



ELSEVIER

Available online at www.sciencedirect.com

SCIENCE @ DIRECT®

Personality and Individual Differences 38 (2005) 559–568

PERSONALITY AND
INDIVIDUAL DIFFERENCES

www.elsevier.com/locate/paid

Attentional biases and memory distortions in self-enhancers [☆]

Maja Djikic ^{*}, Jordan B. Peterson, Philip David Zelazo

Department of Psychology, University of Toronto, 100 Saint George St., Toronto, Ont., Canada M5S 3G3

Received 15 January 2004; received in revised form 21 April 2004; accepted 6 May 2004

Available online 5 August 2004

Abstract

One hundred and fifteen undergraduate students (88 women and 27 men, mean age = 19.9 years) from a large urban university participated in this study for course credit. Individuals with moralistic and egoistic biases in self-perception (Paulhus & John, 1998) were tested for attentional biases and memory distortions following bogus personality feedback. Individuals with a moralistic bias (those scoring high on the Impression Management (IM) and Self-Deceptive Denial (SDD) subscales of the Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991)) showed higher overall viewing times for their feedback, and no memory distortions. In contrast, individuals with an egoistic bias (those scoring high on Self-Deceptive Enhancement (SDE) subscale of the BIDR) exhibited a self-enhancing distortion of memory. These findings contribute to our understanding of the different ways individuals may distort information about the self, thus supporting the motivational distinction between egoistic and moralistic biases in self-enhancement.

© 2004 Elsevier Ltd. All rights reserved.

Keywords: Self-enhancement; Self-perception; Attentional bias; Memory distortion; Moralistic bias; Egoistic bias

1. Introduction

The acquisition of self-knowledge is a process that appears to be both very easy and very difficult. It appears to be easy, because we are constantly available to ourselves for observation and introspection, and difficult, because our dual role of a perceiver and an object of perception is

[☆] This research was supported by a grant from the Social Sciences and Humanities Research Council of Canada to J.B. Peterson.

^{*} Corresponding author. Tel.: +1-416-946-5812; fax: +1-416-978-4811.
E-mail address: maja@psych.utoronto.ca (M. Djikic).

one wrought with motivational conflicts. Indeed, self-knowledge is often unwelcome. Consideration of the discrepancy between the ideal and real self can be an unpleasant ordeal (Bybee, Luthar, Zigler, & Merisca, 1997) and may motivate attempts to escape from self-awareness (e.g., through spirituality, masochism, over-eating, alcohol and drug abuse, and suicide; Baumeister, 1991). Some have even suggested that our distaste for self-reflection is motivated by more fundamental desires to escape freedom of choice (Fromm, 1941) or the terror of death (Becker, 1973).

Given the large body of research and theory suggesting that individuals are capable of profound acts of self-deception (Baumeister, 1991; Becker, 1973), we might wonder to what extent our perceptions and memory of the feedback we receive about ourselves from our environment are accurate or distorted. If they are distorted, what are the underlying motivational factors that mediate such distortion?

Many researchers have attempted to assess the veracity of the perceptions and memories we retain when given information about ourselves. The factor that seems to mediate its distortion most vigorously is also one of the most potent determinants of social behavior—the desire to maintain a favorable self-view, particularly in the face of disconfirming evidence (Aronson, 1969; Greenwald, 1982). Individuals consistently rate themselves as better than average on multiple positive descriptive dimensions (Guerin, 1994; Heine & Lehman, 1999). Not all researchers agree that such biases are important, however.

According to the proponents of the correspondence view of self-perception (e.g., Bem, 1972; Lewis & Brooks-Gunn, 1979), the theoretically universal tendency to misrepresent oneself in a positive light has been overstated. Correspondence-view theorists maintain, instead, that the acquisition of beliefs about oneself involves the same processes that characterize the perception of others, and that such beliefs are therefore equally accurate.

