Selective Memory and the Persistence of Paradoxical Self-Esteem

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Previous research suggests that paradoxical self-esteem (contrasting levels of self-liking and self-competence) is associated with selective memory for self-relevant information. The form and function of this bias was examined here. College students classified as paradoxical or nonparadoxical viewed a series of trait adjectives. Recognition memory for the words was later tested. Results revealed that heightened selectivity in paradoxicals was limited to words conveying low social worth. Those paradoxically low in self-liking showed distinctively good memory and those paradoxically high in self-liking showed distinctively bad memory for these words. The claim that memory bias contributes to the persistence of paradoxical self-esteem also was tested. As expected, the self-liking of paradoxicals with the strongest memory bias showed the least shift toward self-competence 4 months later.

In presenting their therapeutic approach to problems of self-esteem, Bednar and Peterson (1995) quote a former client who brings to light a seeming paradox. Asked to describe his troubles, the young man wrote,

> For the past several years, I have felt that my life was meaningless. This was an ironic state of affairs considering all I had accomplished. Friends and relatives were always lauding me for my good looks and intelligence. I was the first person from either side of my family to graduate from college, doing so with honors. I had a good job with an important accounting firm. I had plenty of dates. By all outward appearances, my life was very fulfilling. Yet I was miserable and felt increasingly depressed. Six months of psychotherapy had helped me to catch an occasional glimpse of the underlying cause of my unhappiness. It always seemed to involve . . . my disapproval of myself. (pp. 5-6)

The confession is perplexing. That clear and legitimate success should be coupled with profound self-doubt challenges our commonsense beliefs about how we come to like or dislike ourselves. Those who appear genuinely and unassailably assured of their worth despite an extended history of failure present a similar challenge. How are such seemingly underdetermined attitudes toward the self maintained? Moreover, how do they persist in the face of regular social contradiction? In this article, we examine the role of selective memory in sustaining paradoxical self-esteem, which has been defined as a grossly imbalanced sense of one's own social worth and competence. A fuller understanding of why such imbalance represents a paradox requires a discussion of the duality of self-esteem.

Self-Competence and Self-Liking

The competence and social value aspects of self-esteem have been distinguished by a number of theorists over the past half-century (Brissett, 1972; Brown, 1998; Diggory, 1966; Franks & Marolla, 1976; Gecas, 1971; Silverberg, 1952; White, 1963). The most extensive treatment was offered by Tafarodi and Swann (1995, in

press), who labeled the two aspects "self-competence" and "self-liking."

Self-competence is defined as the valuative experience of oneself as a causal agent, an intentional being that can bring about desired outcomes. As a generalized trait, it refers to the overall positive or negative orientation toward oneself as a source of power and efficacy. The more successful one has been in fulfilling the countless intentions that constitute a lifetime of action, the stronger and more effective one feels. As an aspect of personal identity, this strength is experienced as positive value, irrespective of any secondary, moral significance that overlays it.

The moral significance of one's characteristics and actions is represented in self-esteem as self-liking, defined as the valuative experience of oneself as a social object, a good or bad person. As a generalized trait, it reduces to one's chronic, overall sense of social worth. By "social," we do not mean to suggest that self-liking is mainly our perception of the value that others accredit us, although this is surely one continuing source of it. Rather, mature self-liking rests primarily on the social value that we ascribe to ourselves, according to our personal criteria for "goodness," such as charm, beauty, integrity, kindheartedness, and social identity.

The conceptual separation of the two dimensions does not imply independence. Self-competence and self-liking are clearly bound together in development, for one's successes are an indirect source of social worth just as one's social worth, real or imagined, can indirectly promote personal achievement. Consistent with this, research has revealed the two dimensions to be reciprocally supportive and highly concordant in most individuals (Tafarodi & Milne, in press; Tafarodi & Swann, in press); that is, those who feel unworthy tend to judge themselves as incapable, just as those who feel worthy tend to judge themselves as capable. What, then, can be said of those who appear to defy this common symmetry, possessing opposing levels of self-competence and self-liking? Are such individuals truly paradoxical, or simply unusual?

