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Abstract

Social desirability (specifically, impression management) scales are widely used by researchers and practitioners to screen individuals who bias self-reports in a self-favoring manner. These scales also serve to identify individuals at risk for psychological and health problems. The present review explores the evidence with regard to the ability of these scales to achieve these objectives. In the first part of the review, I present six criteria to evaluate impression management scales and conclude that they are unsatisfactory as measures of response style. Next, I explore what individual differences in impression management scores actually do measure. I compare two approaches: a defensiveness approach, which argues that these scales measure defensiveness that stems from vulnerable self-esteem, and an adjustment approach, which suggests that impression management is associated with personal well-being and interpersonal adjustment. Data from a wide variety of fields including social behavior, affect and well-being, health, and job performance tend to favor the adjustment approach. Finally, I argue that scales measuring impression management should be redefined as measures of interpersonally oriented self-control that identify individuals who demonstrate high levels of self-control, especially in social contexts.

Keywords

interpersonally oriented self-control, social desirability, impression management, defensiveness, validity scales

Social desirability has long attracted the attention of researchers and practitioners alike. However, there is ongoing debate regarding the nature of this construct. Neither its theoretical meaning (Crowne & Marlowe, 1960; McCrae & Costa, 1983) nor its practical usage (J. Hogan, Barrett, & Hogan, 2007; Ones, Viswesvaran, & Reiss, 1996) has achieved consensual agreement. In this review, I survey the evidence in an attempt to formulate a broad and up-to-date definition of this construct. I focus on the most challenging facet of social desirability (to scale developers and users), which is often referred to as impression management (IM), other-deception, lie scales, or, neutrally, as the Gamma factor. I first tackle one of the most ingrained beliefs about this construct; namely, that it is a valid measure of a biasing response style. After presenting evidence to the contrary, I survey self-reports, informant reports, physiological evidence, and behavioral responses in the laboratory and in real life to better determine what individual differences on scales designed to measure IM actually measure. Data are examined from a wide range of fields that exemplify the applicability of this construct to a broad array of phenomena beyond personality measurement (including interpersonal behavior,

affect and well-being, health, and job performance). In the conclusion, a new frame for scales of IM is put forward.

The Concept

A Brief Historical Overview

Researchers and practitioners who rely on self-reports (typically about personality) are often concerned that respondents tend not to answer honestly, but rather respond in accordance with predetermined response sets and styles. Social desirability represents one potential bias and refers to a tendency by respondents to portray an overly positive image of their true selves.

Interest in the measurement of the social desirability bias initially gained momentum following work by Edwards

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(1953, 1957), who popularized an individual difference tool constructed from 39 items of the Minnesota Multiphasic Personality Inventory (MMPI). By the early 1960s, more than a dozen scales had been developed to measure social desirability (Wiggins, 1964). One scale has proven to be highly influential to this day: the Marlowe-Crowne Social Desirability Scale (MCSDS). Crowne and Marlowe (1960, 1964) were critical of the strong (negative) correlation of the Edwards scale with the MMPI psychopathology scales. They argued that the scale did not differentiate between individuals who truly lack psychopathological symptoms and those who deny the symptoms because of social desirability concerns. To correct for this shortcoming, they developed an alternative scale with two types of items that were free of pathology-relevant content: infrequent but socially approved behaviors (e.g., “I always try to practice what I preach”) and frequent but socially disapproved behaviors (e.g., “I like to gossip at times”). People who depict themselves as scoring high on the approved behaviors and low on the disapproved behaviors are considered to display a high social desirability bias.

The MCSDS has become the most frequently cited instrument for assessing biased responding to questionnaires (Furnham, 1986). Nonetheless, the scale is not without its share of shortcomings. Researchers have criticized the scale’s ambiguous factorial structure (Leite & Beretvas, 2005; Paulhus, 1984), low reliability (Barger, 2002; Beretvas, Meyers, & Leite, 2002), and, importantly, its validity as a fake detector (Bradburn et al., 1979; McCrae & Costa, 1983). In addition, the scale’s length and outdated wording put its practicality in doubt (Stöber, 2001).

The lack of clear dimensionality in social desirability scales has been a concern since the early days of social desirability measurement. Wiggins (1964) factor analyzed social desirability scales and found that they converged to two major factors, which he called Alpha and Gamma. The Edwards’ social desirability scale, which mainly contains anxiety items, was a typical marker of the Alpha factor, whereas the MCSDS had a high loading on the Gamma factor, which was labeled “social desirability role playing.” The MCSDS had a comparable loading on another factor, which was labeled “cautious, controlled good-impression,” and covered individuals who present themselves as calm and controlled.

Articulating the dimensions of socially desirable responding was a central theme in the next milestone in the history of social desirability. Following Wiggins’s pioneering analyses and the scales developed by Sackeim and Gur (1978), Paulhus (1984, 2002) identified and labeled two largely orthogonal dimensions of socially desirable responding: impression management and self-deception. According to Paulhus, the IM dimension represents respondents’ conscious efforts at deception, whereas the self-deception dimension reflects respondents’ actual beliefs concerning their positive qualities. These two scales jointly make up the Balanced Inventory of Desirable Responding (BIDR). The IM scale asks about overt behaviors, and as such, their true nature is (arguably) accessible to the respondent, who has the choice of whether to lie about

them or not. The self-deception scale asks about potentially psychologically threatening thoughts and feelings, which are (arguably) less accessible to the conscious mind; thus, denial is interpreted as unconscious defensiveness. Paulhus (1984) showed that only the IM factor is sensitive to changes in social settings and that the mean IM score is higher in a public social context than it is when measured anonymously.

Most researchers in the field have adopted a two-dimensional factorial structure of measures of social desirability. A survey of the literature reflects this consensus and reveals a distinction between social desirability scales that measure IM (Wiggins’s Gamma factor) and scales that measure self-deception (Wiggins’s Alpha factor; cf., Millham, 1974; Paulhus, 1984, 2002; Rutledge, 2006; Sackeim & Gur, 1979; Wiggins, 1964). Some of the scales that fit into the first group include the MMPI Lie scale (Meehl & Hathaway, 1946), the Eysenck Personality Questionnaire–Revised (EPQ-R) Lie scale (S.B.G. Eysenck, Eysenck, & Barrett, 1985), Wiggins Social Desirability scale (Wiggins, 1959), the interpersonal sensitivity subscale (Holden & Fekken, 1989), the Other-Deception Questionnaire (Sackeim & Gur, 1978), and the impression management subscale of the BIDR (Paulhus, 1984). The MCSDS (Crowne & Marlowe, 1960) is also a stronger marker of this factor than of any other. The second group includes the MMPI K scale (Meehl & Hathaway, 1946), the Edwards Social Desirability scale (Edwards, 1957), the Repression-Sensitization scale (Byrne, 1961), the sense of own general capability subscale (Holden & Fekken, 1989), the Self-Deception Questionnaire (Sackeim & Gur, 1978), and the self-deception subscale of the BIDR (Paulhus, 1984).

Scope of the Present Review

Part of the confusion among researchers and practitioners who use social desirability scales comes from the fact that the general label “social desirability” is used interchangeably to refer to scales tapping both these orthogonal factors. However, for all practical purposes, social desirability is a source of bias only to the extent that it represents respondents’ conscious deception efforts. This accounts for the frequent recommendation to correct only for IM scores (Paulhus, 1984, 2002; Zerbe & Paulhus, 1987). Therefore, although the self-deception factor is in itself a fascinating research topic, this review only assesses social desirability scales that aim to measure conscious lying and other-deception. For conceptual clarity, these scales will collectively be referred to as IM scales.

In the first part of this review, I examine whether IM scales reliably measure socially desirable response style. I then explore whether these scales measure a substantive personality predisposition, and if so, what this predisposition represents. In the process, two opposing approaches on the nature of individual differences in IM will be contrasted: a *defensiveness approach*, which suggests that individual differences in IM reflect defensive and avoidance-based self-presentation and an *adjustment approach*, which suggests that individual differences in IM reflect varying levels of

psychological adjustment, well-being, and approach-based social behavior.

What Impression Management Scales Do Not Measure: Style (Vs. Substance)

If the definition of IM scales was based on most popular use, treatment of these scales as markers of response style (vs. a substantive personality trait) would win by a landslide. Scale developers correlate their questionnaires with an IM scale as an integral part of the scale validation process (e.g., the implicit theories measures; Dweck, Chiu, & Hong, 1995; the relational-interdependent self-construal scale; Cross, Bacon, & Morris, 2000; the self-regulation questionnaire; Carey, Neal, & Collins, 2004). The procedure often involves demonstrating that the newly developed scale has a nonsignificant correlation with an IM scale (and therefore is free from response bias) or that it predicts external criteria after the variance attributed to IM (i.e., beyond the variance attributed to response bias) is deducted. IM scales are also a key component in practitioners' toolkits. A recent survey found that social desirability corrections are the most frequently used response bias control technique among human resource managers (Goffin & Christiansen, 2003).

Considering their popularity, one might assume that there is ample convincing evidence for IM scales as measures of bias. In fact, although the utility of IM scales as markers of response style has been put to multiple tests, the data fall short of the theoretical claims.

One way to test the utility of IM scales as validity scales is by comparing self-reports with informant reports. To the extent that IM measures a tendency to deceive in self-reports, it should contribute erroneous variance only to reports by the self. IM would thus act as a suppressor of the actual correlation between self and informant reports. Statistical control of the variance associated with IM should subsequently reveal a stronger and more truthful self-informant correlation. This rationale guided McCrae and Costa (1983), who correlated self and spouse reports on traits from the NEO inventory and then controlled for IM scores. Their results showed that IM did not suppress the correlations. In fact, controlling for IM actually often decreased self-informant correlations, indicating that IM was measuring some true (i.e., substantial) variance. The role of IM scales as suppressors or moderators of the correlation between self and informant reports have been put to test several times over the years by using different scales and types of self-informant relationships. All these tests have failed to find statistical effects that would support the interpretation of IM scales as reliable validity scales (Borkenau & Ostendorf, 1992; Borkenau & Zaltauskas, 2009; Diener, Sandvik, Pavot, & Gallagher, 1991; Hunsley, Vito, Pinsent, James, & Lefebvre, 1996; Kozma & Stones, 1987; Pauls & Stemmler, 2003; Piedmont, McCrae, Riemann, & Angleitner, 2000).

A second way to assess the utility of IM scales is to evaluate the extent to which these scales moderate the predictive validity of other personality scales. Much of the work in this area has

been in the context of personnel selection. If IM predicts positively biased self-reports, the correlation between any given trait (e.g., conscientiousness) and external criteria (e.g., job performance) should be stronger among individuals with a low IM score than among individuals with a high IM score (because the latter's self-reported personality ratings are contaminated). This issue has been tested in a large number of studies and subsequently summarized in meta-analyses. These show unanimously that IM scales fail to moderate criterion-related validities of personality scales (Li & Bagger, 2006; Ones & Viswesvaran, 1998; Ones et al., 1996). Ones et al.'s (1996) finding that partialing out IM has no effect on the criterion-related validities of the Big Five traits led them to conclude that the use of IM scales in personnel selection is a red herring. Li and Bagger (2006) came to the same conclusion in their separate meta-analyses of the IM and self-deception dimensions of the BIDR: "partialing out impression management or self-deception from personality measures did not substantially change the criterion validity of personality variables" (p. 138). Here again, IM scales fail to detect biased reporting.

A third way to test the utility of IM scales as validity scales is to explore the extent to which they affect the factor structure of personality scales. If a high IM score indicates biased responding, then the implication is that respondents who score high do not attend to the content of the items but base their responses on a unidimensional desirability criterion instead. This should lead to a normal factorial structure for personality scales for individuals with a low IM score and a narrow and distorted factorial structure for individuals with a high IM score. Ellingson, Sackett, and Hough (1999) showed experimentally that instructions to respond in a socially desirable manner bring about the expected distortion. However, IM scales were not associated with the same distortion. Comprehensive analyses of four large data sets led to the conclusion that "social desirability had little influence on the higher order factor structures that characterized the relationships among the scales of the personality measures" (Ellingson, Smith, & Sackett, 2001, p. 122). The same conclusion was reported with respect to the factorial structure of the Chinese version of the 16PF (Fan, Wong, Carroll, & Lopez, 2008). This study found that the factorial structure remained invariant across groups of participants scoring high and low on the BIDR IM scale. Thus, IM scales apparently fail this test as well.

Another logical way to show that IM scales measure biased responding is by comparing explicit and implicit responses on sensitive topics. If a high IM score indicates that a person is prone to lie on delicate issues such as level of anxiety, there should be a difference between that person's self-reported anxiety and a measured level of implicit anxiety (which is consciously inaccessible and presumably bias-free). Egloff and Schmukle (2003) tested this conjecture in two studies. Their results indicate that IM does not moderate the relationship between explicit and implicit anxiety. Notwithstanding, it could be argued that the bias associated with IM does not affect underclaiming of negative attributes and only contributes to overclaiming of positive attributes. A study by Riketta (2005)

found the same pattern of results when IM was tested as a moderator of the relationship between implicit and explicit self-esteem, a trait with an obviously favorable connotation (IM had a weak and nonsignificant correlation with both, $r < .18$). Similarly, Holtgraves (2004) found no indication that the IM scale is involved in editing self-descriptions as measured by the length of time it took to produce responses under stressful conditions. Hence IM scales have failed again.