Both of these apparently conflicting positions appear justifiable, depending on the particularities of the given experimental context. John and Robins (1993), for example, found substantial correspondence between self- and peer-evaluations, as well as powerful convergence among different peers while evaluating a given individual, but also showed that judgments of ego-involving traits and traits with less observable associated behaviors were characterized by lower self-peer correlations. In a separate study, these authors also found that participants evaluated their own performance on a task as being slightly better, on average, than that of others. This general self-enhancement effect was small, however, when compared to the considerable individual differences found in the accuracy of self-perception: About 50% of participants were relatively accurate in their self-evaluation, while approximately 15% underestimated and 35% significantly overestimated their performance (John & Robins, 1994). While a self-enhancing group appeared to be a minority, it was a sizable minority. It was also a group that warranted further examination, in part because it did not seem to be a motivationally homogenous group.

An interesting development in the understanding of self-enhancing biases was the identification of two motivational factors that emerge when various measures of socially desirable responding are factor-analyzed (Paulhus & John, 1998; Raskin, Novacek, & Hogan, 1991). Paulhus and John (1998) labeled these factors “egoistic bias” and “moralistic bias,” the former reflecting the narcissistic need for power and status, and the latter reflecting the need for approval.

An egoistic bias is associated with a self-deceptive tendency to exaggerate one’s social and intellectual status (Paulhus & John, 1998). According to Paulhus and John (1998), it is best measured by normal narcissism scales such as the Narcissistic Personality Inventory (NPI, Raskin

& Hall, 1981) or the Self-Deceptive Enhancement subscale of the Balanced Inventory of Desirable Responding (BIDR, Paulhus, 1991). A study by Pauls and Stemmler (2003) has recently found that the Self-Deceptive Enhancement subscale is positively correlated with an enhancing bias (based on self- vs. observer-ratings) on traits of emotional stability, extraversion, and openness. It seems that individuals with an egoistic bias want to be seen as being high on traits that reflect powerful agency of the self.

A moralistic bias, on the other hand, is related to a self-deceptive tendency to deny socially deviant impulses and claim ‘saint-like’ attributes. Unlike an egoistic enhancer, a moralistic enhancer wants to see him or herself as being a “nice person,” someone exemplifying the traits that society finds admirable (Paulhus & John, 1998). The moralistic bias is best measured by the Self-Deceptive Denial and Impression Management subscales of the BIDR, or Marlow–Crowne (Crowne & Marlowe, 1964) scales (Paulhus & John, 1998). It is also interesting to note that Pauls and Stemmler (2003) found that the Self-Deceptive Denial and Impression Management subscales of the BIDR correlated positively with enhancing bias on the traits of agreeableness and conscientiousness. Unlike individuals with an egoistic bias, who wanted to be seen as being high in traits that reflect agency, those with moralistic bias apparently wanted to be seen as being high in traits reflecting communion.

The purpose of the present study is to examine further the distinction between egoistic and moralistic biases, by exploring whether individuals suffering from these biases differ in their attention to, and memory of, positive and negative information about the self. In keeping with the conformist (*other-oriented*) nature of the moralistic bias (DeYoung, Peterson, & Higgins, 2002), we may expect that individuals with moralistic inclinations should be especially concerned with attending to self-relevant feedback. On the other hand, we may expect that individuals with an egoistic bias, who have high, but fragile self-esteem (Raskin et al., 1991), may exhibit attentional and/or memory distortions that cause their recollections of feedback to fall into alignment with their exaggerated beliefs about the value and abilities of the self (Hyman & Loftus, 1998; Loftus, 1993; Schacter, 1996).

We measured the two types of self-deceptive bias using the three subscales of the BIDR, Self-Deceptive Enhancement for egoistic bias, and Self-Deceptive Denial and Impression Management for moralistic bias (Paulhus & John, 1998). In order to measure attentional distortions and memory biases, we utilized a novel experimental paradigm that includes delivery of positive and negative statements about the self (via bogus personality feedback), that can be attended to or ignored, remembered or misremembered.