Paradoxical Self-Liking

To better understand the subjective character of paradoxical self-esteem, Tafarodi (1998) interviewed a number of college students who exhibited starkly contrasting levels of self-competence and self-liking. In general, paradoxicals with high self-competence but low self-liking revealed that they were doing quite well in their endeavors and were appreciated by others for it. They also expressed frustration with their low self-liking, recognizing it as irrationally inconsistent with the views that others had of them. In contrast, paradoxicals with low self-competence but high self-liking admitted to a lack of

success in meeting many of their goals and mentioned often drawing criticism from others as a result. They maintained, however, that their failures did not threaten their sense of personal worth.

These profiles suggest that insofar as contrasting levels of self-competence and self-liking are paradoxical, the paradox focuses more on self-liking than self-competence. This conclusion fits with the hypothetical origins of the two constructs. Self-competence is more "reality-bound" in its development than self-liking, being constrained by the outcomes of our goal-directed actions (Bandura, 1990). The ability to accurately assess the outcome of one's own performance is, in fact, a metacognitive expression of competence itself (Kruger & Dunning, 1999). These reality constraints imply that an individual's self-competence will usually be in rough accord with the perception of their ingroup. Outside of clinical populations, one rarely encounters individuals who are convinced that they are generally capable despite being judged chronically and pervasively inept by their peers. Few ingroups would tolerate such delusion for long! The overlap in self-perceived and other-perceived competence has important implications for the social experience of paradoxicals.

Because individual achievement is highly valued in Western culture (Spence, 1985), those seen as competent tend to enjoy greater social approval and acceptance (Droege & Stipek, 1993; Patterson, Helmreich, & Stapp, 1975; Place & Becker, 1991). This social advantage, in turn, promotes their self-liking (Cole, 1991; Ichiyama, 1993; Jussim, Soffin, Brown, Ley, & Kohlhepp, 1992; Schwalbe & Staples, 1991). Accordingly, most people with high self-competence, whose self-perceptions are founded on actual competence, are also high in self-liking. This social dynamic implies that the self-liking of paradoxicals should shift over time toward their reality-constrained level of self-competence. How, then, does paradoxical self-liking manage to persist? How is it immune to the effects of social contradiction? Herein lies the paradox.

One solution to this puzzle is to deny the premise. Perhaps there is no paradox. So-called paradoxicals may simply be eccentrics who invest themselves in peculiar activities that others care little about. Alternatively, paradoxicals may be especially self-serving or self-defeating in judging their overall competence, attaching differential importance to their specific abilities in a highly atypical manner. In either case, their self-competence would not necessarily be reflected in the social reactions of others and there would be little contradiction with which to contend. Tafarodi (1998) tested both of these possibilities and found no evidence to support them. Rather, what set paradoxicals apart was a heightened degree of selectivity or bias in their understanding and

retention of social feedback. Specifically, those with paradoxical low self-liking showed a tendency to interpret ambiguous social feedback in a negative manner and to keenly remember critical appraisals of their personality, consistent with their perceived lack of social worth. Those with paradoxical high self-liking showed the opposite tendency, interpreting ambiguous social feedback in a positive manner and tending to forget critical appraisals of their personality. The main significance of this observed selectivity is its potential to sustain the self-liking of paradoxicals in the face of frequent social disconfirmation. To the extent that paradoxicals are able to ignore, misinterpret, or forget valuative signals that reflect their level of competence but are inconsistent with their level of self-liking, their self-esteem would not be pushed over time toward convergence. Heightened selectivity, then, might help explain the paradox.

In exploring this phenomenon, we focus here on the selective memory of paradoxicals, as first reported by Tafarodi (1998, Study 1). Unfortunately, the design limitations of that study obscured the exact form of memory bias exhibited by paradoxicals; namely, the specificity of the bias in relation to valence and semantic address was left unclear.[1] Moreover, the role of selective memory in sustaining paradoxical self-liking over time was not tested, leaving unanswered the question of whether selectivity provides a solution to the paradox. We overcome these limitations here, proposing and testing a specific pattern of heightened selectivity in paradoxicals with reference to the relevance model of memory and self-esteem (Tafarodi, Marshall, & Milne, 2001). We then conduct a test of the hypothesis that selectivity contributes to the persistence of paradoxical self-liking as described above. Specifically, we predict that the self-liking of paradoxicals with the strongest memory bias will show the least shift toward their self-competence over a 4-month period.

*The Relevance Model of
Self-Esteem and Memory*

Those who are low in self-competence tend to be preoccupied with their perceived inability and lack of success. They are therefore quick to recognize and focus on information that is suggestive of failure or inefficacy (Tafarodi & Milne, in press). Such information is richly encoded because of its relevance to the abiding personal concerns of these individuals and elaborated on through connection with the dense network of semantic and episodic nodes surrounding the representation of low self-competence. Attempts to recall the relevant information will be facilitated by the additional retrieval cues provided by this network (Alba & Hasher, 1983). Thus, those who lack self-competence should keenly remember frus-

trated actions and threats to goal fulfillment. More generally, this translates into the prediction that those low in self-competence should be better than those high in self-competence at remembering content related to weak agency. The opposite, however, cannot be said of content related to strong agency. Those with negative self-views often hold stringent self-ideals and experience intense dissatisfaction when falling short of these ideals (Higgins, Klein, & Strauman, 1987; Kuiper, Olinger, & MacDonald, 1988). Preoccupation with one's failings entails preoccupation with what one has failed to achieve, embody, or otherwise live up to. This suggests that conceptual nodes representing imperatives of success, achievement, and the realization of goals are at least as strongly associated in memory with the representation of low self-competence as with high self-competence (Teasdale, Taylor, Cooper, Hayhurst, & Paykel, 1995; see also Segal, Gemar, Truchon, Guirguis, & Horowitz, 1995). As such, there is no reason to expect richer encoding, greater elaboration, and better memory for information related to strong agency by those high in self-competence. Such information is equally relevant for those low and high on the dimension.

A parallel argument applies to self-liking. Those who are low on this dimension tend to be preoccupied with concerns about their social worth (Tafarodi & Milne, in press). Dominant themes include guilt over perceived transgressions, concerns about physical appearance, dissatisfaction with social identity, and fears of rejection or disapproval by others. For the same reasons outlined above, the heightened personal relevance of information suggestive of "badness" or unworthiness should render it especially memorable for those who lack self-liking. This translates into the prediction that those low in self-liking should be better than those high in self-liking at remembering content related to low social worth. As before, however, content related to high social worth is expected to be as relevant to those low as to those high in self-liking, implying similar memory for it. The valence asymmetry is consistent with research on social perception, which has shown that negative instances of morally significant behavior are seen as more diagnostic of personality than are positive instances (Skowronski & Carlston, 1987). More generally, negative information appears to receive greater attention and weight (Fiske, 1980; Peeters, 1971; Yzerbyt & Leyens, 1991).

*Relevance and Selective
Memory in Paradoxicals*

The relevance model invites specific predictions concerning the selective memory of paradoxicals. Tafarodi (1998) speculated that paradoxical self-liking is distinguished by a vividly represented, peremptory core of negative or positive self-valuation formed early in devel-

opment. Whatever its origin, this core appears to produce in paradoxical lows a preoccupation with personal unworthiness that exceeds that exhibited by their nonparadoxical counterparts, whose low self-liking is mirrored in their self-competence and based more on specific self-perceived inadequacies. Paradoxical highs show the opposite quality in their disinclination to question their social worth or to ruminate on perceived criticism. Again, this tendency is greater for them than for their nonparadoxical counterparts, whose high self-liking is supported by high self-competence. Relating these profiles to the above model of selective memory, we propose that information conveying low social worth is distinctively relevant and therefore especially memorable for paradoxical lows but distinctively irrelevant and therefore especially forgettable for paradoxical highs. Accordingly, the magnitude of their respective biases should exceed that of their nonparadoxical counterparts who are matched on self-liking. Furthermore, the heightened selectivity of paradoxicals should be limited to low social worth content, because positive content of any type is assumed to be equally relevant to all perceivers, regardless of their levels of self-esteem, and paradoxical self-competence is not assumed to hold any distinctive quality that might engender heightened bias. Finally, if selectivity lies behind the persistence of paradoxical self-esteem, as hypothesized, then greater memory bias should be associated with greater stability of self-liking over time. These predictions were tested in the following study.

METHOD

Participants

Participants were 73 (54 women and 19 men) students enrolled in introductory psychology at the University of Toronto. All students participated in exchange for course credit. Data was collected over 2 successive years from an aggregate pool of approximately 3,000 students. The gender imbalance reflects the preponderance of women in the pool. The modal age was 19.

The sample consisted of roughly equal numbers of nonparadoxical and paradoxical lows and highs. All had been recruited on the basis of their self-liking and self-competence scores on the Self-Liking/Self-Competence Scale (SLCS) (Tafarodi & Swann, 1995). The SLCS consists of two 10-item subscales, one designed to measure trait self-competence (SC) and the other trait self-liking (SL). The range is 10 to 50 for both subscales. Respondents indicate degree of agreement with global statements reflecting low or high SC (e.g., "I don't succeed at much," "I am a capable person") or SL (e.g., "I feel worthless at times," "I like myself"). The reliability and discriminant validity of the correlated (r = .50 to .70)

subscales have been consistently confirmed (Tafarodi & Milne, in press; Tafarodi & Swann, 1995, in press). Support for other aspects of construct validity has been found in a variety of applications (e.g., Aidman, 1999; Bosson & Swann, 1999; Tafarodi & Swann, 1995, 1996; Tafarodi & Walters, 1999). The mean SL and SC scores in the pool were 36.72 and 40.15, respectively.

Classification as a paradoxical low required a below-average SL score but above-average SC score. Similarly, classification as a paradoxical high required an above-average SL score but below-average SC score. Beyond this, those students with the largest and most symmetric disparities around the means were selected. Classification as a nonparadoxical low required below-average scores on both SL and SC, whereas nonparadoxical highs were those with above-average scores on both SL and SC. Recruitment of nonparadoxical lows and highs was managed such that the mean SL of each group was comparable to that of its paradoxical counterpart. A similar correspondence was managed for SC.

The theory speaks to the form and function of selective memory in those with paradoxical self-esteem. Admittedly, some of those classified as such may be nonparadoxicals whose odd self-esteem scores resulted from incorrect or otherwise misrepresentative responding during mass testing, a context that tends to reduce care, conscientiousness, and accountability. To permit us to safely interpret any change in the self-liking of this group 4 months later as applying to individuals who were genuinely paradoxical at the outset, the SLCS was readministered to all participants during their individual laboratory sessions (4 to 6 weeks later). The SL and SC retest scores of 17 participants did not satisfy the classification requirements that had originally qualified them. To enhance classification validity, these questionable participants were eliminated, leaving a final sample size of 56 (39 women and 17 men: 14 paradoxical lows, 13 nonparadoxical lows, 12 paradoxical highs, 17 nonparadoxical highs). The loss was similar across the four groups, $\chi^2(3) = 2.05$, $p = .56$, as was the resulting gender ratio, $\chi^2(3) = 3.89$, $p = .27$.

To boost the reliability of the SL and SC measurements, test and retest scores were averaged. The resulting SL and SC means were 29.14 and 45.89 for paradoxical lows, 27.92 and 35.00 for nonparadoxical lows, 43.58 and 35.83 for paradoxical highs, and 44.41 and 46.12 for nonparadoxical highs. Comparison of means confirmed that paradoxical lows did not significantly differ ($\alpha = .05$) from nonparadoxical lows in SL, $t(25) = 1.00$, $p = .33$, or from nonparadoxical highs in SC, $t(29) = -.44$, $p = .66$. Similarly, paradoxical highs did not significantly differ from nonparadoxical highs in SL, $t(27) = -1.25$, $p = .22$, or from nonparadoxical lows in SC, $t(23) = 1.21$, $p = .24$.

Materials and Procedure

Participants were individually run through a computer-based task by a female experimenter. At the outset, they were informed that the task involved thinking about the meaning of a number of personality trait words. Care was taken to avoid giving any clue that memory for the trait words would be tested, while also emphasizing that each word was to be carefully attended to.

The relevance theory of selective memory as a function of self-esteem requires engagement of the self-concept during encoding. As with other forms of self-related bias, selectivity due to SC and SL should not extend to settings where the semantic network that contains the representations of these attitudes is not activated. Activation was achieved here through the use of explicit self-reference: "For each trait word presented, you are to think about how it applies to you. That is, consider how descriptive each word is of your personality." Sixty trait words were serially presented. Controlled presentation was used to fix inspection time (item strength). Each word appeared in lower-case font centered on an otherwise blank monitor screen for 1 second, followed by 1 second of blank screen and then the next word. Participants were instructed to think carefully about each word in relation to themselves for the full duration of its presentation. The first six and last six words were presented in the same order for all participants and served only as memory buffers. The order of the remaining 48 words was random. Five categories were represented by these words: high competence (C+; e.g., competent, capable, effective), low competence (C–; e.g., weak, failure, defeated), high social worth (W+; e.g., attractive, worthy, likable), low social worth (W–; e.g., inferior, despised, rejected), and neutral (N; e.g., subtle, serious, talkative). The 16 N words were selected from the neutral range (neither positive nor negative in perceived meaning) in Anderson's (1968) normed list of trait adjectives and reflected neither competence nor social worth. These words were included to permit estimation of general mnemonic ability, a key individual difference variable to control for in tests of selectivity (Bors & MacLeod, 1996). The remaining four categories were represented by 8 words each. These words had been confirmed through preliminary research to be highly indicative of their semantic category, as reflected in college students' judgments of their applicability to the experience of low and high self-competence and self-liking. There was no need to match categories on normative memorability (word frequency, imagability, etc.), because all scalar predictions were between-group rather than cross-categorical.

Immediately following presentation of the last word, instructions for a digit-detection task appeared on the monitor screen. This task was a distraction, aimed at producing enough memory decay to allow for a sensitive test of differential recognition. For the distractor task, participants viewed strings of digits presented for 500 ms each with a 1-second interstimulus interval. They were required to press a bar whenever they saw the digit "5" in a string. The task lasted 3 minutes.

Recognition memory was then tested by combining the 48 trait words that had been presented (8 C+, 8 C–, 8 W+, 8 W–, and 16 N) with 48 new trait words. One third (16) of the new words was drawn from the neutral range of Anderson's (1968) list to provide a matched set of foils for the 16 old N words. Another third was taken from the positive range of the list (e.g., "realistic," "enthusiastic") to provide foils for the old C+ and W+ words. The final third was taken from the negative range of the list (e.g., "shallow," "hostile") to provide foils for the old C– and W– words. None of the new positive and negative words was highly indicative of competence or social worth. This avoided close synonymy with their old counterparts, a feature that would have produced significant mnemonic confusion (Roediger, McDermott, & Robinson, 1998).[2] The 96 words were presented in random order and participants made forced old-new judgments for each of them.

Afterward, participants completed the SLCS, the Positive and Negative Affect Schedule–Expanded Form (PANAS-X) (Watson & Clark, 1994), the Beck Depression Inventory (BDI) (Beck, Ward, Mendelson, Mock, & Erbaugh, 1961), and two unrelated measures. The PANAS-X and BDI were included to examine the correspondence between group differences in affect and memory. Parallel patterns would introduce the possibility of mood-congruence effects (Blaney, 1986; Bower, 1981) rather than differential relevance as the basis of any selectivity found. The entire session lasted approximately 50 minutes. Participants returned 4 months later for a second session, where they again completed the SLCS in addition to several unrelated measures. At the end of the second session, participants were fully debriefed on the nature and purpose of the study.

RESULTS

Gender of participant did not qualify any of the results reported below and will not be discussed further. The sample was screened for univariate and multivariate outliers on the variables analyzed below. None were found.

Selectivity in Recognition Memory

Both recognition and free recall reflect explicit memory, which is primarily sensitive to conceptual processing of sensory content (Jacoby, 1983). Free recall, however, is more effortful, requiring self-generation of cues and candidates for retrieval from episodic memory

TABLE 1: Recognition Accuracy (d') as a Function of Semantic Category and Self-Esteem Group

	Self-Esteem Group			
Semantic Category	Paradoxical Low	Nonparadoxical Low	Paradoxical High	Nonparadoxical High
Neutral	2.15 (0.86) —	1.87 (0.45) —	1.80 (0.70) —	2.26 (0.97) —
High competence	2.07 (0.88) 2.02	1.64 (0.72) 1.72	1.93 (1.06) 2.04	2.04 (1.08) 1.94
Low competence	3.28 (1.02) 3.22	2.40 (1.07) 2.50	2.29 (1.07) 2.43	2.72 (1.15) 2.59
High social worth	2.54 (0.84) 2.48	1.82 (1.01) 1.91	1.92 (1.03) 2.06	2.35 (0.90) 2.23
Low social worth	3.90 (0.97) 3.85	3.00 (1.12) 3.08	1.89 (0.99) 2.01	3.12 (1.01) 3.01

NOTE: For all tripartite entries, the first value is the mean, the second value (in parentheses) is the standard deviation, and the third entry is the adjusted mean. