	15
Results.....	17
Discussion.....	18
General Discussion	27
References.....	30
Appendix I Agentic and Communal Management Subscales.....	37

List of Tables

Table 1	Gender and ethnic means on Communal and Agentic management	8
Table 2	Effect sizes for gender and ethnic means from honest to fake-good condition.....	11
Table 3	Cronbach alpha reliabilities from Studies 1 & 2.....	18
Table 4	Zero-order and partial correlations between BIMI subscales and personality scales in honest condition	21
Table 5	Zero-order and partial correlations between BIMI subscales and personality scales in fake-good condition.....	22

List of Figures

Figure 1 Communal Management means for gender and ethnicity 10

Figure 2 Agentic Management means for gender and ethnicity 11

Introduction

People are often concerned with how they are being perceived by others. Whether they are trying to make a good first impression, wondering what the neighbors would think, or stressing over an upcoming speech, people attempt to manage their public image. Individual differences in this tendency can be observed in many life domains. Trait-like differences in this tendency to impression manage on self-reports have been studied under the label socially desirable responding (SDR).

Although many have been developed, only a small number of SDR measures have been widely used. The Minnesota Multiphasic Personality Inventory (MMPI: McKinley, Hathaway, & Meehl, 1948) contains several validity scales that measure SDR. The Lie (L) scale assesses attempts to present an ideal personality description rather than an accurate description and the Subtle Defensiveness (K) scale assess the degree to which responses are defensive or guarded. Scales for more general use were created by Edwards (1957, 1970) and Wiggins (1959). Crowne and Marlowe (1964) then created one of the most widely used SDR scale to date, the Marlowe-Crowne (MC) scale. This scale incorporates the need for approval and was developed using items claiming improbable virtues and denying common faults (Crowne & Marlowe, 1964).

Two-component models. Early work by Wiggins (1964) demonstrated that SDR scales could be separated into two distinct forms. However, the interpretation of these two factors has varied over the years. One interpretation has distinguished the two forms of SDR in terms of the degree of conscious awareness (Damarin & Messick, 1965; Paulhus, 1984; Sackeim & Gur, 1978). Damarin and Messick (1965) proposed the labels of autistic bias in self-regard and propagandistic bias to refer to the distortion of one's private versus public

self-images, respectively. Later work by Sackeim and Gur (1978) proposed the labels of self-deception and other-deception to distinguish these two constructs. In an attempt to integrate these two approaches, Paulhus (1984) retained the term self-deception for the unconscious propensity to view and portray oneself in a favorable light, but replaced other-deception with impression management (IM), the intentional distortion of self-descriptions in order to be viewed favorably by others.

Item content. Reflecting the division of SDR into two components, the Balanced Inventory of Desirable Responding (BIDR) was created to capture the two variants of SDR (Paulhus, 1988). The self-deception subscale showed clear evidence of unconscious motivated distortion (Paulhus, 1988, 1998b), whereas the IM subscale was especially sensitive to situational demands (Paulhus, 1984, 1988). The measure has drawn praise from some commentators (Holden, Starzyk, McLeod, & Edwards, 2000; Lanyon & Carle, 2007) and criticism from others (Leite & Beretvas, 2005). Nonetheless, the instrument has now become the most widely-used measure of SDR.

It is important to note that all of these SDR scales assumed that high-scorers tended to exaggerate their positivity on every possible dimension. Later work challenged this assumption by suggesting that items could be further separated by the nature of their content. Paulhus (2002) turned to a common distinction of two fundamental personality constellations, labeled Alpha and Gamma. These two relatively independent clusters have been shown to be pervasive in measures of personality traits (Digman, 1997; Wiggins, 1991), social judgments (Rosenberg & Sedlak, 1972), values and motives (Markus & Kitayama, 1991; Winter, 1996) and SDR (Paulhus & John, 1998). Paulhus (2002) interpreted the clusters in terms of (1) agency, a motive manifested in strivings for mastery and power that

enhance and protect one's sense of differentiation and (2) communion, a motive to build alliances and generally benefit one's larger group, manifested in cooperation and solidarity with group norms (Wiggins, 1991).

Incorporating this distinction requires a two-tiered taxonomy of SDR that crosses degree of awareness (conscious vs. unconscious) with content (agentic vs. communal) (Paulhus, 2002). Research demonstrating this taxonomy in self-deception has shown that there are both agentic and communal self-deceptive biases. The agentic or egoistic bias involves exaggerating one's social or intellectual status, whereas the moralistic or communal bias involves denying socially deviant impulses and claiming pious attributes (Paulhus & John, 1998).

To date, little research has validated this more elaborate model. Here, we begin by addressing the two forms of IM. Separate subscales are required to tap into agentic and communal forms of the construct.

Study 1

The purpose of Study 1 was to create an instrument that would tap both agentic and communal forms of IM. The assessment literature typically contrasts two traditional methods for SDR scale creation. The first method involves collecting social desirability ratings of a large array of items and selecting the items with the most extreme desirability ratings to form a scale. The rationale is that individuals who consistently endorse these items are engaging in SDR rather than responding accurately. Social desirability scales such as the Edwards SD scale were developed using this method (Edwards, 1970).

The second method labeled 'role-playing' contrasts the responses of two groups of subjects to a large set of personality items. One group is instructed to fake good by responding in a socially desirable manner. Another group of participants is asked to respond honestly by describing themselves accurately. Items are then chosen that best discriminate the two groups. The rationale is that respondents who receive high scores in the fake-good condition are displaying bias, because these items have low claim rates under honest conditions. This approach was used to develop measures such as the Wiggins Sd scale (Wiggins, 1959). Items selected in this fashion tend to refer to behaviours that are either rare but desirable, or common but undesirable.

Work by Wiggins (1964) demonstrated that the measures developed from these two approaches fall on different factors of SDR. For example, Edwards SD scale was associated with self-deception whereas Wiggins Sd scale was associated with IM (Paulhus, 1984). This pattern indicated that the latter method is more appropriate for the creation of an IM scale.

In Study 1 we implemented this role-playing method to create a new instrument measuring agentic and communal forms of IM. We assembled a pool of IM items specifically

aimed at either agentic or communal content. Subscales labeled Agentic Management (AM) and Communal Management (CM) were assembled from the 10 most discriminating items in each respective domain. Together the instrument will be known as the Bi-Dimensional Impression Management Index or BIM I.

After selecting items for the BIM I subscales, we examined their internal consistencies by calculating the alpha reliability for the overall scale, as well as the Agentic and Communal subscales. We also established some tentative norms for the subscales based on the means of different gender and ethnic groups.

Method

Participants. Participants were 214 students from the University of British Columbia (age range = 17-38 years, M = 20.21). They were representative of the student body as a whole in terms of gender and ethnicity. Each participant received an extra course credit for participating in the study.

Materials. A pool of 40 IM items was assembled: It consisted of items from the BIDR, as well as new items with content specifically tapping agentic or communal forms of IM. Sample items related to agency included “I can dominate situations whenever I want” and “I have mastered every challenge put before me in life”. Items related to communion included statements such as, “I don’t gossip about other people’s business” and “I have never taken things that don’t belong to me.”

Procedure. Participants completed the study on the internet through an online web-survey. Participants were asked to rate each item for how true it was of themselves on a 7-point Likert scale, ranging from 1 ‘not true’ to 7 ‘very true’. Participants were randomly assigned to either an ‘honest’ or ‘fake-good’ condition. In the honest condition, participants

were instructed to respond honestly to each of the items. In the fake-good condition, participants were instructed to respond by trying to appear socially desirable.

To create the BIMI, items were selected that shifted the most from the honest to the fake-good condition. The ten items with the largest effect sizes were chosen separately from those of agentic and communal content. These items formed the two subscales of the BIMI - Agentic Management (AM) and Communal Management (CM).

Results

Manipulation check. To verify the adequacy of the experimental manipulation, the mean of all 40 items (keyed in the desirable direction) was calculated and compared across the honest and fake-good conditions. The overall mean was significantly higher under fake-good instructions ($M = 4.70$, $SD = 1.0$) than under honest instructions ($M = 3.42$, $SD = .55$), $t(211) = 11.46$, $p < .001$ (two-tailed) and showed a huge effect size ($d = 1.64$). These results confirm that participants did follow the instructions to either respond honestly or to fake-good.

Item selection. As indicated previously, we selected the 20 BIMI items by choosing items that shifted the most from the honest to the fake-good condition. Within each content domain, the ten items with the largest effect sizes were chosen to form the two subscales. The items that were chosen for each subscale can be found in Appendix I. The effect sizes of chosen items ranged from $d = .58$ to 1.64: These are moderate to large effect sizes (Cohen, 1992).

Reliabilities. To measure the internal consistencies of the new instrument, we calculated Cronbach alpha reliabilities for the overall scale as well as the subscales in both the honest and fake-good conditions. The reliability of the overall scale was $\alpha = .73$ in the

honest condition and $\alpha = .90$ in the fake-good condition. The latter reliability was significantly higher than the former, $F = 2.70, p < .01$, (two-tailed). The reliability of the Communal Management subscale was $\alpha = .75$ in the honest condition and $\alpha = .89$ in the fake-good condition. The latter reliability was significantly higher than the former, $F = 2.27, p < .01$, (two-tailed). The reliability of the Agentic Management subscale was $\alpha = .64$ in the honest condition and $\alpha = .87$ in the fake-good condition. The latter reliability was significantly higher than the former, $F = 2.77, p < .01$, (two-tailed).

Intercorrelations. We calculated the correlations between the Agentic and Communal subscales in each condition. In the honest condition, Agentic and Communal Management were correlated $r(103) = .18, p < .10$. In the fake-good condition, Agentic and Communal Management were correlated $r(106) = .44, p < .001$ (both 2-tailed). The latter correlation was significantly higher than the former, $z = 2.09, p < .05$, (two-tailed).

Gender/ethnicity norms. To examine the role of gender and ethnicity, we divided participants into groups based on gender (male/female) and ethnicity (European/East Asian). Table 1 displays the Agentic and Communal Management means for these groups.

Table 1 Gender and ethnic means on Communal and Agentic management

	Honest			Fake-good		
	N	Communal management M (SD)	Agentic management M (SD)	N	Communal management M (SD)	Agentic management M (SD)
European Male	14	2.6 (.97)	3.0 (.79)	12	5.5 (1.12)	5.1 (.99)
East Asian Male	25	2.7 (1.04)	3.2 (.71)	26	4.9 (1.54)	4.5 (1.21)
European Female	20	2.9 (.99)	3.2(.74)	37	5.2 (1.54)	4.0 (1.45)
East Asian Female	37	2.7 (.88)	2.7 (.57)	19	4.2 (1.60)	4.0 (1.27)

We examined main effects for gender and ethnicity in both conditions. In the honest condition, small to moderate effects were found in the Agentic Management subscale. Males reported more Agentic Management than females, $t(99) = 1.79$, $p = .08$ (2-tailed), $d = .36$ and Europeans reported more Agentic Management than East Asians, $t(94) = 1.48$, $p = .14$ (2-tailed), $d = .31$. No significant demographic differences were found for Communal Management in the honest condition.

In the fake-good condition, moderate effects were found for ethnicity and gender. Males reported more Agentic Management than females, $t(101) = 2.97$, $p < .01$ (2-tailed), $d = .60$ and Europeans reported more Communal Management than East Asians, $t(93) = 2.24$, $p < .05$ (2-tailed), $d = .46$. There were no other significant differences for gender or ethnicity in the fake-good condition.

Discussion

Scale creation. In Study 1 we compared the responses of participants in two groups to create the Bi-Dimensional Impression Management Index. The Agentic Management subscale consisted of 10 items that reflect conscious promotion of one's social or intellectual

status and the deliberate promotion of traits such as competence and fearlessness. The Communal Management subscale consisted of 10 items that reflect conscious denial of socially deviant impulses and deliberate minimization of faults.

An essential aspect of any new scale is that it measures the construct of interest consistently. Alpha reliabilities were analyzed for the overall BIMl as well as the Agentic and Communal subscales. Nunnally (1978) recommends that instruments used in basic research have a reliability of about .70 or better. By this standard, the BIMl and both subscales demonstrated acceptable reliabilities. Interestingly, reliabilities were higher in the fake-good condition, than the honest condition.

Intercorrelations. A clear pattern emerged when we analyzed the correlations of Agentic and Communal Management across the two conditions. In the honest condition, the two subscales were minimally correlated, indicating that the two subscales are measuring distinct constructs. In the fake-good condition, however, the two subscales were moderately correlated.

In short, both the reliabilities and intercorrelations were higher in the fake-good condition than the honest condition. This is consistent with previous research demonstrating that self-presentation can inflate correlations among evaluative or personality dimensions (Dunnett, Koun, & Barber, 1981; Wiggins, 1959). This may seem paradoxical, given that self-presentation should polarize responses, resulting in a restriction of range and decreased correlations. However, it has been suggested that these high correlations under self-presentation conditions do not reflect true convergence, but instead are artifacts resulting from individuals who could not or did not follow the instructions (Paulhus, Bruce & Trapnell, 1995).

To evaluate this possibility in our data, we examined the scatterplots of the association between the Agentic and Communal subscales in the fake-good condition. These plots did indeed show evidence that a substantial proportion of participants did not follow the instructions. Contrary to instructions, these individuals scored low on both the Agentic and Communal subscales: When combined with those who did follow instructions, the result is a spuriously elevated correlation between these two constructs in the fake-good condition.

Tentative scale norms. Finally, to establish some tentative norms, we analyzed the IM means for gender and ethnicity. Figures 1 and 2 depict the subscale means for each demographic group. The mean scores in each demographic group were higher in the fake-good condition than in the honest condition. This pattern was clear for both Agentic and Communal Management subscales. Table 2 displays the effect sizes for the gender and ethnic means from the honest to fake-good condition.

Figure 1. Communal Management means for gender and ethnicity.

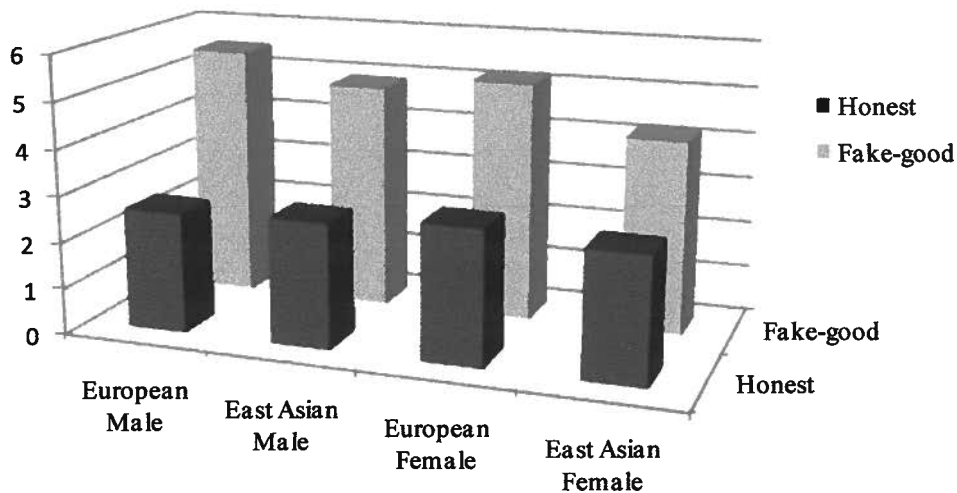


Figure 2. Agentic Management means for gender and ethnicity.

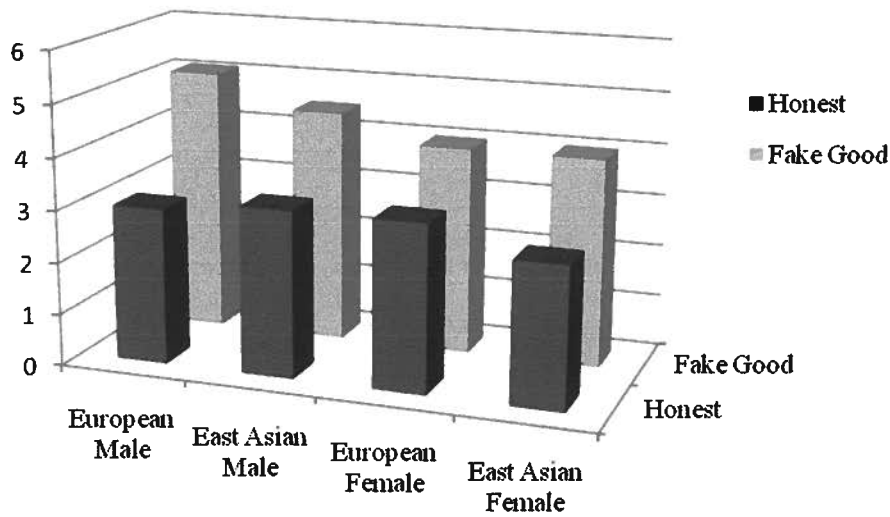


Table 2 Effect sizes for gender and ethnic means from honest to fake-good condition

	Honest		Fake-good	
	Communal management	Agentic management	Communal management	Agentic management
Gender	.07	.36*	.17	.60*
Ethnicity	.08	.31*	.46*	.02

*small to moderate effect size (Cohen, 1992).

The honest and fake-good conditions are akin to real world private and public conditions, respectively. In the honest condition, participants are responding with the knowledge that their responses are anonymous and they can be free to respond accurately. Therefore, we assume that high scorers in honest conditions actually possess the desirable traits they claim to have. Alternatively, the fake-good condition is akin to circumstances

where responses would be evaluated: In other words, there would be high demand for individuals to present themselves desirably. Therefore, individuals who receive high IM scores in fake-good conditions are deliberately presenting themselves as more desirable than they actually are. This assumption is supported by research showing that applicants' scores on SD scales are similar to the norms reported for fake-good respondents, whereas job incumbents' scores are comparable to the norms of honest respondents (Rosse, Stecher, Miller, & Levin, 1998).

Demographic differences. In the honest condition, we found main effects for gender and ethnicity, indicating that males and Europeans display more positive agentic qualities than females and East Asians, respectively. This pattern of results is consistent with the previous literature on agency linking it to individualism and masculinity (Triandis, 1978; Wiggins, & Holzmueller, 1981). In the honest condition, no effects were present for gender or ethnicity in Communal Management.

In the fake-good condition, males engaged in more Agentic Management than females. This result suggests that males are more likely than females to exaggerate their agentic qualities, such as competence and courage. This result is also consistent with the research linking agency to masculinity (Wiggins, & Holzmueller, 1981), as well as research indicating that males score higher on egoistic biases (Aube & Koestner, 1994; Beyer & Bowden, 1997). Also in the fake-good condition, Europeans were found to engage in more Communal Management than East Asians. Earlier approaches to IM were largely communal in nature (Paulhus & John, 1998) and Communal Management is therefore closely related to traditional conceptualizations of IM. This result may suggest that Europeans are more likely

than East Asians to impression manage in the conventional sense, by exaggerating communal traits such as warmth and dutifulness.

Study 2

In Study 1, a new measure called the Bi-Dimensional Impression Management Index (BIMI) was created to assess both agentic and communal forms of IM. The study also began to evaluate the construct validity of this new measure. The purpose of Study 2 was to continue to substantiate the BIMI by cross-validating the results from Study 1 in a new sample.

Our first hypothesis of Study 2 was that the results from Study 1 would be replicated. Specifically, Hypothesis 1 was that the means of Agentic and Communal Management would be significantly higher in the fake-good condition than in the honest condition. This result would indicate that the items were discriminating IM responses.

Hypothesis 2 was that the intercorrelations and reliabilities of the BIMI would be higher in the fake-good condition than in the honest condition. This finding is predicted from previous research and would also be consistent with the results of Study 1.

Our third hypothesis of Study 2 was that, in the honest condition, the BIMI subscales would show a pattern of personality correlates consistent with previous research on trait indicators of agency and communion. Specifically, in Hypothesis 3 we predicted that Communal Management would be positively correlated with the Big 5 traits of agreeableness and conscientiousness, and negatively correlated with narcissism and psychopathy, while Agentic Management would be positively correlated with extraversion and openness to experience, as well as narcissism and psychopathy.

Hypothesis 4 was a competing hypothesis, pitting two theories of IM against each other. The 'identity model' of IM proposes that when individuals engage in IM they exaggerate qualities that they already possess. This model predicts that the pattern of

personality correlates in the honest condition will be relatively consistent with the pattern in the fake-good condition.

The ‘opportunistic chameleon model’ of IM proposes that when individuals engage in IM they tailor their self-descriptions to what is desirable in any given situation. This model suggests that the traits that are exaggerated are independent of the individual’s actual personality. This model predicts that the pattern of personality correlates seen in the honest condition will be different from that seen in the fake-good condition.

Method

Participants. Participants were 110 students from the University of British Columbia (age range = 15-30 years, $M = 20.12$). They were representative of the student body as a whole in terms of gender and ethnicity. Each participant received an extra course credit for participating in the study.

Materials. The new 20-item BIMM created in Study 1 was administered, including the two subscales: Agentic Management (10 items) and Communal Management (10 items).

The Big Five Inventory (BFI) is a 44-item instrument that was used to assess the Big Five personality traits (extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience) (John, Donahue, & Kentle, 1991). The BFI scales typically have alpha reliabilities ranging from .75 to .90. The validity of the BFI is also well-established, including evidence of substantial convergent and divergent relationships with other Big Five measures, as well as with peer ratings (John & Srivastava, 1999).

The Mach-IV inventory (Christie & Geis, 1970) was used to measure Machiavellianism. It consists of 20 items that are rated on a 5-point Likert scale. The Mach-IV has demonstrated good reliabilities in a number of samples, ranging from .60 to .74

(Christie & Geis, 1970; Paulhus & Williams, 2002). The validity of the Mach-IV has also been established, with high scorers differing significantly from low scorers on a variety of characteristics consistent with the construct (Christie & Geis, 1970; Zook, 1985).

The Narcissistic Personality Inventory (NPI; Raskin & Hall, 1979) was used to measure narcissism. The NPI is a 40-item forced choice questionnaire where participants are asked to choose from a pair of statements the one that they agree with the most. The NPI has been shown to have alpha reliabilities around .80 (Paulhus & Williams, 2002; Raskin & Hall, 1979). The construct validity of the NPI has also been tested and the measure has been shown to correlate with several conceptually related constructs (Raskin & Hall, 1981).

The full Self-Report Psychopathy scale (SRP-II; Hare, Harpur, & Hemphill, 1989) was used to measure psychopathy. It consists of 60 items that are rated on a 5-point Likert scale. This measure has a reliability of approximately .80 (Hare, Harpur, & Hemphill, 1989; Paulhus & Williams, 2002). The SRP-II has also been validated in normal populations, demonstrating both convergent and discriminant validity (Salekin, Trobst, & Krioukova, 2001; Zagon & Jackson, 1994).

Procedure. Participants completed the study on the internet through an online web-survey. Initially, all participants completed self-ratings on the BFI, Mach-IV, NPI, and SRP-II.

Participants were then asked to complete self-ratings of each of the 20 BIMBI items on a 7-point Likert scale, ranging from 1 'not true' to 7 'very true'. Participants were randomly assigned to either an 'honest' or 'fake-good' condition. In the honest condition, participants were asked to rate their personality as honestly as possible. In the fake-good condition, participants were instructed to rate their personality with a positive bias.

Results

Cross validation. To verify that the items selected to constitute the BIMI in Study 1 were appropriate, we compared the means of the Communal and Agentic Management subscales in the two conditions. For both subscales, the means in the fake-good condition were significantly higher than in the honest condition. The mean of the Communal Management subscale in the fake-good condition ($M = 3.98$, $SD = 1.4$) was significantly higher than in the honest condition ($M = 3.28$, $SD = .86$), $t(99) = 2.93$, $p < .01$ (one-tailed), $d = .71$. The mean of the Agentic Management subscale in the fake-good condition ($M = 3.90$, $SD = 1.36$) was significantly higher than in the honest condition ($M = 3.13$, $SD = .70$), $t(99) = 3.42$, $p < .001$ (one-tailed), $d = .62$.

Reliability. To cross-validate the internal consistency of the BIMI, we calculated Cronbach alpha reliabilities for the overall scale, as well as both subscales in each condition. Table 3 displays the reliabilities in both conditions from Studies 1 and 2. The reliability of the overall scale was $\alpha = .83$ in the honest condition and $\alpha = .93$ in the fake-good condition. The latter reliability was significantly higher than the former, $F = 2.43$, $p < .01$, (one-tailed). The reliability of the Communal Management subscale was $\alpha = .75$ in the honest condition and $\alpha = .89$ in the fake-good condition. The latter reliability was significantly higher than the former, $F = 2.27$, $p < .01$, (one-tailed). The reliability of the Agentic Management subscale was $\alpha = .68$ in the honest condition and $\alpha = .89$ in the fake-good condition. The latter reliability was significantly higher than the former, $F = 2.91$, $p < .01$, (one-tailed).

Table 3 Cronbach alpha reliabilities from Studies 1 & 2

	Honest		Overall BIMI	Fake-good		Overall BIMI
	CM	AM		CM	AM	
Study 1	.75	.64	.73	.89	.87	.90
Study 2	.75	.68	.83	.89	.89	.93

Note: CM = Communal Management; AM = Agentic Management; BIMI = Bi-Dimensional Impression Management Index.

Intercorrelations. We analyzed the correlations between the Agentic and Communal subscales in each condition. In the honest condition, Agentic and Communal Management were correlated $r(42) = .51, p < .001$ (two-tailed). In the fake-good condition, Agentic and Communal Management were correlated $r(55) = .79, p < .001$ (two-tailed). The latter correlation was significantly higher than the former, $z = 2.45, p < .05$, (one-tailed).

Personality correlates. We correlated the Agentic and Communal Management subscales with the Big 5 traits (BFI), Machiavellianism (Mach-IV), narcissism (NPI), and psychopathy (SRP-II). Because Agentic and Communal Management were moderately correlated in this sample, the subscales could have been behaving as confounds or suppressor variables.

To investigate this possibility, we also calculated partial correlations (similar to regression analysis) of the Agentic and Communal subscales with each personality variable. Tables 4 and 5 display both the zero-order and partial correlations in each condition.

Discussion

Cross validation. Study 2 was designed to validate the new BIMI measure by assessing its reliability and personality correlates in a new sample. Consistent with Hypothesis 1, the BIMI items were successfully cross validated in a new sample. The items

that were chosen from Study 1, because they increased the most from the honest to the fake-good condition, also shifted in the same direction in Study 2. This result indicates that the items selected to constitute the BIMI are valid measures of IM, because they are successfully discriminating honest from fake-good responses. This was true of both the Agentic and Communal Management subscales.

As predicted from Hypothesis 1, the means for both the Agentic and Communal subscales were low in the honest condition. This result was expected given the method that was used to select the items. The items that were selected to be part of the BIMI were items whose means changed the most from the honest to the fake-good condition. For these items to have room to move up on the scale in the fake-good condition, they had to be given low ratings in the honest condition. For instance, if an item is given a rating of 6 on a 7-point scale in the honest condition, there is only room for that item to increase by 1 point in the fake-good condition. Alternatively, those items with low ratings in the honest condition were able to shift more substantially in the fake-good condition. Items that were given low ratings under honest conditions described behaviour that was either undesirable, but common (e.g. 'I never swear') or desirable, but uncommon (e.g. 'I have mastered every challenge put before me in life').

In addition, the items that were selected tended to have severe constraints on them, requiring that the respondent 'always' or 'never' engaged in certain behaviour. Items with such severe constraints would cause participants to moderate their responses in the honest condition by lowering their ratings of such items. Overall, the items that shifted the most and were selected for the BIMI, were those that contained negative content and involved behaviours that were common, but undesirable (e.g. lying or gossiping). These were items

that tended to deny negative behaviours as opposed to claiming positive behaviours. Based on how the items were worded and how they were selected, it was expected that the items of the BIMBI would have relatively low mean ratings under honest response conditions.

Inflated correlations in the fake-good condition. Consistent with Hypothesis 2, the reliabilities and intercorrelations were both higher in the fake-good condition than in the honest condition. As discussed in Study 1, this finding is in line with previous research suggesting that correlations between dimensions are artificially inflated in self-presentation conditions (Paulhus, et al., 1995). We examined scatterplots depicting the relationship between the Agentic and Communal subscales to explore this possibility. As in Study 1, these plots showed evidence of a group of participants who did not seem to follow the instructions. As a result, the reliabilities and intercorrelations were artificially inflated in the fake-good condition.

Personality correlates. In Hypothesis 3 we made specific predictions regarding the pattern of personality correlates that would emerge with the Agentic and Communal subscales. In previous research, agency has been shown to be related to the Big 5 traits of extraversion and openness to experience, while communion is related to agreeableness and conscientiousness (Digman, 1997; Wiggins, 1991). We predicted a generally similar pattern of results in the honest condition with Agentic Management correlating positively with extraversion and openness, as well as narcissism and psychopathy; and Communal Management correlating positively with agreeableness and conscientiousness, but negatively with narcissism and psychopathy.

The pattern of zero-order correlations in Tables 4 and 5 appears to show several suppressor effects. Although Agentic and Communal Management showed a moderate

positive correlation in this sample, the two subscales showed a somewhat different (sometimes opposite) pattern of correlations with the personality variables. In such cases, overlapping variables remove criterion-irrelevant variance from each other when predicting a criterion (Paulhus, Robins, Trzesniewski, & Tracy, 2004). To address this possibility, we calculated partial correlations between each subscale and the relevant personality variables. In many cases, controlling for the other subscale when calculating the correlations with the personality variables did result in the partial correlations becoming more discrepant. This finding is consistent with a suppression effect (Paulhus, et al., 2004) and can be seen in Tables 5 and 6, which display the zero-order and partial correlations from both subscales.

Table 4 Zero-order and partial correlations between BIMl subscales and personality scales in honest condition

Scale	Communal management	Agentic management	Communal management (Partial)	Agentic management (Partial)
Extraversion	.14	.23	.03	.19
Agreeableness	.22	.06	.22	-.06
Conscientiousness	-.11	.09	-.18	.17
Neuroticism	-.35*	-.38*	-.20	-.25
Openness	-.04	.01	-.05	.03
Psychopathy	-.15	.31*	-.37*	.45**
Narcissism	.10	.40**	-.13	.41**
Machiavellianism	.21	.21	.21	.12

df = 42, * p<.05, **p<.01 (two-tailed).

Table 5 Zero-order and partial correlations between BIMi subscales and personality scales in fake-good condition

Scale	Communal management	Agentic management	Communal management (Partial)	Agentic management (Partial)
Extraversion	-.05	.04	.08	.07
Agreeableness	.04	-.15.	.26	-.29*
Conscientiousness	-.03	-.08	.05	-.09
Neuroticism	-.03	-.05	.01	-.04
Openness	.18	.18	.06	.07
Psychopathy	-.17	.11	-.42**	.41**
Narcissism	-.12	.03	-.24	.21
Machiavellianism	-.04	.06	-.15	.16

df = 54, * p<.05, **p<.01 (two-tailed).

Consistent with Hypothesis 3, agreeableness was positively correlated with Communal Management and negatively correlated with Agentic Management in the honest condition. This is also consistent with previous research linking communion with agreeableness (Digman, 1997; Wiggins, 1991). In the fake good condition, agreeableness was also positively correlated with Communal Management and negatively correlated with Agentic Management. This result suggests that individuals with agreeable traits present themselves as nice people or good citizens, as opposed to courageous and intelligent.

In contrast to Hypothesis 3, we found conscientiousness to be negatively correlated with Communal Management and positively correlated with Agentic Management in the honest condition. These results could be explained by the fact that conscientiousness items on the Big 5 reflect both dutifulness and ambition (Paunonen & Jackson, 1996), which are traits related to communion and agency, respectively. Consistent with this finding, there has been some research demonstrating that conscientiousness has occasionally shown positive

correlations with agency (Digman, 1997). Previous research on the moralistic bias has also suggested that it may be more associated with the self-control aspects of conscientiousness, such as responsibility and order (Paulhus & John, 1998). The results of the current study suggest that conscientiousness as measured by the BFI may be assessing traits more related to ambition than dutifulness.

In the honest condition, extraversion was positively correlated with Agentic Management as well as, to a lesser extent, with Communal Management. This is consistent with Hypothesis 3, as well as with previous research linking agency to extraversion (Digman, 1997; Wiggins, 1991). In the fake-good condition, extraversion also demonstrated small positive correlations with Agentic and Communal Management. This result suggests that extraverted individuals may have a slight tendency to present themselves favorably in both an agentic and communal sense.

In both conditions, openness was minimally correlated with Agentic and Communal Management. This result was inconsistent with Hypothesis 3, based on previous research associating agency with openness to experience (Digman, 1997). However, there is some research suggesting that IM may not be significantly correlated with openness (Kurtz, Tarquini, & Iobst, 2008; Pauls & Stemmler, 2003). In fact, one line of research demonstrated that openness was the least responsive to fake good instructions of all of the Big 5 characteristics (Paulhus, et al., 1995). One possible explanation for these findings may be that individuals who are high on openness are so independent in their thoughts and confident in their behaviour that they do not wish to engage in any form of self-presentation. These individuals are intelligent and insightful and may not see the need to present a distorted image of themselves to others.

Neuroticism was negatively correlated with Agentic and Communal Management in the honest condition. Some previous research has suggested that emotional stability is associated with communion; however this trait does not demonstrate consistent relationships with agency or communion (Digman, 1997). For this reason we did not make specific hypotheses regarding neuroticism. However, this result is consistent with previous research demonstrating that under honest conditions, neuroticism is negatively correlated with IM (Meston, Heiman, Trapnell, & Paulhus, 1998) and SDR in general (Kurtz, et al., 2008; McCrae & Costa, 1983). In the fake-good condition, neuroticism was uncorrelated with Agentic and Communal Management. This result suggests that neuroticism may be unrelated to either of these IM tendencies.

Consistent with Hypothesis 3, psychopathy was negatively correlated with Communal Management and positively correlated with Agentic Management in the honest condition. These results are compatible with the conceptualization of psychopaths as callous and socially deviant (Paulhus & Williams, 2002). The similar pattern of results found in the fake-good condition has intriguing implications for our understanding of IM among psychopaths. These results suggest that psychopaths do not engage in the 'traditional' form of IM, by presenting themselves as good or nice people, but instead present themselves as brave and intelligent. This is consistent with previous research indicating that psychopaths impression manage in a different way than most other individuals, by promoting an image of being mean and tough (Kitching & Paulhus, 2008).

Narcissism was also negatively correlated with Communal Management and positively correlated with Agentic Management in both conditions. These results are consistent with Hypothesis 3, as well as with research demonstrating that narcissists are self-

absorbed (Paulhus & Williams, 2002). The similar pattern of results in the fake-good condition suggests that narcissists are more likely to engage in Agentic Management than Communal Management, which is consistent with the tendency for these personalities to be self-promoting (Paulhus & Williams, 2002). For instance, narcissistic individuals have been shown to display self-favoring biases specifically on traits related to agency, such as extraversion, openness, and intelligence (Paulhus & John, 1994).

Positive correlations were found between Machiavellianism and both Agentic and Communal Management in the honest condition. These results suggest that Machiavellian individuals display traits that are consistent with both agency and communion. In the fake-good condition, Machiavellianism was negatively correlated with Communal Management and positive correlated with Agentic Management. These results suggest that Machiavellian individuals are more likely to impression manage with an egoistic bias, by presenting themselves as strong and competent as opposed to warm and co-operative.

Overall, the pattern of personality correlates that emerged for each subscale in the honest condition was roughly consistent with previous research on agency and communion. The pattern of correlates seen in the fake-good condition was also consistent with both previous research and theoretical expectations regarding the different IM tendencies associated with each personality construct. These findings demonstrate the construct validity of the Agentic and Communal Management subscales.

Identity vs. opportunistic chameleon model of IM. To address Hypothesis 4 and confirm which model was a more accurate explanation of IM, we compared the pattern of personality correlates in the honest condition with the pattern in the fake-good condition. The identity model predicted that the pattern of personality correlates seen in the honest condition

would be relatively consistent with the pattern in the fake-good condition. Alternatively, the opportunistic chameleon model predicted that the pattern of personality correlates seen in the honest condition would be different from that seen in the fake-good condition.

The partial correlations of the personality traits with Communal and Agentic Management displayed a pattern that was roughly consistent across conditions. Traits that were positively correlated with one of the subscales in the honest condition also tended to be positively correlated in the fake-good condition, and vice versa for negatively correlated traits. This finding is consistent with the identity model of IM, suggesting that when individuals engage in IM they are presenting themselves favorably by exaggerating positive traits that they already possess. This may suggest that the BIMI in general and the sub-scales in particular, are capturing both substance and style.

General Discussion

Our development of the BIMI represents an advance in the measurement of SDR that will facilitate a more nuanced analysis of individual differences in self-presentation. We hope that the applicability of this new measure will be twofold. The BIMI, similar to other measures of SDR, will be useful as an individual difference measure of the tendency toward self-presentation. Additionally, the new measure can be used to inform and elaborate research on faking.

Initially, the concept of SDR was understood as a temporary response set that biased self-reports as a reaction to situational demands (Edwards, 1970). However, more recently social desirability scores have also been interpreted as response styles, which are stable biases that influence responses consistently across time and questionnaires (Jackson & Messick, 1958). According to this interpretation of SDR as a response style, the BIMI can be implemented as a measure to assess individual tendencies towards agentic and communal self-presentation.

When SDR was first being investigated it was assumed that any other scale correlating with SD scales was invalid. Indeed, many researchers still agree. As a result, IM scores are frequently partialled out of personality scores (e.g., Pauls & Stemmler, 2003). This technique was especially popular in organizational settings, where personality tests were used to predict outcomes such as job performance and to assist with personnel selection.

However, more recently it has been suggested that it may be inappropriate to correct self-reports in this manner. Several lines of research have shown that removing the effects of social desirability from personality measures does not improve the criterion-related validity of these instruments (McCrae & Costa, 1983; Ones, Viswesvaran, & Reiss, 1996; Pauls &

Stemmler, 2003; Piedmont, McCrae, Riemann, & Angleitner, 2000). Accordingly, the use of the BIMI to correct for personality measures may be discouraged.

Nonetheless, the BIMI may still have a great deal of utility as a measure of self-presentation. The situation may be akin to a conscientious eater wishing to be made aware of the caloric content in a slice of chocolate cake. Once the cake has been baked, the calories cannot be removed, however it is still very useful to know just how many calories were consumed. Similarly, once personality inventories have been completed, there is no way to remove any SDR content that might be present, but it is still important to be aware of the amount of IM that the measure contains. When individuals are in high demand situations, such as when they are applying for a job, their responses on the BIMI could be used to indicate the amount and type of IM that they are engaging in. This could be invaluable information for prospective employers to use when making organizational or hiring decisions.

Whether or not it ultimately proves useful in real world applications, the instrument is likely to inform controlled research on faking. Scales measuring SDR have long played an important role in faking research (Mesmer-Mangus & Viswesvaran, 2006). In fact, one criticism of the faking literature is that it remains unclear whether or not faking behaviour represents more than one strategy, and current SD scales only capture a single faking strategy (Burns & Christiansen, 2006). The recognition that IM can be separated into agentic and communal biases alone is a huge development in this line of research.

The literature on faking encompasses a range of topics, including the effects of faking on personality measures (Holden, 2008), how to detect faking (Ziegler, Schmidt-Atzert, Buhner & Krumm, 2007), the ‘fakeability’ of measures (McFarland & Ryan, 2000; Ziegler et

al., 2007), individual differences in faking (McFarland & Ryan, 2000; Mueller-Hanson, 2002; Nguyen, Biderman & McDaniel, 2005), and the psychological processes behind faking (McFarland & Ryan, 2006). In future research, this distinction between agentic and communal biases can be incorporated to elaborate on many of the domains previously investigated in faking behaviour. Faking research is an area that has historically been inconsistent in both conceptualization and operationalization (Ryan & Boyce, 2006). The creation of the BIMI may assist in clarifying both the understanding and use of the relevant constructs in this domain.

With the creation of the BIMI comes a confirmation that there are (at least) two fundamental ways to impression manage. Future research could exploit this new development by implementing faking instructions that specifically ask participants to fake in an agentic or communal manner. Often instructions in the faking literature have been general and vague, instructing participants to present themselves as, 'well adjusted', 'better than you really are', or 'as good as possible'. Instructing participants to focus on the two fundamental IM biases could be a large methodological improvement in this research.

References

- Aube, J., & Koestner, R. (1994). Masculine traits and reports of social functioning: Evidence for a positivity bias. Sex Roles, 31, 621-636.
- Beyer, S., & Bowden, E. M. (1997). Gender differences in self-perceptions: Convergent evidence from three measures of accuracy and bias. Personality and Social Psychology Bulletin, 23, 157-172.
- Burns, G. N., & Christiansen, N. D. (2006). Sensitive or senseless: On the use of social desirability measures in selection and assessment. In: R. L. Griffith & M.H. Peterson (Eds.), A closer examination of applicant faking behavior (pp. 115-150). Greenwich, CT: Information Age Publishing.
- Christie, R., & Geis, F. L. (1970). Studies in Machiavellianism. New York, NY: Academic Press.
- Cohen, J. (1992). A power primer. Psychological Bulletin, 112, 155-158.
- Crowne, D. P., & Marlowe, D. (1964). The approval motive. New York, NY: Wiley.
- Damarin, E., & Messick, S. (1965). Response styles as personality variables: A theoretical integration of multivariate research (Tech Rep. No. RB-65-10). Princeton, NJ: Educational Testing Service.
- Digman, J. M. (1997). Higher-order factors of the Big Five. Journal of Personality and Social Psychology, 73, 1246-1256.
- Dunnett, S., Koun, S., & Barber, P. J. (1981). Social desirability in the Eysenck Personality Inventory. British Journal of Psychology, 72, 19-26.
- Edwards, A. L. (1957). The social desirability variable in personality assessment and research. New York, NY: Dryden.

- Edwards, A. L. (1970). The measurement of personality traits by scales and inventories. New York, NY: Holt-Rinehart-Winston.
- Hare, R. D., Harpur, T. J., & Hemphill, J. D. (1989). Scoring pamphlet for the Self-Report Psychopathy scale: SRP-II. Unpublished manuscript, Simon Fraser University, Vancouver, BC, Canada.
- Holden, R. R. (2008). Underestimating the effects of faking on the validity of self-report personality scales. Personality and Individual Differences, 44, 311–321.
- Holden, R. R., Starzyk, K. B., McLeod, L. D., & Edwards, M. J. (2000). Comparisons among the Holden Psychological Screening Inventory (HPSI), the Brief Symptom Inventory (BSI), and the Balanced Inventory of Desirable Responding (BIDR). Assessment, 7, 163-175.
- Jackson, D. N., & Messick, S. (1958). Content and style in personality assessment. Psychological Bulletin, 55, 243-252.
- John, O. P., Donahue, E. M., & Kentle, R. L. (1991). The Big Five Inventory--Versions 4a and 54. Berkeley: University of California, Berkeley, Institute of Personality and Social Research.
- John, O. P., & Srivastava, S. (1999). The Big Five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (2nd ed., pp. 102–138). New York, NY: Guilford Press.
- Kitching, S. & Paulhus, D. L. (2008). Impression Management among Psychopaths: Why psychopaths exhibit low scores on measures of desirable responding. Poster presented at the Canadian Psychological Association annual meeting, Halifax, NS,

Canada.

- Kurtz, J. E., Tarquini, S. J., & Iobst, E. A. (2008). Socially desirable responding in personality assessment: Still more substance than style. Personality and Individual Differences, 45, 22-27.
- Lanyon, R. I., & Carle, A. C. (2007). Internal and external validity of scores on the Balanced Inventory of Desirable Responding and the Paulhus Deception scales. Educational and Psychological Measurement, 67, 859-876.
- 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 and Psychological Measurement, 65, 140-154.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. Psychological Review, 98, 224-253.
- McCrae, R. R., & Costa, P. T. (1983) Social desirability scales: More substance than style. Journal of Consulting and Clinical Psychology, 51, 882–888.
- McFarland, L. A., & Ryan, A. M. (2000). Variance in faking across non-cognitive measures. Journal of Applied Psychology, 85, 812-821.
- McFarland, L. A., & Ryan, A. M. (2006). Toward an integrated model of applicant faking behavior. Journal of Applied Social Psychology, 36, 979–1016.
- McKinley, J. C., Hathaway, S. R., & Meehl, P. E. (1948). The Minnesota Multiphasic Personality Inventory: VI. The K scale. Journal of Consulting Psychology, 12, 20–31.
- Mesmer-Magnus, J. & Viswesvaran, C. (2006). Assessing response distortion in personality tests: A review of research designs and analytic strategies. In: R. L. Griffith & M.H. Peterson (Eds.), A closer examination of applicant faking behavior (pp. 85-113).

Greenwich, CT: Information Age Publishing.

- Meston, C. M., Heiman, J. R., Trapnell, P. D., & Paulhus, D. L. (1998). Socially desirable responding and sexuality self-reports. Journal of Sex Research, 35, 148-157.
- Mueller-Hanson, R. (2002). Impression management strategy and faking behavior in the self-report measurement of personality. Dissertation Abstracts International: Section B: The Sciences and Engineering, 63, 2634-2735.
- Nguyen, N. T., Biderman, M. D. and McDaniel, M. A. (2005). Effects of response instruction on faking a situational judgment test. International Journal of Selection and Assessment, 13, 250–260.
- Nunnally, J. C. (1978). Psychometric theory (2nd ed.). New York, NY: McGraw-Hill.
- Ones, D. S., Viswesvaran C., & Reiss, A. D. (1996). Role of social desirability in personality testing for personnel selection: The red herring. Journal of Applied Psychology, 81, 660–679.
- Paulhus, D. L. (1984). Two-component models of socially desirable responding. Journal of Personality and Social Psychology, 46, 598–609.
- Paulhus, D. L. (1988). Manual for the Balanced Inventory of Desirable Responding (BIDR-6). Unpublished manual, University of British Columbia.
- Paulhus, D. L. (1998b). Manual for the Balanced Inventory of Desirable Responding (BIDR-7). Toronto/Buffalo: Multi-Health Systems.
- Paulhus, D. L. (2002). Socially desirable responding: the evolution of a construct. In: H.I. Braun & D.N. Jackson (Eds.), The role of constructs in psychological and educational measurement (pp. 49–69). Mahwah, NJ: Lawrence Erlbaum Associates.
- Paulhus, D. L., Bruce, M. N., & Trapnell, P. D. (1995). Effects of self-presentation strategies

- on personality profiles and their structure. Personality and Social Psychology Bulletin, 21, 100–108.
- Paulhus, D. L., & John, O. P. (1994). How many dimensions of evaluation are there? Paper presented at the annual meeting of the American Psychological Association, Los Angeles.
- Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: the interplay of self-deceptive styles with basic traits and motives. Journal of Personality, 66, 1025–1060.
- Paulhus, D. L., Robins, R. W., Trzesniewski, K. H., & Tracy, J. L. (2004). Two replicable suppressor situations in personality research. Multivariate Behavioral Research, 39, 303–328.
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. Journal of Research in Personality, 36, 556–563.
- Pauls, C. A., & Stemmler, G., 2003. Substance and bias in social desirable responding. Personality and Individual Differences, 35, 263–275.
- Paunonen, S., & Jackson, D. N. (1996). The Jackson Personality Inventory and the Five-Factor Model of personality. Journal of Research in Personality, 30, 42-59.
- Piedmont, R. L., McCrae, R. R., Riemann, R., & Angleitner, A. (2000). On the invalidity of validity scales: evidence from self-reports and observer ratings in volunteer samples. Journal of Personality and Social Psychology, 78, 582–593.
- Raskin, R. N., & Hall, C. S. (1979). A Narcissistic Personality Inventory. Psychological Reports, 45, 590.

- Raskin, R. N., & Hall, C. S. (1981). The Narcissistic Personality Inventory: Alternate form reliability and further evidence of construct validity. Journal of Personality Assessment, 45, 159–162.
- Rosenberg, S., & Sedlack, A. (1972). Structural representations of perceived personality trait relationships. In A. K. Romney, R. N. Shepard, & S. B. Nerlove (Eds.), Multidimensional scaling (pp. 134-162). New York, NY: Seminar Press.
- Rosse, J. G., Stecher, M. D., Miller, J. L., & Levin, R. A. (1998). The impact of response distortion on preemployment testing and hiring decisions. Journal of Applied Psychology, 83, 634-644.
- Ryan, A. M., & Boyce, A. S. (2006). What do we know and where do we go? Practical directions for faking research. In: R. L. Griffith & M.H. Peterson (Eds.), A closer examination of applicant faking behavior (pp. 85-113). Greenwich, CT: Information Age Publishing.
- Sackeim, H. A., & Gur, R. C. (1978). Self-deception, selfconfrontation, and consciousness. In G. E. Schwartz & D. Shapiro (Eds.), Consciousness and self-regulation: Advances in research (Vol. 2, pp. 139-197). New York, NY: Plenum Press.
- Salekin, R. T., Trobst, K. K., & Krioukova, M. (2001). Construct validity of psychopathy in a community sample: A nomological net approach. Journal of Personality Disorders, 15, 425–441.
- Tourangeau, R., & Rasinski, K. A. (1981). Cognitive processes underlying context effects in attitude measurement. Psychological Bulletin, 103, 299-314.
- Triandis, H. C. (1978). Some universals of social behavior. Personality and Social Psychology Bulletin, 4, 1-16.

- Wiggins, J. S. (1959). Interrelationships among MMPI measures of dissimulation under standard and social desirability instructions. Journal of Consulting Psychology, 23, 419-427.
- Wiggins, J. S. (1964). Convergences among stylistic response measures from objective personality tests. Educational and Psychological Measurement, 24, 551-562.
- Wiggins, J. S. (1991). Agency and communion as conceptual coordinates for the understanding and measurement of interpersonal behavior. In W. Grove & D. Cicchetti (Eds.), Thinking clearly about Psychology: Essays in honor of Paul Meehl (Vol .2; pp . 89-113). Minneapolis, MN: University of Minnesota Press.
- Wiggins, J. S., & Holzmueller, A. (1981). Further evidence on androgyny and interpersonal flexibility. Journal of Research in Personality, 15, 67-80.
- Winter, D. G. (1996). Personality: Analysis and interpretation of lives. New York, NY: McGraw Hill.
- Zagon, I. K., & Jackson, H. J. (1994). Construct validity of a psychopathy measure. Personality and Individual Differences, 17, 125–135.
- Ziegler, M., Schmidt-Atzert, L., Buhnerm M., & Krumm, S. (2007). Fakability of different measurement methods for achievement motivation: Questionnaire, semi-projective, and objective. Psychology Science, 49, 291-307.
- Zook, A. (1985). On measurement of Machiavellianism, Psychological Reports, 57, 982.

Appendix 1: Communal and Agentic Management Subscales

Communal Management

1. I have done things that I don't tell other people about. (R)
2. I don't gossip about other people's business.
3. There have been occasions when I have taken advantage of someone. (R)
4. I have said something bad about a friend behind his/her back. (R)
5. I sometimes tell lies if I have to. (R)
6. I never swear.
7. I never cover up my mistakes.
8. When I hear people talking privately, I avoid listening.
9. I have never dropped litter on the street.
10. I sometimes drive faster than the speed limit. (R)

Agentic Management

1. My decisions are sometimes unwise. (R)
2. I have met people smarter than myself. (R)
3. I have mastered every challenge put before me in life.
4. You can't win at everything. (R)
5. My personality is not ideal. (R)
6. I am always brave in threatening situations.
7. Some people call me a genius.
8. My leadership of the group guarantees the group's success.
9. I sometimes need other people's help to get things done. (R)
10. I'm usually the one to come up with the big ideas.

Note: R indicates that the item is reverse scored.