Participants were administered real personality measures, but received a standardized set of feedback statements, balanced between positive and negative statements. Attentional biases were measured by evaluating the amount of time participants spent reading each of the statements. Memory distortions were assessed through analysis of biases in the recognition of statements previously seen in the bogus feedback profile.

1.1. Hypotheses

In general, we expected individuals with an egoistic bias to behave as ‘normal narcissists’ (Paulhus & John, 1998), and individuals with a moralistic bias to have the psychological make-up of conformists (DeYoung et al., 2002).

Because individuals with a moralistic bias are highly concerned with others' opinions of them, they might be particularly vulnerable to experimental demand conditions (Milham & Jacobson, 1978; Strickland & Crowne, 1962). We can therefore predict that moralists would spend more time viewing their bogus feedback (this includes *both* positive and negative statements about themselves). Therefore, the Self-Deceptive Denial and Impression Management subscales should correlate positively and significantly with overall viewing time.

It was expected that the self-enhancing, narcissistic tendencies of egoists might lead them to distort unwanted feedback, either in attention or memory, or both. Thus, we expect the Self-Deceptive Enhancement subscale to correlate positively with measures of attentional bias or recognition memory bias toward positive information, or both.

2. Method

2.1. Participants

One hundred and fifteen undergraduate students (88 women and 27 men, mean age = 19.9 years) from a large urban university participated. All were fluent in English. Participants were told they were taking part in a study examining different personality questionnaires. They were told specifically that they would complete several computerized personality questionnaires, and would then look at the feedback generated by the computer program. Each participant was tested individually. All participants were granted course credit for taking part in the study.

2.2. Materials

Questionnaire measures. (1) Balanced Inventory of Desirable Responding (BIDR; Paulhus, 1991). The BIDR, the most widely used questionnaire-based measure of socially desirable responding, has a high degree of internal consistency (Cronbach's $\alpha = 0.83$) and test-retest reliability of 0.65–0.69 (Paulhus, 1991). The BIDR includes three subscales, Self-Deceptive Enhancement, Self-Deceptive Denial, and Impression Management Subscales, each containing 20 items rated on a scale ranging from 1 (not true) to 7 (very true). Typically, only extreme responses (6 and 7, or 1 and 2) are scored (Paulhus, 1991). Because continuous scoring of the BIDR subscales has been shown to be both more reliable and valid than dichotomous scoring (Stoeber, Dette, & Musch, 2002), the former method was used in all analyses. Scores on the Self-Deceptive Enhancement subscale were taken to reflect degree of egoistic bias, whereas scores on the Self-Deceptive Denial and Impression Management subscales were taken to reflect degree of moralistic bias.

(2) NEO Personality Inventory—Revised (NEO PI-R, Costa & McCrae, 1992). The NEO-PI-R is a 240-item “big-five” personality questionnaire (assessing extraversion, neuroticism, agreeableness, conscientiousness, and openness) on which the bogus personality profile of the participants was supposedly based. This questionnaire is often used and reliable, with an alpha coefficient ranging from 0.86 to 0.92 (Costa & McCrae, 1992).

2.3. Procedure

Each participant was tested individually. They were left alone in a room in front of a 15-inch (38.1 cm) color monitor attached to an IBM-compatible computer. A computer program guided them through all the questionnaires. Once participants completed the measures, the experimenter ostensibly called up their personality profile on the computer and told them how to view their profile. The bogus profile that each of the participants received consisted of 24 statements. Twelve of these described positive personality attributes and 12 others, negative attributes. The bogus feedback was presented as a screen with 24 hyperlinked buttons (12 '+' buttons, and 12 '-' buttons). The participants were told that clicking on '+' or '-' buttons would take them to positive or negative statements about their personality, respectively. They were also told that each button represented a different statement, and that each statement could be viewed multiple times (if they chose to do so). The feedback was programmed so that the color of the button changed once they viewed the statement it led to, so that repeated viewing of the same statements would indicate their conscious desire to re-view the statement, rather than confusion as to whether they had already seen that statement or not. The length of positive and negative statements was controlled, so that any difference in viewing time could not be ascribed to differences in statement length.

Immediately after participants finished viewing their profile, they were instructed to recall and write down whatever statements they could remember, and to write down whether they believed that each remembered statement was an accurate characterization of their personality. This intermediary task provided a delay before the recognition task.

Following the intermediary recall task, participants were given a list of 48 statements, including each of the 24 original statements, and an additional 24 new decoy statements that were similar in content but opposite in valence. For example, the included statement "You are generally frank and sincere and not willing to manipulate others through flattery, craftiness, or deception" had its decoy counterpart "You are sometimes crafty and deceptive and willing to manipulate others through flattery, secrecy, or dishonesty" randomly placed in the list. Participants were instructed to circle as many statements as they remembered seeing in their personality profile from the list of 48 statements (of which 24 were original and 24 were decoys). They were told explicitly that this was a memory test and that they should mark all statements that they remember seeing in their personality profile, regardless of whether these statements accurately represented their personality. The language of the additional 24 statements closely resembled the originals, while being opposite in valence, so that the participants would not rely on recognition of familiar phraseology, and so that they could err in statement valence without cues from the statement content. Following the completion of the recognition task, the participants were fully debriefed.

3. Results

3.1. Descriptive statistics

The following are the mean scores and standard deviations for the three subscales of the BIDR: $M = 4.11$ ($SD = 0.65$) for the SDE subscale, $M = 3.79$ ($SD = 0.82$) for the IM subscale, and

$M = 4.18$ ($SD = 0.81$) for the IM subscale of the BIDR. The Cronbach's alpha values for the BIDR subscales in our sample were 0.72, 0.80, and 0.81 for the SDE, IM, and SDD, respectively. Table 1 contains correlations among the three BIDR subscales.

3.2. Attention measures

Four measures of attention were used. The first, *Positive Viewing Time* ($M = 6978$, $SD = 2478$), was the average time (in ms) participants spent viewing positive statements. The second, *Negative Viewing Time* ($M = 6692$, $SD = 2133$), was the average time (in ms) participants spent viewing negative statements. The third measure, *Average Viewing Time* ($M = 6835$, $SD = 2224$), was the average time (in ms) participant viewed all statements, irrespective of their valence. Finally, *Positive Viewing Bias* ($M = 1.05$, $SD = 0.18$) was a within-participant measure of the ratio of *Positive Viewing Time* and *Negative Viewing Time*. The means and standard deviation of attention measures indicate that overall, participants did not show higher viewing times to positive or negative statements. Correlations among attention measures appear in Table 2.

Correlational analysis of viewing time data produced the results listed in Table 3. We found that participants scoring high on the Impression Management and Self-Deceptive Denial subscales of the BIDR (individuals with moralistic bias), spent more time viewing both positive and negative feedback statements.

Stepwise regression analyses, starting with the Self-Deceptive Enhancement, Impression Management, and Self-Deceptive Denial subscales of the BIDR, demonstrated that only the Self-Deceptive Denial subscale (a measure of moralistic bias) significantly predicted all three attention

Table 1
Correlations among the subscales of the BIDR

	BIDR SDE	BIDR IM	BIDR SDD
BIDR SDE	1.00		
BIDR IM	0.40**	1.00	
BIDR SDD	0.36**	0.63**	1.00

Note: $N = 115$; BIDR = Balanced Inventory of Desirable Responding; SDE = Self-Deceptive Enhancement; IM = Impression Management; SDD = Self-Deceptive Denial.

**Correlation is significant at the 0.01 level (two-tailed).

Table 2
Correlations Among Attention Measures

	Positive VT	Negative VT	Average VT	Positive Viewing Bias
Positive VT	1.00			
Negative VT	0.86**	1.00		
Average VT	0.97**	0.96**	1.00	
Positive Viewing Bias	0.38**	-0.11	0.16	1.00

Note: $N = 115$; VT = Viewing Time (in milliseconds).

**Correlation is significant at the 0.01 level (two-tailed).

Table 3
Correlations among attention measures and the subscales of BIDR

	SDE	IM	SDD
Positive Viewing Time	0.02	0.20*	0.25**
Negative Viewing Time	0.07	0.19*	0.24*
Average Viewing Time	0.05	0.20*	0.25**
Positive Viewing Bias	-0.12	-0.01	-0.02

Note: $N = 115$; BIDR = Balanced Inventory of Desirable Responding; SDE = Self-Deceptive Enhancement; IM = Impression Management; SDD = Self-Deceptive Denial.

* Correlation is significant at the 0.05 level (two-tailed).

** Correlation is significant at the 0.01 level (two-tailed).

variables, *Positive Viewing Time*, $F(1, 113) = 7.27$ ($p < 0.01$), $R^2 = 0.06$; *Negative Viewing Time*, $F(1, 113) = 6.50$ ($p = 0.01$), $R^2 = 0.05$; and *Average Viewing Time*, $F(1, 113) = 7.45$ ($p < 0.01$), $R^2 = 0.06$.

3.3. Memory measures

Three measures of recognition memory were used. The first, *Errors* ($M = 4.93$, $SD = 7.50$), is the sum of all errors in recognition, including statements that participants recognized even though they were not present in the feedback (false alarms), and statements present in the feedback that participants failed to recognize (misses). The second measure, *Positive Ratio* ($M = 0.96$, $SD = 0.25$), indicates the ratio between all positive and all negative statements recognized as present in the feedback. The Ratio measure quantifies the degree of positive bias present in recognized statements. The third measure, *Error Bias* ($M = 0.60$, $SD = 2.50$) measures positive bias in recognition among the erroneous answers. It was computed by finding the difference between errors that favored the self (positive false alarms + negative misses) and errors that did not favor the self (negative false alarms + positive misses). Table 4 contains correlations among the memory measures.

The results of the correlational analyses for memory data are presented in Table 5. A significant correlation was found between memory biases (*Positive Ratio and Error Bias*) and the Self-Deceptive Enhancement subscale of the BIDR. Individuals scoring higher on Self-Deceptive Enhancement (those with egoistic bias) were more likely to exhibit memory biases towards positive feedback statements. This effect was not due to poorer memory for *all* feedback information, as seen from lack of significant correlation between Self-Deceptive Enhancement and number of

Table 4
Correlations among memory measures

	Errors	Positive Ratio	Error Bias
Errors	1.00		
Positive Ratio	0.06	1.00	
Error Bias	0.01	0.94**	1.00

Note: $N = 115$.

** Correlation is significant at the 0.01 level (two-tailed).

Table 5
Correlations among memory measures and the BIDR subscales

	SDE	IM	SDD
Errors	0.04	0.11	0.10
Positive Ratio	0.21*	0.12	–0.04
Error Bias	0.25**	0.12	–0.05

Note: $N = 115$; SDE = Self-Deceptive Enhancement; IM = Impression Management; SDD = Self-Deceptive Denial.

* Correlation is significant at the 0.01 level (two-tailed).

** Correlation is significant at the 0.05 level (two-tailed).

errors. More specifically, the higher an individual scored in Self-Deceptive Enhancement, the less likely they were to make a mistake of recognizing a negative statement that was not present in their feedback (negative false alarm) ($r = -0.19, p < 0.05$) and the more likely they were to make a mistake of not recognizing a negative statement that was actually present in their feedback (negative miss) ($r = 0.20, p < 0.05$). Moreover, the higher an individual scored in Self-Deceptive Enhancement, the more likely they were to recognize positive statements relative to negative statements (*Positive Ratio*).

Stepwise regression analysis (starting with Self-Deceptive Enhancement, Impression Management, and Self-Deceptive Denial subscales of the BIDR) indicated that the Self-Deceptive Enhancement (a measure of egoistic bias) was the only significant predictor for both *Positive Ratio*, $F(1, 113) = 5.32$ ($p < 0.05$), $R^2 = 0.05$, and *Error Bias*, $F(1, 113) = 7.60$ ($p < 0.01$), $R^2 = 0.06$.

Finally, in order to assess whether memory biases were dependent on differences in overall viewing times, correlational analysis of the association between the BIDR subscales and the memory bias variables was repeated with variability in viewing times partialled out. The analysis yielded the same significant correlations between the Self-Deceptive Enhancement subscale and memory biases ($r = 0.21$ and $r = 0.25$ for correlations with *Positive Ratio*, and *Error Bias*, respectively), while the correlations between Impression Management and Self-Deceptive Denial, and memory bias measures remained insignificant ($r < 0.05$). It thus appears that the presence or absence of memory bias was independent of overall viewing time.

4. Discussion

The accuracy of views that individuals hold about themselves may be determined in part by their habitual style of interaction with information that is incongruous with their current beliefs about themselves. The study described in this research report attempted to measure attentional biases and memory distortions in individuals with moralistic and egoistic biases. This functional distinction between two motivational biases in self-perception, as discussed by Paulhus and John (1998), was useful in distinguishing individuals with different distortion styles in self-perception. We found that individuals with an egoistic bias (those scoring high on the Self-Deceptive Enhancement subscale) have a different pattern of cognitive distortion than do individuals with a moralistic bias (high scorers on the Self-Deceptive Denial and/or Impression Management subscales of the BIDR).

Individuals with a moralistic bias, who usually score high on measures of conformity to societal standards, such as agreeableness and conscientiousness (DeYoung et al., 2002; Pauls & Stemmler, 2003), viewed both positive and negative feedback statements significantly longer and showed no memory distortions. On the other hand, individuals with an egoistic bias recognized fewer negative statements from their feedback. Our results therefore indicate that these individuals may use memory distortion that preemptively discounts information that is incongruous with self-views. Misremembering unwanted information about the self may be potentially useful in that it relieves an individual from the need continually to suppress or manipulate negative beliefs about the self.

In general, considering that these correlations were obtained using very different types of measurement (questionnaires and attention/memory measures), the magnitude of the correlations is relatively high. The correlations in the current study, for example, would fall into Hemphill's (2003) 'moderate strength' category of correlations.

A potential link between longer viewing time and lack of memory distortions was ruled out. Correlational analyses remained unchanged when variability in viewing time was controlled statistically. Thus, in the context that characterized this study, attention to content of interest and accuracy of subsequent memory appear independent. These results raise the possibility that even if some self-enhancers were forced to view personality feedback longer, the prolonged viewing times would not necessarily translate into correct memory traces for the feedback. This is an interesting empirical question that should be explored further.

In summary, the results of the present study provide additional insight into the nature of cognitive processes that underlie self-enhancement, and they support the distinction between egoistic and moralistic biases (Paulhus & John, 1998). We have demonstrated that individuals with a moralistic bias show attentional preoccupation with their personality feedback. Individuals with an egoistic bias, on the other hand, distort memories of threatening and unwanted information about oneself.

Acknowledgements

Authors would like to thank Colin G. DeYoung and Raymond A Mar on their thoughtful commentary on the previous drafts of this paper.

References

- Aronson, E. (1969). The theory of cognitive dissonance: a current perspective. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 4, pp. 1–34). New York: Academic Press.
- Baumeister, R. F. (1991). *Escaping the self: alcoholism, spirituality, masochism, and other flights from the burden of selfhood*. New York: Basic Books.
- Becker, E. (1973). *Denial of death*. New York: Free Press.
- Bem, D. J. (1972). Self-perception theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 6, pp. 1–62). San Diego, CA: Academic Press.
- Bybee, J., Luthar, S., Zigler, E., & Merisca, R. (1997). The fantasy, ideal, and ought selves: content, relationship to mental health and functions. *Social Cognition*, 15, 37–53.
- Costa, P. T., Jr., & McCrae, R. R. (1992). *Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI): professional manual*. Odessa, FL: Psychological Assessment Resources.

- Crowne, D. P., & Marlowe, D. (1964). *The approval motive: studies in evaluative dependence*. New York: Wiley.
- DeYoung, C. G., Peterson, J. B., & Higgins, D. M. (2002). Higher order factors of the big five predict conformity: are there neuroses of health? *Personality and Individual Differences*, *33*, 533–552.
- Fromm, E. (1941). *Escape from freedom*. New York: Avon Books.
- Greenwald, A. G. (1982). Ego-task analysis: an integration of research on ego-involvement and self-awareness. In H. Hastorf & A. M. Isen (Eds.), *Cognitive social psychology* (pp. 109–147). New York: Elsevier/North-Holland.
- Guerin, B. (1994). What do people think about the risks of driving? Implications for traffic safety interventions. *Journal of Applied Social Psychology*, *24*, 994–1021.
- Heine, S. J., & Lehman, D. R. (1999). Culture, self-discrepancies, and self-satisfaction. *Personality and Social Psychology Bulletin*, *25*, 915–925.
- Hemphill, J. F. (2003). Interpreting the magnitudes of correlation coefficients. *American Psychologist*, *58*, 78–80.
- Hyman, I. E., & Loftus, E. F. (1998). Constructive nature of memory. *Clinical Psychology Review*, *18*, 933–947.
- John, O. P., & Robins, R. W. (1993). Determinants of interjudge agreement on personality traits: the Big Five domains, observability, evaluativeness, and the unique perspective of the self. *Journal of Personality*, *61*, 521–551.
- John, O. P., & Robins, R. W. (1994). Accuracy and bias in self-perception: individual differences in self-enhancement and the role of narcissism. *Journal of Personality and Social Psychology*, *66*, 206–219.
- Lewis, M., & Brooks-Gunn, J. (1979). *Social cognition and the acquisition of self*. New York: Plenum Press.
- Loftus, E. (1993). The reality of repressed memories. *American Psychologist*, *48*, 518–537.
- Milham, J., & Jacobson, L. I. (1978). The need for approval. In H. London & L. E. Exner (Eds.), *Dimensions of Personality* (pp. 365–390). New York: Wiley.
- Paulhus, D. L. (1991). Measurement and control of response bias. In J. P. Robinson, P. R. Shaver, & L. S. Wrightsman (Eds.), *Measures of personality and social-psychological attitudes* (pp. 17–59). San Diego, CA: Academic Press.
- Paulhus, D. L., & John, O. P. (1998). Egoistic and moralistic biases in self-perception: the interplay of self-deceptive styles with basic traits and motives. *Journal of Personality*, *66*, 1025–1060.
- Pauls, C. A., & Stemmler, G. (2003). Substance and bias in social desirability responding. *Personality and Individual Differences*, *35*, 263–275.
- Raskin, R. N., & Hall, C. S. (1981). The Narcissistic Personality Inventory: alternative form reliability and further evidence of construct validity. *Journal of Personality Assessment*, *45*, 159–165.
- Raskin, R. N., Novacek, J., & Hogan, R. T. (1991). Narcissism, self-esteem and defensive self-enhancement. *Journal of Personality*, *59*, 19–38.
- Schacter, D. L. (1996). *Searching for memory*. New York: Basic Books.
- Stoeber, J., Dette, D., & Musch, J. (2002). Comparing continuous and dichotomous scoring of the Balanced Inventory of Desirable Responding. *Journal of Personality Assessment*, *78*, 370–389.
- Strickland, B. R., & Crowne, D. P. (1962). Conformity under conditions of simulated group pressure as a function of the need for social approval. *Journal of Social Psychology*, *58*, 171–181.