A fifth way to show that IM scales systematically distort self-reports is by demonstrating malleability in self-descriptions. If individuals who score high on IM scales want to create a favorable impression, it is likely that IM would be associated with different sets of values in cultures that prioritize different values. This question was explored by Schwartz, Verkasalo, Antonovsky, and Sagiv (1997), who compared the value priorities of an Israeli sample and a Finnish sample. Their results were again disappointing for proponents of the idea that IM is a measure of response style. Despite the marked cultural differences between the two samples, IM predicted roughly the same constellation of value priorities in both cultures (see also Lönnqvist, Verkasalo, & Bezmenova, 2007). (Note that these results do not mean that the average level of IM was equal across cultures. In fact, evidence indicates that cultures differ in their average level of IM in a way that reflects the emphasis that the culture places on collectivism vs. individualism; e.g., Lalwani, Shavitt, & Johnson, 2006.)

Last, an approach researchers have frequently used to demonstrate that IM scales are valid measures of deception is the “fake-good” manipulation (e.g., Ellingson et al., 1999; Holden & Evoy, 2005; Paulhus, Bruce, & Trapnell, 1995; Viswesvaran & Ones, 1999). The procedure involves emulating a “high-demand” situation by instructing participants to fake their responses to give a good impression. The mean level on an IM scale is then compared with a control group who took the questionnaire under normal (“low-demand”) conditions. A difference between the groups is interpreted as showing that the IM scale is sensitive to faking. Several studies have demonstrated that this manipulation affects the mean level of IM, implying that these scales successfully detect socially desirable response set (i.e., momentary and contextually dependent motivation to form an overly positive impression; Blake, Valdiserri, Neuendorf, & Nemeth, 2006; Holden, 2007; Paulhus et al., 1995; Stöber, 2001; but see Dunnett, Koun, & Barber, 1981).

Unfortunately, the utility of this procedure as a method for demonstrating the bias-detection sensitivity of IM scales is undermined by several issues. First, evidence suggests that faking on personality questionnaires is a minor problem in real world settings (J. Hogan et al., 2007; Hough, Eaton, Dunnette, Kamp, & McCloy, 1990). That is, asking participants to exaggerate their ratings bears little resemblance to typical conditions for IM testing. Second, the fake-good instructional scheme has been criticized for creating a demand that elevates scores specifically on IM-type scales. Under slightly different fake-good instructions, the observed changes are modified or even nullified (Holden & Evoy, 2005; Lönnqvist, Verkasalo, & Bezmenova, 2007; Paulhus, 2002; Pauls & Crost, 2004),

implying that any bias detection sensitivity of these scales is bounded by a (yet undefined) subset of contexts. Furthermore, when more subtle but also more ecologically valid changes take place in settings where people are asked about their personality (e.g., filling out a questionnaire vs. being interviewed), IM has little or no effect on criterion-related validity (Dwight & Feigelson, 2000). Third, fake-good instructions apparently cause changes in other personality scales (e.g., measures of neuroticism, conscientiousness) that, at times, are larger and more significant than the changes found in the IM scores (Farley & Goh, 1976; Holden, 2007; Konstabel, Aavik, & Allik, 2006; Paulhus et al., 1995; Stöber, 2001). This means that IM scales are not as uniquely sensitive to changes in the demand for self-presentation as previously assumed. Fourth, mean scores on IM scales are of little practical or academic use, as the rank order of the respondents is the critical criterion (McCrae & Costa, 1983). The evidence indicates that the rank order on IM scales is generally not affected by faking instructions or faking incentives (Ellingson et al., 2001; Lönnqvist, Paunonen, Tuulio-Henriksson, Lönnqvist, & Verkasalo, 2007). That is, any bias component that accompanies IM scores under high-demand situations maintains the same rank order that exists among IM scorers under low-demand conditions. Therefore, statistical control for IM scores in these situations removes substantial trait variance (responsible for IM scores under low-demand conditions) rather than unwanted error variance. This comes down to throwing out the baby instead of the bath water.

Actual behavior and real life correlates are also informative as to whether or not IM scales are indicators of a self-favoring bias. For example, if a person is willing to cheat when describing his/her personality there is reason to believe that s/he would also cheat in a self-favoring manner on other issues as well (Paulhus, 2002). Evidence on the extent to which IM is associated with cheating is equivocal at best. Although there are studies that associate IM with cheating (Lobel & Levanon, 1988; Millham, 1974), there appears to be stronger evidence that an IM-cheating link is either negative (Kashy & DePaulo, 1996; Lanyon & Drotar, 1968) or simply nonexistent (Eid & Diener, 2006; Jacobson, Berger, & Millham, 1970; Schmitt et al., 2003; H.L. Smith, 1997). For example, H.L. Smith (1997) compared self-reports on a range of topics (e.g., GPA, weight, height) with objective criteria without prior knowledge by the respondents that such comparisons would take place. The results showed no evidence for an IM-cheating association.

Also informative concerning the issue at hand are the (null) correlations of IM with scales measuring favorable qualities and behaviors. IM is not correlated with clearly favorable attributes such as being excited or interested in things in life (Bradburn et al., 1979), forgiveness (Maltby, Macaskill, & Day, 2001), or with (fewer) reports of negative life events (Lakey & Heller, 1985). It is also not associated with excessive self-enhancement (Taylor, Lerner, Sherman, Sage, & McDowell, 2003) or with self-reported self-esteem (e.g., Paulhus & Reid, 1991; Riketta, 2005; by contrast, measures of social desirability that tap self-deception often show substantial positive

correlation with self-esteem). Finally, IM is not associated with the ultimate socially desirable behavior of helping a person in distress (Darely & Latane, 1968; Hansen, Vandenberg, & Patterson, 1995).

Furthermore, if IM indeed detects deception tendencies, some of its real life correlates are quite alarming. For example, IM is positively correlated with religiosity (e.g., Gillings & Joseph, 1996; Leak & Fish, 1989; P.J. Watson, Morris, Foster, & Hood, 1986); it is higher among older people (Bradburn et al., 1979; Ray, 1988); and it characterizes married people more than unmarried people (Bradburn et al., 1979; Harker & Keltner, 2001). The mere existence of real life correlates to a scale that aims at measuring response style is unexpected (by definition, these scales should reflect error or ungrounded personal ascriptions that characterize people's questionnaire response style), as is the direction of the correlations mentioned above.

To be sure, there is evidence that IM scales successfully detect biased responding from time to time (e.g., Rosse, Stecher, Miller, & Levin, 1998). But rather than supporting the argument that IM scales are valid measures of bias, these studies often accomplish the opposite by restricting their applicability to a distinctively narrow range of circumstances, rendering them impractical (e.g., in screening job applicants, conditions must allow for very low selection ratios, the personality scales that are relevant for the job must fit a narrow set of traits that are related to changes in IM scores, and, importantly, one must accept the risk that satisfactory candidates may be erroneously rejected because of overcorrection).

The unavoidable conclusion that arises from the bulk of research is that IM scales are less-than-perfect measures of response set. More crucially for the present context (with reference to the typical use of these scales in the literature), these scales are not successful in measuring response style most of the time and for most people. To reiterate, IM scales are not fairly good measures of response style that on occasion experience a glitch; they are largely ineffective measures that at times get lucky. The next section concentrates on individual differences in IM as reflecting substantial trait variance.

What Impression Management Scales Measure: Theoretical Perspectives

IM scales do not seem to be reliable measures of socially desirable response style. But rather than dismissing them altogether, they may be of much use as measures of personality predispositions. The evidence indicates that IM acts very much like any other trait: it shows internal consistency (e.g., Crowne & Marlowe, 1960; S.B.G. Eysenck et al., 1985; Paulhus, 1984), consistency across situations (Ellingson et al., 2001; Lönnqvist, Paunonen, et al., 2007), and stability over time (Paulhus & Reynolds, 1995) and across different cultures (e.g., Barrett, Petrides, Eysenck, & Eysenck, 1998); it predicts real life behaviors (e.g., Bradburn et al., 1979); and it even has an identifiable genetic profile (Gillespie et al., 2008). Notwithstanding

these features, there is major disagreement as to the nature of this trait.

The mystery that surrounds the IM construct is most likely related to the items that make up the scales. An observation made by Furnham more than 20 years ago succinctly describes this state of affairs: "It is not clear that those researchers who have devised lie/social desirability scales had a clear idea of the trait that they were measuring." (Furnham, 1986, p. 395). Specifically, the instruments that serve to measure IM (e.g., the MCSDS, the EPQ-R Lie scale, and the IM scale of the BIDR) diverge from conventional self-report instruments that measure traits by their indirect approach, seeking to uncover hidden motivations (Paulhus & Vazire, 2007). Researchers have no special interest in whether a person is in fact a good listener or if all one's habits are desirable (as some of the common items on these scales ask). The assumption behind the construction of the scales was that the different items capture a single underlying motivation (e.g., need for approval). The nature of this motivation is at the heart of the theoretical debate on IM. Researchers need to decide whether to accept respondents' ratings at face value, or, if not (as was originally suggested), decipher the motivation that brought about such responses.

It comes therefore as no surprise that over the years different meanings have been assigned to individual differences on IM scales. The different interpretations fall into two contrasting approaches, one of which (the defensiveness approach) emphasizes socially undesirable qualities, whereas the other (the adjustment approach) emphasizes desirable qualities. These approaches are described next.

The Defensiveness Approach

Probably the first researchers to formulate a full-fledged theoretical argument about the nature of individual differences in IM were Crowne and Marlowe (1964). They argued that styles of responses to questionnaires are simply expressions of behavior derived from a deeper *approval motive*. Situations involving social evaluation elicit this motive and enhance the tendency to adopt conformist, obedient, and socially approved behaviors and to avoid socially undesirable behaviors. Ironically (given their wish to avoid undesirable behaviors), to win the approval of others, individuals with a high score on an IM scale are willing to bias and even lie in self-descriptions.

In a later account, Crowne (1979) assigned a somewhat different meaning to IM: defensiveness of the self. Defensiveness is expressed in distortions of thoughts and feelings associated with social rejection, or with a negative change in self-evaluation, and with the avoidance of threatening situations. That is, the motivation that drives individuals with a high IM score is not social approval, but rather the avoidance of social disapproval, which in itself serves a more basic goal of protecting a vulnerable (i.e., low and insecure) self-esteem. Such vulnerability leads to cognitively depleting anxiety in social contexts, which carries myriad negative implications, such as inadequate problem solving, poor school achievement, and low intelligence.

The concept of defensiveness was an integral part of an influential description by Weinberger, Schwartz, and Davidson (1979) of the repressive personality type. In a study on responses to stress, the authors described a personality type that exhibited marked inconsistencies between (benign) self-reported and (intense) physiological and behavioral reactions of stress. These individuals scored high on an IM scale and low on a trait anxiety scale. According to Weinberger et al. (1979), their self-reported low anxiety is an expression of a defensive repression, which is essentially a type of deception. Weinberger (1990; Weinberger & Davidson, 1994) later suggested additional characteristics of repressors. Repressors were said to be engaged in proving to others and to themselves that they are not prone to negative affect. This process leads to selectiveness in the allocation of attention and the retrieval of memories and to the activation of perceptual defenses, intellectualizations, and attribution biases.

Additional defensive-based meanings that were assigned to IM include status seeking (R. Hogan, 1983) and overcontrol of needs and impulses (Gough, 1987). Furthermore, as described above, Paulhus (1984) derived the concept of IM from the Other-Deception scale (Sackeim & Gur, 1978). According to Paulhus (2002) the change in the name of the scale highlights the trait-like nature of a habitual tendency to present oneself to others in an overly positive fashion.

The thread that binds these descriptions is the argument that individuals who score high on IM scales experience life on the defensive, avoidant, and behaviorally inhibited side. They will tend to spend much of their time shielding their vulnerable self-esteem and protecting themselves from social rejection. To achieve their interpersonal goals, they will not refrain from biasing information and deceiving and manipulating their surroundings. They are likely to pay a toll for doing so by being anxious, stressed, emotionally drained, cognitively (pre)occupied, and, in the long run, socially maladjusted.

The Adjustment Approach

In the early 1980s, researchers have suggested an alternative meaning for IM. This approach derives many of its claims from a bottom-up negation of the defensiveness approach. Overall, however, proponents of this approach appear to be making a complete counterargument in favor of IM as a basis for constructive personal and interpersonal qualities.

A mild version of this approach can be found in a suggestion by D. Watson and Clark (1984) that IM is associated with low negative affectivity that may reflect healthy defensiveness. Similarly, Lane, Merikangas, Schwartz, Huang, and Prusoff (1990) took the stance that IM promotes emotional stability. Focusing on the social aspects of IM, H.J. Eysenck and Eysenck (1975) argued that IM connotes a sort of social naiveté and ingenuousness. Schwartz et al. (1997) suggested that high scores on IM characterize individuals who emphasize social harmony. In the same vein, Tangney, Baumeister, and Boone (2004) described IM as an ability to override selfish interests in order to do what is best for the entire community, and Marsh,

Antill, and Cunningham (1987) saw IM as inherently more feminine than masculine, implying that it is associated with selflessness in interpersonal relations.

Additional arguments have been made for an even more dynamic and socially active meaning of IM. Holden and Fekken (1989) associated social desirability with interpersonal sensitivity. McCrae and Costa (1983) suggested that IM represents friendliness, emotional stability, and self-control (see also Pauls & Stemmler, 2003; Piedmont et al., 2000). Others have argued that IM reflects high levels of self-esteem (Borkenau & Ostendorf, 1992) and a trait that contributes to happiness and enhances well-being (Diener et al., 1991). Furthermore, on more than one occasion, IM has been described as a source of approach tendencies in various social contexts (e.g., Kline, Blackhart, & Joiner, 2002).

Thus there are two opposing views with regard to individual differences in IM. The defensiveness view associates IM with deceptiveness, repression, and vulnerable self-esteem, whereas the adjustment view associates IM with emotional stability, friendliness, and enhanced well-being. The two approaches, however, are not in complete disagreement. They concur that IM reflects interpersonal sensitivity of some sort, such that the behavior of individuals with a high score on IM scales changes in social contexts. The main area of dissention is the control and competence that these individuals bring with them to these situations. The defensiveness approach endorses a high-motivation/low-competence model (expressed in high stress in social contexts alongside a defensive behavioral pattern), whereas the adjustment approach argues in favor of a high-motivation/high-competence model (expressed in low stress in social contexts alongside an approach behavioral pattern). The question is therefore whether individuals with a high IM score behave in social contexts in a way that reflects low or high levels of control and competence. The next section explores the empirical evidence. Much attention will be devoted to interpersonal behavior, followed by a review of the effects of IM on affect, health outcomes, and job performance. Throughout, attempts will be made to crossvalidate self-report data with objective criteria.

What Impression Management Scales Measure: Empirical Evidence

Interpersonal Behavior

According to the defensiveness approach, IM is associated with excessive defensiveness that should lead high scorers to be inhibited and deceptive in social contexts. In contrast, the adjustment approach argues that public settings are an opportunity for individuals with a high score on IM scales to express their friendly nature. Exploring interpersonal behavior is thus an important test to determine which approach has the upper hand. Various forms of interpersonal orientation including predispositions, long-term relationships, and short-term reactions in social contexts are examined below.

Predispositions. The broadest and most stable aspect of our interpersonal orientation can be found in our predispositions.

What do we know about the association of IM with interpersonally related traits? A relatively large number of studies have reported correlations between IM scales and traits from the Big Five model (e.g., Barrick & Mount, 1996; Borkenau & Ostendorf, 1992; Crant, 1995; DeYoung, Peterson, & Higgins, 2002; S.B.G. Eysenck et al., 1985; Graziano & Tobin, 2002; J. Hogan et al., 2007; Konstabel et al., 2006; Kurtz, Tarquini, & Iobst, 2008; Li & Bagger, 2006; Lönnqvist, Paunonen, et al., 2007; Maltby et al., 2001; McCrae, 1986; McCrae & Costa 1983; McKelvie, 2004; Ones et al., 1996; Paulhus, 1998; Paulhus & Reid, 1991; Pauls & Crost, 2004; Pauls & Stemmler, 2003; D.B. Smith & Ellingson, 2002; H.L. Smith, 1997).¹ For the two interpersonally oriented traits—agreeableness and extraversion—these studies report correlations that range between $-.08$ and $.58$ with agreeableness (over 80% of the correlations were above $.10$) and correlations that range between $-.30$ and $.20$ with extraversion (over 70% of the correlations were under $.10$). It is interesting to note that IM has a weak and often negative correlation with extraversion, which is a highly desirable trait (Funder & Dobroth, 1987).

Arguably, though, there are reasons to distrust self-reports by individuals with a high IM score. Several studies have therefore utilized alternative methods to evaluate the personality correlates of IM, mostly relying on informants' reports (peers or family members; Borkenau & Ostendorf, 1992; Konstabel et al., 2006; Kurtz et al., 2008; Lönnqvist, Paunonen, et al., 2007; McCrae, 1986; McCrae & Costa 1983; Ones et al., 1996; Paulhus, 1998; Pauls & Stemmler, 2003)¹. These results are generally consistent with the self-report data: the magnitude of the correlations ranged from $-.08$ to $.60$ for agreeableness and from $-.14$ to $.16$ for extraversion. Although individuals with a high IM score in several studies rated themselves as more agreeable than how others rated them, in most cases IM correlated positively with agreeableness in informants' reports as well.

This personality profile is in line with conclusions derived from other sources of information. For example, as mentioned earlier, IM was found to be associated with prioritizing communal values and social harmony (e.g., benevolence, tradition, and conformity) over agentic values (e.g., Lönnqvist, Verkasalo, et al., 2007), and IM is negatively correlated with (extraverted) social activities that, at times, may disturb social order, such as drinking alcohol or partying (Bradburn et al., 1979).

Taken together, the pattern of predispositions depicted above is consistent with the arguments of the adjustment approach, demonstrating that individuals with a high IM score are as harmony-seeking and agreeable as they claim to be.

Long-term relationships, friendships, and deviant social behavior. This section explores the association of IM with maintenance of long-term relationships, friendship formation, and general social adjustment. Several studies have explored the contribution of IM to marital life. Their results show, first, that IM is positively correlated with having a lifetime partner. IM was positively associated with chances of getting married and staying married across different age groups (Bradburn et al., 1979). Although this finding was based on a cross-sectional survey, a

longitudinal study showed the same trend over 30 years (Harker & Keltner, 2001). IM at the age of 21 was positively (though not significantly, $r = .12$) associated with getting married by the age of 27 and negatively (again, not significantly, $r = -.10$) with remaining single. Twenge and Im (2007) provided a different perspective on this issue by analyzing social trends associated with aggregated (cohort-level) changes in IM across more than 40 years. Their results showed that the divorce rate was lower during periods in which IM was higher in American society.

Getting married is a distal indicator of one's interpersonal behavior. Staying married is a less distal indicator. IM appears to predict both. However, data on the quality of the dyadic relationship are the most informative. Harker and Keltner (2001) found that IM at the age of 21 was positively (but not significantly, $r = .19$) associated with satisfaction with one's marital life at a later age. Cross-sectional data from married couples indicate that IM is positively correlated with relationship satisfaction (Fowers, Lyons, & Montel, 1996), sometimes only among men (Hunsley et al., 1996), but it does so even after considering and statistically ruling out the possibility that this association reflects response bias (Russell & Wells, 1992). Furthermore, among married couples, women's IM score predicted a high level of trust in their husbands, and, importantly, it also predicted being considered more trustworthy by their husbands (the relationships in the other direction were not statistically significant; Buss & Shackelford, 1997).

Studies mentioned earlier in the context of informants' reports are also informative. Some of these studies asked spouses to describe the characteristics of their life partners (Diener et al., 1991; Kozma & Stones, 1987; McCrae & Costa, 1983). These studies consistently show that spouses attributed positive traits (e.g., emotional stability, agreeableness) and desirable qualities (e.g., happiness) to partners who score high on IM scales. This indirect evidence indicates that spouses who score high on IM scales are as honest and behaviorally lucid as those who have low IM scores and also that they are judged positively as having a favorable personality, which again is indicative of a good relationship (the implied assumption is that conflictual relationship would prompt couples to report inconsistent and nondesirable attributes about each other).

Finally, IM is negatively associated with destructive forms of marriage: It was negatively correlated with possessive and dependent love styles (Davies, 2001), and in a meta-analysis it had a negative correlation with intimate violence, based on reports by offenders and victims (Sugarman & Hotaling, 1997). In sum, in the domain of marital life, IM appears to be a constructive trait.

What about friendships and less intimate interpersonal relationships? Starting with peers' reports about personality traits and general well-being, the evidence shows that acquaintances of individuals with a high IM score think highly of them, attributing to them the same emotionally stable, agreeable, conscientious, and happy nature that they attribute to themselves (Borkenau & Ostendorf, 1992; Konstabel et al., 2006; McCrae, 1986; Pauls & Stemmler, 2003; H.L. Smith, 1997). Even peers

with short (e.g., 1 week) periods of acquaintanceship (and therefore little incentive to present the target favorably) tend to attribute constructive traits to individuals with a high IM score (Kurtz et al., 2008; Paulhus, 1998). Moreover, high IM appears to be associated with fewer social problems in college (Crocker & Luhtanen, 2003) and with greater general social integration (P.J. Watson, Milliron, & Morris, 1995). A study conducted in a natural setting supports these conclusions based on a sample of 12th grade students. According to teachers' evaluations, repressors were found to exhibit better social skills, be less shy and withdrawn, have better frustration tolerance, better grades, and also, in self-reports, to have a greater sense of global self-worth than nonrepressors (Bybee, Kramer, & Zigler, 1997).

Nevertheless not all the data indicate that IM is as constructive for interpersonal relationships as the above sources would have us believe. In two studies, IM was actually associated with difficulties in forming good relationships. Both studies focused on the early (though not immediate; i.e., a few weeks and up to 3 months) period of relationship formation under the relatively stressful (and externally enforced) reality of roommating. Joiner, Vohs, Katz, Kwon, and Kline (2003) found that a high IM score predicted less favorable evaluation among male roommates (but the opposite outcome was found among female roommates). A recent longitudinal study found that after 3 months of sharing a room, roommates of individuals with a high IM score liked them less and personally experienced reduced levels of well-being in comparison with their state at the relationship onset (Uziel, Sagiv, & Roccas, 2008).

Taken together, IM appears to predict successful first impressions and maintenance of interpersonal relationships (once a relationship has been established) of different kinds (friends and spouses). However, they find it a rocky road at times, especially when intimate relationships are enforced upon them by circumstances.

The two approaches to IM also make different arguments about its contribution to deviant social behavior. The defensiveness approach predicts that IM will be associated with social maladjustment, whereas the adjustment approach argues that IM will be associated with social adjustment. The evidence is almost unanimously supportive of the adjustment approach. As described earlier, IM is not associated with cheating, it is negatively correlated with drug abuse and alcoholism (Bradburn et al., 1979; Lane et al., 1990; Luhtanen & Crocker, 2005), it is associated with fewer social problems at the society level (e.g., crime level; Twenge & Im, 2007), it correlates negatively with workplace bullying (Parkins, Fishbein, & Ritchey, 2006), it predicts having fewer socially disapproved habits (Joubert, 1995) and a low tendency toward risk taking (Agarwal, 1977; Glicksohn, Ben-Shalom, & Lazar, 2004), and, finally, it is negatively associated with repetitive criminal behavior (recidivism; Mills & Kroner, 2005; Tan & Grace, 2008).

To summarize, individual differences in IM are associated with an ability to build a lasting and mutually satisfying marital life, to form and maintain friendships, and to successfully integrate into society and avoid unaccepted social outcomes. Some

of these outcomes appear to be consistent with a view that emphasizes a need for approval as the motivation that directs the behavior of individuals high in IM (Crowne & Marlowe, 1964). However, this approach emphasizes the need, not its successful fulfillment. Theoretically, the stronger the need, the more challenging it is to fulfill. That is, high need for approval may mask the absence of actual competence. Therefore, these data fit the more parsimonious account better, which is that IM contributes to social adjustment.

Short-term reactions to social stimuli. Thus far, we have reviewed predispositions and real life correlates of IM. However, much can be learned about the true nature of this trait from controlled experiments. An experimental paradigm is especially informative in the present context for two reasons: It is a high-demand situation similar and, at times, more intense than other testing contexts, which give rise to motivation to make a positive impression. Thus, any potential biases that are associated with IM should be fully activated in this context. The second advantage of experiments is that the controlled environment makes it simpler to tap behavioral, cognitive, affective, and physiological responses without the need to rely on verbal self-reports. Thus, they can separate response bias from actual ability.

There is clear evidence that IM reflects sensitivity to changes in social conditions. For example, the transition from a private to a public context brings about marked changes in mean scores on IM scales (e.g., Paulhus, 1984), implying that interpersonal sensitivity is a central motivator of this trait. This idea has been theoretically and empirically developed mostly under the umbrella of the defensiveness approach, and it draws in particular on Weinberger et al.'s (1979) description of repressors' responses to stressful conditions. Therefore, the bulk of the experiments involving IM have studied reactions to anxiety-provoking social situations.

With some detail, Newton and Contrada (1992) suggested that evaluative social contexts promote a repressive coping style among repressors. Female participants were asked to discuss the most undesirable aspects of their personality under a private (one person) or a public (three people) condition. The hypothesis was partially supported; there was a greater increase in heart rate than in self-reported negative affect among repressors in the public condition. However, comparable changes were not found in blood pressure or in measures of behavior (analyses of verbal productivity; IM main effects were not reported).

Changes in heart rate under stressful social conditions were also the focus of another study that asked participants to speak publicly about their personality (Experiment 1) or about a subject in psychology (Experiment 2; Derakshan & Eysenck, 1997). Participants' self-reports about their level of anxiety in these situations were compared with judges' evaluations. In Experiment 1, there was no difference in self-reported anxiety between individuals high and low in IM, nor was there a main effect associated with IM in the evaluations of anxiety made by the judges. Still, analyses of the discrepancy (in self-other reports of anxiety) revealed an effect whereby individuals with a high IM score judged their level of anxiety as

lower than the judgment made by others. Experiment 2 followed a similar procedure with the inclusion of measures of heart rate. Results were reported only for repressors (and not for IM as a continuous factor) and revealed a faster heart rate in this group of participants than was found in low-anxiety/low-IM participants. When asked about their physiological response, repressors rejected an interpretation that associated it with stress and preferred to associate it with an increased sense of challenge.

Although this pattern of results may imply that repressors have an interpretive bias that directs them away from (true yet unpleasant) threatening information (cf. Derakshan, Eysenck, & Myers, 2007), changes in heart rate under public conditions are not solely indicative of a sense of threat—they can also reflect a feeling of being challenged (Blascovich, Mendes, Hunter, & Salomon, 1999). Therefore, participants' account of their physiological reaction as reflecting challenge rather than threat cannot be ruled out completely. Some data actually favor the challenge interpretation. In a related study, Schwerdtfeger (2002) explored participants' heart rate reaction patterns (along with additional physiological indices) while participants were working on a stressful task in the presence of an experimenter. The results indicated that IM was associated with a response pattern reflecting behavioral activation rather than defensive inhibition.

The argument that changes in heart rate are not indicative of a clear psychological reaction prompted researchers to study other ways of measuring physiological responses to threatening social contexts. Barger, Kircher, and Croyle (1997) measured electrodermal activity (in addition to measurement of heart rate and self-reports) while following a procedure similar to that of Newton and Contrada (1992). The results revealed that IM was positively associated with self-reported negative affect in the alone condition but negatively related to negative affect in the public condition. Unlike some of the above results, IM was not associated with a change in heart rate or in skin conductance response between the conditions. Analyses of the content of speeches revealed that speeches by individuals high in IM were not less private or more desirable than those of individuals low in IM in any of the conditions.

In another experiment, researchers focused on blood pressure reactivity in addition to heart rate changes under stressful social conditions (Westmaas & Jamner, 2006). Female participants were asked to deliver a speech under one of three conditions: alone, with a neutral confederate, or with a supportive (but not familiar) confederate. The results revealed no interaction between social context and IM in affecting heart rate reactivity. Similarly, no interaction was found for blood pressure reactivity when the alone and neutral conditions were considered. It is interesting to note that IM predicted elevated blood pressure only in the supportive confederate condition. This reaction did not affect actual behavior in terms of the quality of the speech. Although the general pattern of results showed no special response to stressful social situations by individuals with a high IM score, the change in blood pressure level in the supportive condition resonates with findings reported earlier concerning IM under forced intimacy (e.g., dormitory

roommates; Uziel et al., 2008). Considered together, they imply that individuals with a high IM score appreciate their autonomy and may react negatively to uninvited intrusions into their personal space. Even if this is the case, there is still a considerable difference between such a profile (actually typical of introverted people) and defensiveness or low and insecure self-esteem, especially when considering the general profile of reactions by individuals with a high IM score.

A somewhat different procedure to explore physiological reactions (heart rate, blood pressure, facial activity) among females high in IM was applied in an experiment that manipulated interpersonal fear (about giving a speech on a complex issue) and anger (with an agitating experimenter; Pauls & Stemmler, 2003). During the fear manipulation, there was no main effect, indicating no increased reactivity among individuals high in IM on any of the physiological indices (at times, significant results were reported for repressors, but they clearly differed from the main effects of IM). During anger, IM was positively associated with diastolic blood pressure reactivity but not with systolic blood pressure reactivity. There was also a positive correlation with *m. zygomaticus* activity (facial activity associated with smiling) but not with *m. corrugator* activity (facial activity associated with anger). Again, there was no consistent evidence connecting IM to a defensive reaction under social threat.

One of the most stressful social situations occurs when one is rejected by peers. A recent study manipulated this situation and explored the role of IM in modulating the stress reaction (Blackhart, Eckel, & Tice, 2007). The results showed that, as expected, rejected participants exhibited significantly higher salivary cortisol level (a measure of psychological distress) than did control participants. However, IM moderated the effect, such that rejected participants who were high in IM showed significantly lower cortisol level than did rejected participants who were low in IM. That is, IM acted as a buffer against socially induced stress.

Taken together, the above studies examined physiological (mostly cardiovascular) reactions of individuals with a high IM score to threatening interpersonal situations. Most studies showed that IM is not associated with excessive reactivity under these conditions. This outcome is inconsistent with the tenets of the defensiveness approach, which posits that these individuals are highly defensively reactive in threatening social contexts. Furthermore, there was no reduction in performance (e.g., speech quality) when behavioral outputs were measured. That is, individuals with a high IM score did not compromise their self-control even under such extreme conditions.

A different physiological approach to this issue was taken in studies that analyze brain activity. Research using this methodology consistently documents brain activity indicative of behavioral approach tendencies among individuals with a high IM score. Tomarken and Davidson (1994) first reported that IM contributes to frontal asymmetry. They found that IM was associated with relatively stronger left-frontal activity, which has been connected with an approach tendency and protection against depression and distress. Similarly, Kline et al. (2002)

found that in the presence of an opposite sex experimenter, IM was a predictor of greater relative left-frontal activation. This link between IM and left-frontal activation has since been documented in a number of studies (Blackhart & Kline, 2005; Kline & Allen, 2008; Pauls, Wacker, & Crost, 2005). Even under conditions of social threat, IM was associated with greater left-frontal reactivity, reflecting an approach motivation (rather than defensive avoidance; Crost, Pauls, & Wacker, 2008). In sum, this line of research provides convincing support for the adjustment approach.

Another body of research concentrates on exploring behavioral responses under various social conditions. Again, a good number of studies have focused on situations involving social threat. In a study of attentional biases, individuals high in IM avoided threatening words, especially if they were related to social threat: Individuals high in IM were faster in color-naming a social threat than in color-naming neutral words in a modified Stroop task, and they were (nonsignificantly) faster in detecting probes that replaced neutral rather than social threat words in a dot probe task (Mogg et al., 2000). However, avoidance of social threat is not the only or even the default strategy among individuals high in IM. At least as often they choose to confront and actively cope with the situation. For example, when exposed to negative written feedback, repressors spent more time reading when feedback was received publicly than they did when it was received privately (Baumeister & Cairns, 1992). An additional outcome of this study revealed superior recall of the feedback under the public condition. That is, repressors appeared to be actively engaged in countering and confronting the threatening situation (main effects for IM were not reported).

An even more compelling example of an active coping strategy was presented in an experiment that confronted participants with unpleasant emotional materials (Boden & Baumeister, 1997). In response to this disturbing situation, individuals high in IM engaged in boosting pleasant thoughts. It is interesting to note that the same coping approach was found among individuals high in self-esteem under similar circumstances (S.M. Smith & Petty, 1995). Further evidence indicates that individuals high in IM are not overwhelmed by emotionally stressing materials. Participants who were exposed to slides of disturbing pictures were able to articulate better in this situation than were participants low in IM, demonstrating that they were able to maintain their self-control even under stressful social conditions (Tolkmitt & Scherer, 1986). Individuals high in IM responded to social threat not only by modulating their emotional reactions, but also by (literally) seeking consultation. In an experiment that involved success or failure manipulations, individuals high in IM more often sought to consult a psychologist about their performance after failing a task than did participants low in IM (Shulman & Silverman, 1974).

Not all experiments have manipulated threatening social situations. Studies that have focused on behavior under relatively neutral social settings show that individual differences in IM are associated with agreeable and likeable behavior. One

study found that IM was associated with a tendency to match another person's speech behavior (Natale, 1975). Another study reported an inverse relationship between IM and the frequency of engaged speech interruptions during a standardized interview (Natale, 1976). IM was found to be a source of interpersonal optimism in another experiment: when participants viewed a video clip of a second "participant" (a confederate) expressing some supportive and some opposing attitudes to theirs, the participant's IM level was associated with finding the confederate more attractive and with perceiving a stronger similarity between their mutual attitudes (Johnson & Gormly, 1975). Additional evidence indicates that individuals high in IM are able to overcome natural inhibitions in social settings in order to be at their best. In group discussions, when openness was valued, participants high in IM managed to show increasing levels of openness (McLaughlin & Hewitt, 1972), and in another experiment, participants high in IM were more talkative, more intimate, and more revealing (including negative self-references) in a public condition (where their comments were going to be cited in lectures or a book) than in a private condition (a conversation with a confederate), demonstrating again a nondefensive pattern of behavior in social settings.

Little research has directly addressed changes in the availability of affective, cognitive, and self-control resources among individuals high in IM under neutral public conditions. To address this issue, I have conducted two studies in which I manipulated the social context such that participants in the control group worked alone and participants in the experimental group worked in the mere presence of an observer (Uziel, 2010). In both studies, participants engaged in a series of tasks that measured creativity (e.g., in a "use of objects" task) and implicit affective responses (e.g., by analyzing the emotional content of stories written in response to a picture from the Thematic Apperception Test). The results from the two studies were consistent: In both studies, IM was positively associated with creativity and with pleasant implicit affect only in the social presence condition (a pattern consistent with having a positive interpersonal orientation; cf. Uziel, 2007). Further analyses revealed that expressing pleasant emotions (a socially desirable act) did not impinge on cognitive and creative proficiency.

A second series of studies addressed the contribution of IM to self-control in public social context (Uziel & Baumeister, 2009). In two studies, participants were asked to perform a simple (nondepleting) task while being videotaped. Then, in the second phase of the experiment, their level of self-control was measured while working alone (with no camcorder in the room). In both studies, early exposure to the public social context was associated with greater self-control on the subsequent task (for comparison, opposite effects were found among individuals high in neuroticism). In a third study, public social context was associated with ego replenishment (i.e., restoration of depleted self-control resources) only among individuals high in IM. These studies directly demonstrate that IM contributes to *interpersonally oriented self-control*. That is, they show that IM contributes to having more self-control especially in social

contexts. Thus, individuals high in IM apparently not only want to act “cool and collected” in public settings, they actually have the capacity to do so.

The literature indicates that there is much in common between IM and self-control. Among the various traits that have been studied as potential correlates of IM (e.g., Big Five traits, self-esteem, trait anxiety), trait self-control appears to share one of the largest proportions of variance. In one study, the correlation between a self-control scale and various IM scales ranged from .54 to .60 (Tangney et al., 2004; see also Courey, Feuerstein, & Bush, 1982). IM is also correlated with the strongest marker of self-control among the Big Five traits; namely, conscientiousness. A large number of studies have found a positive and often substantial correlation based on self-reports (range = .08 to .46) and informants' reports (range = .10 to .59; for references, see Footnote 1).

In line with the above experimental evidence, correlational data indicate that the association between IM and self-control is particularly pronounced in social contexts. In the Tangney et al. (2004) analysis of the correlates of trait self-control, statistically partialing out IM scores from self-control scores attenuated the relations of self-control with a cluster of constructs (attitudes, affect, and traits) that have marked interpersonal components. For example, partialing out IM attenuated the correlation of self-control with agreeableness (from $r = .29$ to $r = -.05$) but not with neuroticism or openness to experience. Other examples include affecting self-control correlations with social perfectionism (but not general perfectionism), attachment, empathy, willingness to forgive others, as well as shame and guilt proneness. At the same time, IM had little role in affecting the self-control association with general depression, alcoholism, GPA, and additional constructs that have no dominant interpersonal component to them.

IM is also strongly associated with scales and behaviors that are exemplars of interpersonally oriented self-control, most notably with anger and aggression: IM predicts low levels of trait anger, anger-related expressions, and aggression (Becker, 2007; Dahlen & Martin, 2005; Fishman, 1965; Kneip et al., 1993; Kuppens, 2005; Sinha & Watson, 1997; Sugarman & Hotaling, 1997; Tangney et al., 2004).

Summary. When the effect of individual differences in IM on interpersonal behavior is judged from a broad perspective, the evidence agrees more with the adjustment approach than with the defensiveness approach. IM was found to be associated with an agreeable and somewhat introverted nature, it was associated with successful marital life and sound friendships, and it was predictive of physiological and behavioral reactions in social contexts that reflected high levels of self-control rather than anxiety and defense. To better capture the scope of IM, the next sections review its role in shaping affect and well-being, health outcomes, job performance, and educational achievement.

Affect and Well-Being

Are individuals high in IM happy and content in their lives—or are they fearful, anxious,

and depressed as claimed by the defensiveness approach? Several studies have disconfirmed Weinberger's (1990) notion that individuals high in IM (specifically, repressors) avoid negative feelings and do not admit having such feelings under any circumstances (e.g., Egloff & Krohne, 1996; Egloff & Schmukle, 2003; Pauls & Stemmler, 2003). This does not imply that IM is frequently associated with negative feelings. The evidence more often implies the opposite—namely, that IM is associated with reduced levels of negative emotions.

As described above, individuals high in IM experience relatively low levels of anger and aggression than do individuals low in IM. Other studies report negative associations between IM and anxiety and negative affect (Clark, Crewdson, & Purdon, 1998; Contrada, Czarnecki, & Li-Chem Pan, 1997; Derakshan & Eysenck, 1997; M.W. Eysenck & van Berkum, 1992; Martin, 1982; Mogg et al., 2000; Thomsen, Jørgensen, Mehlsen, & Zachariae, 2004; D. Watson & Clark, 1984). At the trait level as well, IM is negatively associated with neuroticism, based on self-report data (range = $-.49$ to $.13$, with over 80% of the correlations with a negative sign) and on data from informants (range = $-.31$ to $.12$, with over 80% of the correlations with a negative sign; for references, see Footnote 1). Nevertheless, these correlations (reflecting the IM facet of social desirability) are substantially smaller than those reported between self-deception and anxiety, which are often stronger than $-.50$.

Another form of negative emotion is depression. Self-report data show that IM is associated with reduced levels (and fewer instances) of emotions from this group (e.g., Brewin, Firth-Cozens, Furnham, & McManus, 1992; Clark et al., 1998; Sabourin et al., 1989; H.L. Smith, Robinson, & Young, 2007).

Taken together, IM appears to moderate the experience of negative feelings. What about the positive spectrum of emotion? Research indicates that individuals high in IM are also truly more satisfied with their lives than those scoring low on this scale. In a meta-analysis, IM was among the strongest correlates of happiness out of 137 different traits (weighted $r = .23$, $k = 21$, $N > 2500$; DeNeve & Cooper, 1998). This conclusion was further supported in studies that utilized informants' reports (Diener et al., 1991; Kozma & Stones, 1987; McCrae, 1986; H.L. Smith, 1997). They all concluded that IM, even in the eyes of others, is associated with greater subjective well-being (note that the overlap between IM and subjective well-being is substantial but not extremely strong, with $r = \sim .30$ —strong correlations with subjective well-being were only reported for scales that measure self-deception; e.g., Carstensen & Cone 1983).

It could be argued that part of the association between IM and well-being results from the tendency among individuals high in IM to engage in exaggerated self-enhancement, positive illusions, and unrealistic optimism (cf. Taylor & Brown, 1988). Research, however, tends to suggest the contrary: IM is associated with realistic expectations (e.g., Petzel, 1972). It is also associated with optimism and constructive thinking (Park, Moore, Turner, & Adler, 1997), but it is not associated with unrealistic self-enhancement tendencies (which are substantially

correlated with self-deception; Paulhus, 2002; Taylor et al., 2003). This potential confound can, therefore, be ruled out.

Note that the correlation between IM and subjective well-being is linked to a higher global satisfaction with life in IM individuals but not to greater positive affect. IM is generally not correlated with positive affect (e.g., Cheng & Furnham, 2003; Diener & Larsen, 1984; Schimmack & Hartmann, 1997; Steel, Schmidt, & Schultz, 2008).

In sum, the emotional and the well-being profile described in this article fit the adjustment approach better than the defensiveness approach to IM. Individuals high in IM experience negative feelings from time to time, but in general they tend not to feel stressed, anxious, or depressed. This is not to say that they are joyful or exuberant much of the time. However, even in the absence of frequent positive elation, they are satisfied with their lives. It is interesting to note that these individuals need not excessively enhance their self-image or engage in positive illusions to achieve their high level of well-being. They are simply content with what their lot in life.

Health

The defensiveness approach to IM argues that individuals high in IM compromise their health in their effort to save face, especially with respect to stress-related outcomes (e.g., cardiovascular health, immune system). The adjustment approach argues that IM is not a risk factor in health problems and may even contribute to improved health outcomes. The evidence is examined below.

A number of studies have explored physiological reactions in individuals high in IM under stress. Contrada et al. (1997) placed participants under pressure by asking them to work on a stressful arithmetic task. The results showed no physiological response indicative of stress among individuals high in IM. According to the authors "The MCSDS appears to identify individuals who, when confronted by stressors, show signs of self-control" (p. 455). Similarly, Brody, Veit, and Rau (1997) found that IM was inversely related to the heart rate change elicited by a mental stressor. Other studies have also found negative, null, or ambiguous (i.e., negative or null on some but not all indices) physiological stress reactions (heart rate, cortisol level, skin conductance reactivity) among individuals high in IM under stress manipulations (Blackhart et al., 2007; Feldman, Lehrer, Hochron, & Schwartz, 2002; Mente & Helmers, 1999; Movius & Allen, 2005; Najström & Jansson, 2006; Pauls & Stemmler, 2003; Tomaka, Blascovich, & Kelsey, 1992). Fewer studies have reported that IM was positively associated with stress reactions (King, Taylor, Albright, & Haskell, 1990; Nyklicek, Vingerhoets, Van Heck, & Van Limpt, 1998; Warrenburg et al., 1989)².

If there are stress-related health costs to social desirability, they appear to be confined to scales that measure self-deception rather than to the IM scales, which are the focus of the present review. A recent comprehensive review of the effect of social desirability on cardiovascular health confirms some of the predictions of the defensiveness approach but only

with regard to self-deception (Rutledge, 2006). Self-deceiving individuals were found to be at risk for elevated blood pressure, increased cardiovascular reactivity to mental stress, and poorer cardiovascular disease outcomes. It is important to note that none of these effects was associated with the IM facet of social desirability (see also Tomaka et al., 1992). For example, in a 3-year prospective study of ambulatory blood pressure levels in healthy adults, self-deception predicted elevated diastolic and systolic blood pressure changes whereas IM did not. Furthermore, in a 12-week follow-up of the treatment outcomes among ischemic heart disease patients, self-deception but not IM was associated with poorer outcomes (Rutledge, Linden, & Davies, 2000).

Another health risk that is often associated with social desirability is reduced resistance to infectious and neoplastic diseases. According to the opioid peptide hypothesis (Jamner & Schwartz, 1986; Jamner, Schwartz, & Leigh, 1988), high levels of defensiveness are associated with increased numbers of opiate receptors, which contribute to impaired immune function (they also purportedly contribute to low psychological distress and high pain tolerance). However, the theory also relates to self-deception and not to the IM facet of social desirability, for which no such findings have been found (e.g., Jamner & Leigh, 1999). Accordingly, a recent study that utilized a relatively pure measure of IM (EPQ Lie scale) found no association between this scale and early manifestations of cancer (Augustine, Larsen, Walker, & Fisher, 2008).

An important aspect of general health is mental health. Several findings indicate that IM is associated with enhanced mental health. Among hospitalized and chronically ill patients, IM is associated with fewer health complaints and more reports of greater relative health (Bradwell, Ancoli-Israel, & Dimsdale, 2001; Deshields, Mannen, Tait, & Bajaj, 1997; Gravdal & Sandal, 2006). More generally, as reviewed earlier, individuals high in IM enjoy enhanced personal well-being, they are less prone to feeling anxious, distressed, or depressed, and they typically show brain activity patterns indicative of reduced risk for psychopathology. In self-reports, IM was positively associated with scales of mental health (e.g., Lu & Shih, 1997; Sabourin et al., 1989; D. Watson & Clark, 1984). The same conclusion was drawn when more restrictive tests were applied; one such study included interviews with normal and depressed participants as well as with their first-degree relatives on manifestations of any form of psychiatric disorder (Lane et al., 1990). The results showed that in normal and, to a greater extent, in depressed participants, IM was negatively correlated with instances of psychiatric disorders. The authors concluded that that IM reflects a "method of self-regulation that promotes emotional stability" (p. 576).

Finally, individuals high in IM are, statistically, at low risk for health problems considering their relatively conservative way of life, which includes low levels of alcoholism, criminal behavior, risk taking, impulsivity, and interpersonal problems, amongst others (e.g., Bradburn et al., 1979; Furnham, Petrides, Sisteron, & Baluch, 2003). These factors may contribute directly and indirectly to better health outcomes and greater life expectancy.

To summarize, IM is not related to increased risk of health problems, and it has positive effects on mental health. The data, therefore, are more conducive to the adjustment approach. However the defensiveness approach can point to abundant supportive evidence to its claims, provided these are confined to measures of self-deception, which, as mentioned earlier, share little variance with IM scales.

Intelligence, Academic Achievement, and Job Performance

To provide another perspective on individual differences in IM, this section explores the research on the role of this construct in intelligence, academic achievement, and job performance. Neither the defensiveness approach nor the adjustment approach formulates specific hypotheses as to the relationship between IM and cognitive abilities. With regard to job performance, the defensiveness approach that IM reflects a tendency to bias self-reports and, more broadly, is a potential source of social maladjustment implies that this trait should predict poor job performance outcomes. The adjustment approach argument is that IM will generally contribute to good job performance outcomes, in light of the many good qualities with which this trait has been associated.

With regard to intelligence and academic achievement, perhaps to their dismay, individuals high in IM are not smarter or better achievers than the average person. Although no study has been designed to explore these issues directly or with detailed attention to specific aspects of cognitive ability, quite a few studies have included measures of GPA or IQ. Typically, these studies show no significant correlations between IM and GPA or school success (Bartels & Magun-Jackson, 2009; Crocker & Luhtanen, 2003; Ones et al., 1996; Peterson, Casillas, & Robbins, 2006; H.L. Smith, 1997) and between IM and IQ (Crant, 1995; Dijkstra, Smit, & Comijs, 2001; Furnham et al., 2003; Ones et al., 1996; H.L. Smith, 1997). In several studies, researchers found that IM has a mildly negative correlation with years of education (e.g., Bradburn et al., 1979); however, this effect is most likely accounted for by a positive correlation of IM with age.

In addition, IM is typically not correlated with the most intellect-oriented of the Big Five traits—namely, Openness to Experience. This conclusion is derived from self-reports (range = $-.16$ to $.39$, with over 75% of the correlations not significantly different from 0), and from informant reports (range: $-.25$ to $.15$, with over 75% of the correlations not significantly different from 0; for references, see Footnote 1).

Turning to job performance, it is clear that IM does not contribute to performance by virtue of intelligence, but is this trait associated with performance outcomes nonetheless? A large number of studies have measured IM in the context of personnel selection, and a few incorporated indices of job performance. The results have been summarized in meta-analyses (Li & Bagger, 2006; Moorman & Podsakoff, 1992; Ones et al., 1996; Ones & Viswesvaran 1998). These meta-analyses show that IM is either not correlated with job

performance or that it is mildly positively correlated. For example, Moorman and Podsakoff (1992) found a near-zero average correlation ($r = .01$) in their meta-analysis ($k = 7$, $N = 2392$); Ones et al. (1996) had a larger sample of studies ($k = 14$, $N = 9966$) and their conclusion was identical ($r = .01$); more recently, Li and Bagger (2006) found a positive correlation ($r = .10$; 95% CI = $.05-.15$) between job performance and social desirability across eight studies ($N = 1244$) once it was specifically defined in terms of the BIDR IM subscale. Taken together, the results are more consistent with the arguments of the adjustment approach than with those of the defensiveness approach.

The average correlation coefficients reported in meta-analyses cover a wide spectrum of performance indices across different tasks and professions. As such, they represent a molar perspective on any potential contribution of this trait to performance. Like most traits, the contribution of IM to performance is probably essential for some types of work but is completely irrelevant for others. Unfortunately, studies have not addressed this issue systematically, and there is much room for future research in this direction. A sense of the type of tasks that are affected by IM can be gleaned from a meta-analytic finding that IM made a positive contribution to training performance (Ones et al., 1996). Trainings often include social-evaluative settings. Under these conditions, individuals with high interpersonally oriented self-control may be at their best. IM may thus contribute to performance on tasks that require interpersonal competence but not technical competence, such as customer service (see also Viswesvaran, Ones, & Hough, 2001).

Finally, IM could contribute or harm an organization through other forms of behavior in addition to direct effects on job performance. Ones et al. (1996) found that IM was not associated with counterproductive behaviors. It is also important to note that Moorman and Podsakoff (1992) found that IM was associated with greater job satisfaction and organizational commitment, as well as with reduced role conflict and role ambiguity. IM thus poses no threat to organizational success.

Summary and Concluding Points

Over 2,500 published studies include scales of IM. The lion's share treats these scales as a measure of socially desirable response style and uses them to validate self-report tools. The present review questioned the utility of this practice. The ability of IM scales to detect deception has been tested over the years, and the scales have mostly failed to produce. Even if this were not the case, and IM scales had succeeded in detecting deception on some of these tests, their status as integral part of the questionnaire validation process should have been debated. The argument here is not that people do not overclaim or that there are no biases in self-reports. There is little reason to believe in such an ideal world (although some evidence implies that the situation is not as bad as typically assumed). However, the way to correct for socially desirable response bias in self-reports is probably not by statistically controlling for results on another self-report measure (cf. Paulhus &

Vazire, 2007). In spite of its intuitive appeal, at present, such a procedure does more harm than good in removing valid variance of unknown magnitude.

When the “validity tool” halo fades away, one finds much substance in IM scales. From the 1960s onward, researchers have been suggesting that these scales measure stable and substantial trait variance. The present review identified two overarching approaches to the nature of this trait—the first being a defensiveness approach, which associates IM with need for approval, defensiveness, vulnerable self-esteem, and repressiveness. Its counterpart is the adjustment approach, which suggests that IM represents an agreeable, emotionally stable, and interpersonally adjusted personality profile. Although both approaches agree that IM is associated with interpersonal sensitivity, they hold contrasting views on whether this sensitivity is accompanied by a low or a high level of competence and control.

In an attempt to assess these two approaches, this review explored the role of individual differences in IM as it affects a myriad of life domains. In terms of interpersonal behavior, individuals high in IM were found to score relatively high on agreeableness and to be slightly introverted. IM had mostly constructive effects on marital life and on the maintenance of interpersonal relationships. In the lab, individuals high in IM did not show excessive physiological reactivity in stressful social contexts, and their performance was not impaired. Under relatively neutral conditions, there were mostly approach-related physiological and behavioral correlates to a high IM score. These effects are consistent with the adjustment approach.

The social behavior of individuals with a high IM score seems to reflect a high level of self-control. This capacity is accompanied by a universal need to belong (Baumeister & Leary, 1995), which appears to be somewhat more active among high IM scorers than among low IM scorers, but not to the extreme of making them act deceitfully. I labeled this profile as “interpersonally oriented self-control” in this article. What differentiates the present framing of the construct from many early views on IM is that the emphasis here is on self-regulatory capacity as the core characteristic of the construct rather than on emphasizing impression management or a need for social approval (i.e., the emphasis is on self-control over social dependence, or more broadly, on ability over motivation). Individuals high in interpersonally oriented self-control are first and foremost successful self-regulators. They demonstrate this capacity especially in social contexts (where it is highly rewarded) by showing agreeable, conscientious, and non impulsive behavioral patterns. Therefore, when an individual with a high IM score does the “appropriate” thing in a social context, the present perspective suggests that it stems not from a position of dependence on the approval of others, but from a self-regulatory capacity that allows him/her to do the right thing (which is often a socially desirable act). This profile can be contrasted with extraverts’ agentic interpersonal orientation, which is not accompanied by high levels of self-control, and also with the chameleon-like and somewhat manipulative behavior that characterizes high self-monitors.

The effects of IM on outcomes in other domains have also been reviewed, and they support the assertion that this construct has implications that extend beyond social behavior and reflect a general high self-regulatory capacity. The results in these additional domains are consistent with the arguments of the adjustment approach, and even more strikingly, they are inconsistent with the defensiveness approach: IM predicts reduced negative affect and greater satisfaction with life, it has no adverse health consequences, and it has some helpful and no noticeable deleterious effects on job performance.

In the process of researching this article, I was drawn to two issues that characterize the treatment of social desirability in the literature. The first is that social desirability is one of the most versatile constructs in psychology, relevant to clinical, social, personality, and organizational approaches. Alas, researchers with different interests who often use the same instruments (notably the MCSDS) apply different labels to them (e.g., need for approval, defensiveness, repressiveness, impression management), thus making it difficult to bridge the interdisciplinary gap. The second feature is the reigning confusion between social desirability scales. Earlier, I mentioned the orthogonal relationship between social desirability scales that reflect the Gamma factor (the IM facet at the core of the present work) and scales reflecting the Alpha factor. Throughout this review, the difference between these constructs emerged in a variety of outcomes. A related distinction exists between IM and the repressive personality type. It is now apparent that in most contexts, repressors’ behavior is more similar to self-deception than to the IM facet of social desirability (e.g., Asendorpf & Scherer, 1983; Weinberger & Davidson, 1994; Westmaas & Jamner, 2006). Therefore, research on IM can gain much needed coherence from utilization of pure measures.

In closing, it is perhaps appropriate to recall Kurt Lewin’s famous aphorism that “If you want truly to understand something, try to change it.” Much of the research on IM has been guided by the belief that this concept represents a stylistic response bias to questionnaires. This article has shown that IM has substantial effects on interpersonal behavior, personal well-being, and behavior in organizations. Furthermore, much of the accumulated evidence indicates that IM may promote adaptive responses across many settings. Thus, to paraphrase Lewin’s words, researchers should be encouraged to change their frame of mind concerning IM and develop a structured and balanced research agenda on the pros and cons of individual differences in interpersonally oriented self-control.

Notes

1. This group of studies served as a reference for the correlation of IM with all the Big Five traits mentioned throughout the text (reflecting self reports and informants’ reports). To save space, they are only specified once.
2. These conclusions are based on studies that have reported main effects for IM. They exclude studies that only compared repressors to non-repressors. As Furnham et al. (2003) noted, the importance of IM in the definition of the repressive coping style in this context

is “rather limited” (see Furnham et al., 2003, for a review of the repressive personality type).

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References

- Agarwal, V. (1977). Effect of anxiety and need for approval (NA) on decision making. *Asian Journal of Psychology & Education, 2*, 36–38.
- Asendorpf, J.B., & Scherer, K.R. (1983). The discrepant repressor: Differentiation between low anxiety, high anxiety, and repression of anxiety by autonomic-facial-verbal patterns of behavior. *Journal of Personality and Social Psychology, 45*, 1334–1346.
- Augustine, A.A., Larsen, R.J., Walker, M.S., & Fisher, E.B. (2008). Personality predictors of the time course for lung cancer onset. *Journal of Research in Personality, 42*, 1448–1455.
- Barger, S. (2002). The Marlowe–Crowne affair: Short forms, psychometric structure and social desirability. *Journal of Personality Assessment, 79*, 286–305.
- Barger, S.D., Kircher, J.C., & Croyle, R.T. (1997). The effects of social context and defensiveness on the physiological responses of repressive copers. *Journal of Personality and Social Psychology, 73*, 1118–1128.
- Barrett, P.T., Petrides, K.V., Eysenck, S.B.G., & Eysenck, H.J. (1998). The Eysenck Personality Questionnaire: An examination of the factorial similarity of P, E, N, and L across 34 countries. *Personality and Individual Differences, 25*, 805–819.
- Barrick, M.R., & Mount, M.K. (1996). Effects of impression management and self-deception on the predictive validity of personality constructs. *Journal of Applied Psychology, 81*, 261–272.
- Bartels, J., & Magun-Jackson, S. (2009). Approach-avoidance motivation and metacognition self-regulation: The role of need for achievement and fear of failure. *Learning and Individual Differences, 19*, 459–463.
- Baumeister, R.F., & Cairns, K.J. (1992). Repression and self-presentation: When audiences interfere with self-deceptive strategies. *Journal of Personality and Social Psychology, 62*, 851–862.
- Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin, 117*, 497–529.
- Becker, G. (2007). The Buss-Perry Aggression Questionnaire: Some unfinished business. *Journal of Research in Personality, 41*, 434–452.
- Beretvas, S.N., Meyers, J.L., & Leite, W.L. (2002). A reliability generalization study of the Marlowe–Crowne Social Desirability Scale. *Educational and Psychological Measurement, 62*, 570–589.
- Blackhart, G.C., Eckel, L.A., & Tice, D.M. (2007). Salivary cortisol in response to acute social rejection and acceptance by peers. *Biological Psychology, 75*, 267–276.
- Blackhart, G.C., & Kline, J.P. (2005). Individual differences in anterior EEG asymmetry between high and low defensive individuals during a rumination/distraction task. *Personality and Individual Differences, 39*, 427–437.
- Blake, B.F., Valdiserri, J., Neuendorf, K.A., & Nemeth, J. (2006). Validity of the SDS-17 measure of social desirability in the American context. *Personality and Individual Differences, 39*, 427–437.
- Blascovich, J., Mendes, W.B., Hunter, S., & Salomon, K. (1999). Social facilitation as challenge and threat. *Journal of Personality and Social Psychology, 77*, 68–77.
- Boden, J.M., & Baumeister, R.F. (1997). Repressive coping: Distraction using pleasant thoughts and memories. *Journal of Personality and Social Psychology, 73*, 45–62.
- Borkenau, P., & Ostendorf, F. (1992). Social desirability scales as moderator and suppressor variables. *European Journal of Personality, 6*, 199–214.
- Borkenau, P., & Zaltauskas, K. (2009). Effects of self-enhancement on agreement on personality profiles. *European Journal of Personality, 23*, 107–123.
- Bradburn, N.M., Sudman, S., Blair, E., Locander, W., Miles, C., Singer, E., & Stocking, C. (1979). Reinterpreting the Marlowe–Crowne Scale. In N. M. Bradburn & S. Sudman (Eds.), *Improving interview method and questionnaire design* (pp. 85–106). San Francisco, CA: Jossey-Bass.
- Bradwell, W.A., Ancoli-Israel, S., & Dimsdale, J.E. (2001). Response bias influences mental health symptom reporting in patients with obstructive sleep apnea. *Annals of Behavioral Medicine, 23*, 313–317.
- Brewin, C.R., Firth-Cozens, J., Furnham, A., & McManus, C. (1992). Self-criticism in adulthood and recalled childhood experience. *Journal of Abnormal Psychology, 101*, 561–566.
- Brody, S., Veit, R., & Rau, H. (1997). Lie scores are associated with less cardiovascular reactivity to baroreceptor stimulation and to mental arithmetic stress. *Personality and Individual Differences, 22*, 677–681.
- Buss, D.M., & Shackelford, T.K. (1997). Susceptibility to infidelity in the first year of marriage. *Journal of Research in Personality, 31*, 193–221.
- Bybee, J., Kramer, A., & Zigler, E. (1997). Is repression adaptive? Relationships to socioemotional adjustment, academic performance, and self-image. *American Journal of Orthopsychiatry, 67*, 59–69.
- Byrne, D. (1961). The repression-sensitization scale: Rationale, reliability, and validity. *Journal of Personality, 29*, 334–349.
- Carey, K.B., Neal, D.J., & Collins, S.E. (2004). A psychometric analysis of the self-regulation questionnaire. *Addictive Behaviors, 29*, 253–260.
- Carstensen, L.L., & Cone, J.D. (1983). Social desirability and the measurement of psychological well-being in elderly persons. *Journal of Gerontology, 38*, 713–715.
- Cheng, H., & Furnham, A. (2003). Personality, self-esteem, and demographic predictions of happiness and depression. *Personality and Individual Differences, 34*, 921–942.

- Clark, D.A., Crewdson, N., & Purdon, C. (1998). No worries, no cares: An investigation into self-reported "nondistress" in college students. *Cognitive Therapy and Research, 22*, 209–224.
- Contrada, R.J., Czarnecki, E.M., & Li-Chem Pan, R. (1997). Health-damaging personality traits and verbal-autonomic dissociation: The role of self-control and environmental control. *Health Psychology, 16*, 451–457.
- Courey, L., Feuerstein, M., & Bush, C. (1982). Self-control and chronic headache. *Journal of Psychosomatic Research, 26*, 519–526.
- Crant, J.M. (1995). The proactive personality scale and objective job performance among real estate agents. *Journal of Applied Psychology, 80*, 532–537.
- Crocker, J., & Luhtanen, R.K. (2003). Level of self-esteem and contingencies of self-worth: Unique effects on academic, social, and financial problems in college students. *Personality and Social Psychology Bulletin, 29*, 701–712.
- Cross, S.E., Bacon, P.L., & Morris, M.L. (2000). The relational interdependent self-construal and relationships. *Journal of Personality and Social Psychology, 78*, 791–808.
- Crost, N.W., Pauls, C.A., & Wacker, J. (2008). Defensiveness and anxiety predict frontal EEG asymmetry only in specific situational contexts. *Biological Psychology, 78*, 43–52.
- Crowne, D.P. (1979). *The experimental study of personality*. Hillsdale, NJ: Erlbaum.
- Crowne, D.P., & Marlowe, D.A. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 4*, 349–354.
- Crowne, D.P., & Marlowe, D.A. (1964). *The approval motive: Studies in evaluative dependence*. New York: Wiley.
- Dahlen, E.R., & Martin, R.C. (2005). The experience, expression, and control of anger in perceived social support. *Personality and Individual Differences, 39*, 391–401.
- Darley, J.M., & Latane, B. (1968). Bystander intervention in emergencies: Diffusion of responsibility. *Journal of Personality and Social Psychology, 8*, 377–383.
- Davies, M.F. (2001). Socially desirable responding and impression management in the endorsement of love styles. *Journal of Psychology, 135*, 562–570.
- DeNeve, K.M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin, 124*, 197–229.
- Derakshan, N., & Eysenck, M.W. (1997). Interpretive biases for one's own behaviour and physiology in high trait-anxious individuals and repressors. *Journal of Personality and Social Psychology, 73*, 816–825.
- Derakshan, N., Eysenck, M.W., & Myers, L.B. (2007). Emotional information processing in repressors: The vigilance-avoidance theory. *Cognition and Emotion, 19*, 1585–1614.
- Deshields, T.L., Mannen, K., Tail, R.C., & Bajaj, V. (1997). Quality of life in heart transplant candidates. *Journal of Clinical Psychology in Medical Settings, 4*, 327–341.
- DeYoung, C.G., Peterson, J.B., & Higgins, D. (2002). Higher-order factors of the Big Five predict conformity: Are there neuroses of health? *Personality and Individual Differences, 33*, 533–553.
- Diener, E., & Larsen, R.J. (1984). Temporal stability and cross-situational consistency of positive and negative affect. *Journal of Personality and Social Psychology, 47*, 871–883.
- Diener, E., Sandvik, E., Pavot, W., & Gallagher, D. (1991). Response artifacts in the measurement of subjective well-being. *Social Indicators Research, 24*, 35–56.
- Dijkstra, W., Smit, J.H., & Comijs, H.C. (2001). Using social desirability scales in research among the elderly. *Quality and Quantity, 35*, 107–115.
- Dunnett, S., Koun, S., & Barber, P.J. (1981). Social desirability in the Eysenck Personality Inventory. *British Journal of Psychology, 72*, 19–26.
- Dweck, C.S., Chiu, C., & Hong, Y. (1995). Implicit theories and their role in judgments and reactions: A world from two perspectives. *Psychological Inquiry, 6*, 267–285.
- Dwight, S.A., & Feigelson, M.E. (2000). A quantitative review of the effect of computerized testing on the measurement of social desirability. *Educational and Psychological Measurement, 60*, 340–360.
- Edwards, A.L. (1953). The relationship between the judged desirability of a trait and the probability that the trait will be endorsed. *Journal of Applied Psychology, 37*, 90–93.
- Edwards, A.L. (1957). *The social desirability variable in personality assessment and research*. New York: Dryden Press.
- Egloff, B., & Krohne, H.W. (1996). Repressive emotional directedness after failure. *Journal of Personality and Social Psychology, 70*, 1318–1326.
- Egloff, B., & Schmukle, S.C. (2003). Does social desirability moderate the relationship between implicit and explicit anxiety measures? *Personality and Individual Differences, 35*, 1697–1706.
- Eid, M., & Diener, E. (2006). *Handbook of psychological assessment: A multimethod perspective*. Washington, DC: American Psychological Association.
- Ellingson, J.E., Sackett, P.R., & Hough, L.M. (1999). Social desirability corrections in personality measurement: Issues of applicant comparison and construct validity. *Journal of Applied Psychology, 84*, 155–166.
- Ellingson, J.E., Smith, D.B., & Sackett, P.R. (2001). Investigating the influence of social desirability on personality factor structure. *Journal of Applied Psychology, 86*, 122–133.
- Eysenck, H.J., & Eysenck, S.B.G. (1975). *Manual for the Eysenck Personality Questionnaire*. San Diego, CA: EdITS.
- Eysenck, M.W., & van Berkum, J. (1992). Trait anxiety, defensiveness, and the structure of worry. *Personality and Individual Differences, 13*, 1285–1290.
- Eysenck, S.B.G., Eysenck, H.J., & Barrett, P. (1985). A revised version of the psychoticism scale. *Personality and Individual Differences, 6*, 21–29.
- Fan, J., Wong, C.C., Carroll, S.A., & Lopez, F.J. (2008). An empirical investigation of the influence of social desirability on the factor structure of the Chinese 16PF. *Personality and Individual Differences, 45*, 790–795.
- Farley, F., & Goh, D. (1976). PENmanship: Faking the P-E-N. *British Journal of Social and Clinical Psychology, 15*, 139–148.

- Feldman, J.M., Lehrer, P.M., Hochron, S.M., & Schwartz, G.E. (2002). Defensiveness and individual response stereotypy in asthma. *Psychosomatic Medicine*, *64*, 294–301.
- Fishman, C.G. (1965). Need for approval and the expression of aggression under varying conditions of frustration. *Journal of Personality and Social Psychology*, *2*, 809–816.
- Fowers, B.J., Lyons, E.M., & Montel, K.H. (1996). Positive marital illusions: Self-enhancement or relationship enhancement? *Journal of Family Psychology*, *10*, 192–208.
- Funder, D.C., & Dobroth, K.M. (1987). Differences between traits: Properties associated with interjudge agreement. *Journal of Personality and Social Psychology*, *52*, 409–418.
- Furnham, A. (1986). Response bias, social desirability and dissimulation. *Personality and Individual Differences*, *7*, 385–400.
- Furnham, A., Petrides, K.V., Sisterson, G., & Baluch, B. (2003). Repressive coping style and positive self-presentation. *British Journal of Health Psychology*, *8*, 223–249.
- Gillespie, N.G., Zhu, G., Evans, D.M., Medland, S.E., Wright, M.J., & Martin, N.G. (2008). A genome-wide scan for Eysenckian personality dimensions in adolescent twin sibships: Psychoticism, Extraversion, Neuroticism, and Lie. *Journal of Personality*, *76*, 1415–1445.
- Gillings, V., & Joseph, S. (1996). Religiosity and social desirability: Impression management and self-deceptive positivity. *Personality and Individual Differences*, *21*, 1047–1050.
- Glicksohn, J., Ben-Shalom, U., & Lazar, M. (2004). Elements of unacceptable risk taking in combat units: An exercise in offender profiling. *Journal of Research in Personality*, *38*, 203–215.
- Goffin, R.D., & Christiansen, N.D. (2003). Correcting personality tests for faking: A review of popular personality tests and an initial survey of researchers. *International Journal of Selection and Assessment*, *11*, 340–344.
- Gough, H.G. (1987). *California Psychological Inventory manual*. Palo Alto, CA: Consulting Psychologists Press.
- Gravdal, L., & Sandal, G.M. (2006). The two factor model of social desirability: Relations to coping and defense, and implications for health. *Personality and Individual Differences*, *40*, 1051–1061.
- Graziano, W.G., & Tobin, R.M. (2002). Agreeableness: Dimension of personality or social desirability artifact? *Journal of Personality*, *70*, 695–727.
- Hansen, D.E., Vandenberg, B., & Patterson, M.L. (1995). The effects of religious orientation on spontaneous and nonspontaneous helping behaviors. *Personality and Individual Differences*, *19*, 101–104.
- Harker, L., & Keltner, D. (2001). Expressions of positive emotions in women's college yearbook pictures and their relationship to personality and life outcomes across adulthood. *Journal of Personality and Social Psychology*, *80*, 112–124.
- Hogan, J., Barrett, P., & Hogan, R. (2007). Personality measurement, faking, and employment selection. *Journal of Applied Psychology*, *92*, 1270–1285.
- Hogan, R. (1983). A socioanalytic theory of personality. In M.M. Page (Ed.), *Nebraska symposium on motivation* (Vol. 29, pp. 55–89). Lincoln: University of Nebraska Press.
- Holden, R.R. (2007). Socially desirable responding does moderate personality scale validity both in experimental and non-experimental contexts. *Canadian Journal of Behavioural Science*, *39*, 184–201.
- Holden, R.R., & Evoy, R.A. (2005). Personality inventory faking: A four-dimensional simulation of dissimulation. *Personality and Individual Differences*, *39*, 1307–1318.
- Holden, R.R., & Fekken, G.C. (1989). Three common social desirability scales: Friends, acquaintances, or strangers? *Journal of Research in Personality*, *23*, 180–191.
- Holtgraves, T. (2004). Social desirability and self-reports: Testing models of socially desirable responding. *Personality and Social Psychology Bulletin*, *30*, 161–172.
- Hough, L.M., Eaton, N.K., Dunnette, M.D., Kamp, J.D., & McCloy, R.A. (1990). Criterion-related validities of personality constructs and the effect of response distortion on those validities. *Journal of Applied Psychology*, *75*, 581–595.
- Hunsley, J., Vito, D., Pinsent, C., James, S., & Lefebvre, M. (1996). Are self-report measures of dyadic relationships influenced by impression management biases? *Journal of Family Psychology*, *10*, 322–330.
- Jacobson, L.I., Berger, S.E., & Millham, J. (1970). Individual differences in cheating during a temptation period when confronting failure. *Journal of Personality and Social Psychology*, *15*, 48–56.
- Jamner, L.D., & Leigh, H. (1999). Repressive/defensive coping, endogenous opioids and health: How a life so perfect can make you sick. *Psychiatry Research*, *85*, 17–31.
- Jamner, L.D., & Schwartz, G.E. (1986). Self-deception predicts self-report and endurance of pain. *Psychosomatic Medicine*, *48*, 211–223.
- Jamner, L.D., Schwartz, G.E., & Leigh, H. (1988). The relationship between repressive and defensive coping styles and monocyte, eosinophile, and serum glucose levels: Support for the opioid peptide hypothesis of repression. *Psychosomatic Medicine*, *50*, 567–575.
- Johnson, C.D., & Gormly, A.V. (1975). Personality, attraction, and social ambiguity. *Journal of Social Psychology*, *97*, 227–232.
- Joiner, T., Vohs, K., Katz, J., Kwon, P., & Kline, J. (2003). Excessive self-enhancement and interpersonal functioning in roommate relationships: Her virtue is his vice? *Self and Identity*, *2*, 21–30.
- Joubert, C.E. (1995). Associations of social personality factors with personal habits. *Psychological Reports*, *76*, 1315–1321.
- Kashy, D.A., & DePaulo, B.M. (1996). Who lies? *Journal of Personality and Social Psychology*, *70*, 1037–1051.
- King, A.C., Taylor, C.B., Albright, C.L., & Haskell, W.L. (1990). The relationship between repressive and defensive coping styles and blood pressure responses in healthy, middle-aged men and women. *Journal of Psychosomatic Research*, *34*, 461–471.
- Kline, J.P., & Allen, S. (2008). The failed repressor: EEG asymmetry as a moderator of the relation between defensiveness and depressive symptoms. *International Journal of Psychophysiology*, *68*, 228–234.
- Kline, J.P., Blackhart, G.C., & Joiner, T.E. (2002). Sex, lies, and electrode caps: An interpersonal context for defensiveness and anterior electroencephalographic asymmetry. *Personality and Individual Differences*, *33*, 459–478.
- Kneip, R.D., Delamater, A.M., Ismond, T., Milford, C., Silvia, L., & Schwartz, D. (1993). Self and spouse ratings of anger and hostility

- as predictors of coronary heart disease. *Health Psychology, 12*, 301–307.
- Konstabel, K., Aavik, T., & Allik, J. (2006). Social desirability and consensual validity of personality traits. *European Journal of Personality, 20*, 549–566.
- Kozma, A., & Stones, M.J. (1987). Social desirability in measures of subjective well-being: A systematic evaluation. *Journal of Gerontology, 42*, 56–59.
- Kuppens, P. (2005). Interpersonal determinants of trait anger: Low agreeableness, perceived low social esteem, and the amplifying role of the importance attached to social relationships. *Personality and Individual Differences, 38*, 13–23.
- 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.
- Lakey, B., & Heller, K. (1985). Response biases and the relation between negative life events and psychological symptoms. *Journal of Personality and Social Psychology, 49*, 1662–1668.
- Lalwani, A.K., Shavitt, S., & Johnson, T. (2006). What is the relation between cultural orientation and socially desirable responding? *Journal of Personality and Social Psychology, 90*, 165–178.
- Lane, R.D., Merikangas, K.R., Schwartz, G.E., Huang, S.S., & Prusoff, B.A. (1990). Inverse relationship between defensiveness and life-time prevalence of psychiatric disorder. *American Journal of Psychiatry, 147*, 573–578.
- Lanyon, R.I., & Drotar, D. (1968). Response sets as personality concepts. *Psychological Reports, 23*, 751–756.
- Leak, G.K., & Fish, S. (1989). Religious orientation, impression management, and self-deception: Toward a clarification of the link between religiosity and social desirability. *Journal for the Scientific Study of Religion, 28*, 355–359.
- 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.
- Li, A., & Bagger, J. (2006). Using the BIDR to distinguish the effects of impression management and self-deception on the criterion validity of personality measures: A meta-analysis. *International Journal of Selection and Assessment, 14*, 131–141.
- Lobel, T.E., & Levanon, I. (1988). Self-esteem, need for approval, and cheating behavior in children. *Journal of Educational Psychology, 80*, 122–123.
- Lönnqvist, J.E., Paunonen, S.V., Tuulio-Henriksson, A., Lönnqvist, J., & Verkasalo, M. (2007). Substance and style in socially desirable responding. *Journal of Personality, 75*, 291–322.
- Lönnqvist, J.E., Verkasalo, M., & Bezmenova, I. (2007). Agentic and communal bias in socially desirable responding. *European Journal of Personality, 21*, 853–868.
- Lu, L., & Shih, J.B. (1997). Personality and happiness: Is mental health a mediator? *Personality and Individual Differences, 22*, 249–256.
- Luhtanen, R.K., & Crocker, J. (2005). Alcohol use in college students: Effects of level of self-esteem, narcissism, and contingencies of self-worth. *Psychology of Addictive Behaviors, 19*, 99–103.
- Maltby, J., Macaskill, A., & Day, L. (2001). Failure to forgive self and others: A replication and extension of the relationship between forgiveness, personality, social desirability and general health. *Personality and Individual Differences, 30*, 881–885.
- Marsh, H.W., Antill, J.K., & Cunningham, J.D. (1987). Masculinity, femininity, and androgyny: Relations to self-esteem and social desirability. *Journal of Personality, 55*, 661–683.
- Martin, T.O. (1982). Death anxiety and social desirability among nurses. *Omega, 13*, 51–58.
- McCrae, R.R. (1986). Well-being scales do not measure social desirability. *Journal of Gerontology, 41*, 390–392.
- McCrae, R.R., & Costa, P.T. (1983). Social desirability scales: More substance than style. *Journal of Consulting and Clinical Psychology, 51*, 882–888.
- McKelvie, S.J. (2004). Is the neuroticism scale of the Eysenck Personality Inventory contaminated by response bias? *Personality and Individual Differences, 36*, 743–755.
- McLaughlin, D., & Hewitt, J. (1972). Need for approval and perceived openness. *Journal of Experimental Research in Personality, 6*, 255–258.
- Meehl, E.E., & Hathaway, S.R. (1946). The K factor as a suppressor variable in the MMPI. *Journal of Applied Psychology, 30*, 525–564.
- Mente, A., & Helmers, K.F. (1999). Defensive hostility and cardiovascular responses to stress in young men. *Personality and Individual Differences, 27*, 683–694.
- Millham, J. (1974). Two components of need for approval score and their relationship to cheating following success and failure. *Journal of Research in Personality, 8*, 378–392.
- Mills, J.F., & Kroner, D.G. (2005). An investigation into the relationship between socially desirable responding and offender self-report. *Psychological Services, 2*, 70–80.
- Mogg, K., Bradley, B.P., Dixon, C., Fisher, S., Twelftree, H., & McWilliams, A. (2000). Trait anxiety, defensiveness and selective processing of threat: An investigation using two measures of attentional bias. *Personality and Individual Differences, 28*, 1063–1077.
- Moorman, R.H., & Podsakoff, P.M. (1992). A meta-analytic review and empirical test of the potential confounding effects of social desirability response sets in organizational behavior research. *Journal of Occupational and Organizational Psychology, 65*, 131–149.
- Movius, H.L., & Allen, J.J. (2005). Cardiac vagal tone, defensiveness, and motivational style. *Biological Psychology, 68*, 147–162.
- Najström, M., & Jansson, B. (2006). Unconscious responses to threatening pictures: Interactive effects of trait anxiety and social desirability on skin conductance responses. *Cognitive Behaviour Therapy, 35*, 11–18.
- Natale, M. (1975). Convergence of mean vocal intensity in dyadic communication as a function of social desirability. *Journal of Personality and Social Psychology, 32*, 790–804.
- Natale, M. (1976). Need for social approval as related to speech interruption in dyadic communication. *Perceptual and Motor Skills, 42*, 455–458.
- Newton, T.L., & Contrada, R.J. (1992). Repressive coping and verbal autonomic response dissociation: The influence of social context. *Journal of Personality and Social Psychology, 62*, 159–167.

- Nyklicek, I., Vingerhoets, A.J., Van Heck, G.L., & Van Limpt, M.C. (1998). Defensive coping in relation to casual blood pressure and self-reported daily hassles and life events. *Journal of Behavioral Medicine, 21*, 145–161.
- Ones, D.S., & Viswesvaran, C. (1998). The effects of social desirability and faking on personality and integrity assessment for personnel selection. *Human Performance, 11*, 245–269.
- Ones, D.S., Viswesvaran, C., & Reiss, A.D. (1996). Role of social desirability in personality testing in personnel selection: The red herring. *Journal of Applied Psychology, 81*, 660–679.
- Park, C.L., Moore, P.J., Turner, R.A., & Adler, N.E. (1997). The role of constructive thinking and optimism in psychological and behavioral adjustment during pregnancy. *Journal of Personality and Social Psychology, 73*, 584–592.
- Parkins, I.S., Fishbein, H.D., & Ritchey, P.N. (2006). The influence of personality on workplace bullying and discrimination. *Journal of Applied Social Psychology, 36*, 2554–2577.
- Paulhus, D.L. (1984). Two-component models of socially desirable responding. *Journal of Personality and Social Psychology, 46*, 598–609.
- Paulhus, D.L. (1998). Interpersonal and intrapsychic adaptiveness of trait self-enhancement: A mixed blessing? *Journal of Personality and Social Psychology, 74*, 1197–1208.
- Paulhus, D.L. (2002). Socially desirable responding: The evolution of a construct. In H. Braun, D.N. Jackson, & D.E. Wiley (Eds.), *The role of constructs in psychological and educational measurement* (pp. 67–88). Hillsdale, NJ: Erlbaum.
- 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., & Reid, D.B. (1991). Enhancement and denial in socially desirable responding. *Journal of Personality and Social Psychology, 60*, 307–317.
- Paulhus, D.L., & Reynolds, S.R. (1995). Enhancing target variance in personality impressions: Highlighting the person in person-perception. *Journal of Personality and Social Psychology, 69*, 344–354.
- Paulhus, D.L., & Vazire, S. (2007). The self-report method. In R.W. Robins, R.C. Fraley & R. Krueger (Eds.), *Handbook of research methods in personality psychology* (pp. 224–239). New York: Guilford Press.
- Pauls, C.A., & Crost, N.W. (2004). Effects of faking on self-deception and impression management scales. *Personality and Individual Differences, 37*, 1137–1151.
- Pauls, C.A., & Stemmler, G. (2003). Substance and bias in social desirability responding. *Personality and Individual Differences, 35*, 263–275.
- Pauls, C.A., Wacker, J., & Crost, N.W. (2005). The two components of social desirability and their relations to resting frontal brain asymmetry. *Journal of Individual Differences, 26*, 29–42.
- Peterson, C.H., Casillas, A., & Robbins, S.B. (2006). The Student Readiness Inventory and the Big Five: Examining social desirability and college academic performance. *Personality and Individual Differences, 41*, 663–673.
- Petzel, T.P. (1972). Approval motive and self-estimates of academic performance. *Journal of Consulting and Clinical Psychology, 39*, 199–201.
- 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.
- Ray, J.J. (1988). Lie scales and the elderly. *Personality and Individual Differences, 9*, 417–418.
- Riketta, M. (2005). Gender and socially desirable responding as moderators of the correlation between implicit and explicit self-esteem. *Current Research in Social Psychology, 11*, 14–28.
- Rosse, J.G., Stecher, M.D., Miller, J.L., & Levin, R.A. (1998). The impact of response distortion on preemployment personality testing and hiring decisions. *Journal of Applied Psychology, 83*, 634–644.
- Russell, R.J.H., & Wells, P.A. (1992). Social desirability and quality of marriage. *Personality and Individual Differences, 13*, 787–791.
- Rutledge, T. (2006). Defensive personality effects on cardiovascular health: A review of the evidence. In J. Daniel. (Ed.), *Stress and its impact on society* (pp. 1–21). Hauppauge, NY: Nova Science.
- Rutledge, T., Linden, W., & Davies, R.F. (2000). Psychological response styles and cardiovascular health: Confound or independent risk factor? *Health Psychology, 19*, 441–451.
- Sabourin, S., Laferrière, N., Sicuro, F., Coallier, J.C., Cournoyer, L.G., & Gendreau, P. (1989). Social desirability, psychological stress, and consumer satisfaction with mental health treatment. *Journal of Counseling Psychology, 36*, 352–356.
- Sackeim, H.A., & Gur, R.C. (1978). Self-deception, self confrontation, and consciousness. In G.E. Schwartz & D. Shapiro (Eds.), *Consciousness and self-regulation: Advances in research* (Vol. 2, pp. 139–197). New York: Plenum Press.
- Sackeim, H.A., & Gur, R.C. (1979). Self-deception, other-deception, and self-reported psychopathology. *Journal of Consulting and Clinical Psychology, 47*, 213–215.
- Schimmack, U., & Hartmann, K. (1997). Individual differences in the memory representation of emotional episodes: Exploring the cognitive processes in repression. *Journal of Personality and Social Psychology, 73*, 1064–1079.
- Schmitt, N., Oswald, F.L., Kim, B.H., Gillespie, M.A., Ramsay, L.J., & Yoo, T.Y. (2003). Impact of elaboration on socially desirable responding and the validity of biodata measures. *Journal of Applied Psychology, 88*, 979–988.
- Schwartz, S.H., Verkasalo, M., Antonovsky, A., & Sagiv, L. (1997). Value priorities and social desirability: Much substance, some style. *British Journal of Social Psychology, 36*, 3–18.
- Schwerdtfeger, A. (2002). Effects of social context on psychophysiological indicators of behavioral inhibition/activation in cognitive avoiders. *Journal of Psychophysiology, 16*, 249.
- Shulman, A.D., & Silverman, I. (1974). Social desirability and need for approval: Some paradoxical data and a conceptual reevaluation. *British Journal of Social and Clinical Psychology, 13*, 27–32.
- Sinha, B., & Watson, D. (1997). Psychosocial predictors of personality disorder traits in a non-clinical sample. *Personality and Individual Differences, 22*, 527–537.
- Smith, D.B., & Ellingson, J.E. (2002). Substance versus style: A new look at social desirability in motivating contexts. *Journal of Applied Psychology, 87*, 211–219.

- Smith, H.L. (1997). *The structure and utility of social desirability scales in psychological research*. Unpublished doctoral dissertation, University of Illinois at Urbana-Champaign.
- Smith, H.L., Robinson, E.H., III, & Young, M.E. (2007). The relationship among wellness, psychological distress, and social desirability of entering master's-level counselor trainees. *Counselor Education and Supervision, 47*, 96–109.
- Smith, S.M., & Petty, R.E. (1995). Personality moderators of mood congruency effects on cognition: The role of self-esteem and negative mood regulation. *Journal of Personality and Social Psychology, 68*, 1092–1107.
- Steel, P., Schmidt, J., & Schultz, J. (2008). Refining the relationship between personality and subjective well-being. *Psychological Bulletin, 134*, 138–161.
- Stöber, J. (2001). The Social Desirability Scale-17 (SDS-17): Convergent validity, discriminant validity, and relationship with age. *European Journal of Psychological Assessment, 17*, 222–232.
- Sugarman, D.B., & Hotaling, G.T. (1997). Intimate violence and social desirability. *Journal of Interpersonal Violence, 12*, 275–290.
- Tan, L., & Grace, R.C. (2008). Social desirability and sexual offenders: A review. *Sexual Abuse: A Journal of Research and Treatment, 20*, 61–87.
- Tangney, J.P., Baumeister, R.F., & Boone, A.L. (2004). High self-control predicts good adjustment, less pathology, better grades, and interpersonal success. *Journal of Personality, 72*, 271–322.
- Taylor, S.E., & Brown, J.D. (1988). Illusion and well-being: A social psychological perspective on mental health. *Psychological Bulletin, 103*, 193–210.
- Taylor, S.E., Lerner, J.S., Sherman, D.K., Sage, R.M., & McDowell, N.K. (2003). Portrait of the self-enhancer: Well-adjusted and well-liked or maladjusted and friendless? *Journal of Personality and Social Psychology, 84*, 165–176.
- Thomsen, D.K., Jørgensen, M.M., & Zachariae, R. (2004). The influence of rumination and defensiveness on negative affect in response to experimental stress. *Scandinavian Journal of Psychology, 45*, 253–258.
- Tolkmitt, F., & Scherer, K. (1986). Effect of experimentally induced stress on vocal parameters. *Journal of Experimental Psychology: Human Perception and Performance, 12*, 302–313.
- Tomaka, J., Blascovich, J., & Kelsey, R.M. (1992). Effects of self-deception, social desirability, and repressive coping on psychophysiological reactivity to stress. *Personality and Social Psychology Bulletin, 18*, 616–624.
- Tomarken, A.J., & Davidson, R.J. (1994). Frontal brain activation in repressors and nonrepressors. *Journal of Abnormal Psychology, 103*, 339–349.
- Twenge, J.M., & Im, C. (2007). Changes in the need for social approval: 1958–2001. *Journal of Research in Personality, 41*, 171–189.
- Uziel, L. (2007). Individual differences in the social facilitation effect: A review and meta-analysis. *Journal of Research in Personality, 41*, 579–601.
- Uziel, L. (2010). *Look at me, I'm happy and creative: On the effect of impression management on behavior in social presence*. Manuscript submitted for publication.
- Uziel, L., & Baumesiter, R.F. (2009, February). *The effect of social presence on self-control: Ego-depletion among neurotics and ego-replenishment among individuals high in social desirability*. Poster presented at the 10th annual meeting of the Society for Personality and Social Psychology (SPSP 2009), Tampa, FL.
- Uziel, L., Sagiv, L., & Roccas, S. (2008, February). *Your social desirability is the cause of my personal unhappiness: On the effect of social desirability on roommates' relationship quality, satisfaction with life, and acquaintanceship*. Poster presented at the 2008 conference of the Association for Research in Personality (ARP), Albuquerque, NM.
- Viswesvaran, C., & Ones, D.S. (1999). Meta-analyses of fakability estimates: Implications for personality measurement. *Educational and Psychological Measurement, 59*, 197–210.
- Viswesvaran, C., Ones, D.S., & Hough, L.M. (2001). Do impression management scales in personality inventories predict managerial job performance ratings? *International Journal of Selection and Assessment, 9*, 277–289.
- Warrenburg, S., Levine, J., Schwartz, G.E., Fontana, A.E., Kerns, R.D., Delaney, R., & Mattson, R. (1989). Defensive coping and blood pressure reactivity in medical patients. *Journal of Behavioral Medicine, 12*, 407–424.
- Watson, D., & Clark, L.A. (1984). Negative affectivity: The disposition to experience aversive emotional states. *Psychological Bulletin, 96*, 465–490.
- Watson, P.J., Milliron, J.T., & Morris, R.J. (1995). Social desirability scales and theories of suicide: Correlations with alienation and self-consciousness. *Personality and Individual Differences, 18*, 701–711.
- Watson, P.J., Morris, R.J., Foster, J.E., & Hood, R.W. (1986). Religiosity and social desirability. *Journal for the Scientific Study of Religion, 25*, 215–232.
- Weinberger, D.A. (1990). The construct validity of the repressive coping style. In J.L. Singer (Ed.), *Repression and dissociation: Implications for personality theory, psychopathology and health* (pp. 337–386). Chicago, IL: Chicago University Press.
- Weinberger, D.A., & Davidson, M.N. (1994). Styles of inhibiting emotional expression: Distinguishing repressive coping from impression management. *Journal of Personality, 62*, 587–613.
- Weinberger, D.A., Schwartz, G.E., & Davidson, R.J. (1979). Low-anxious, high-anxious, and repressive coping styles: Psychometric patterns and behavioural and physiological responses to stress. *Journal of Abnormal Psychology, 88*, 369–380.
- Westmaas, J.L., & Jamner, L.D. (2006). Paradoxical effects of social support on blood pressure reactivity among defensive individuals. *Annals of Behavioral Medicine, 31*, 238–247.
- 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.
- Zerbe, W.J., & Paulhus, D.L. (1987). Socially desirable responding in organizations: A reconception. *Academy of Management Review, 12*, 250–264.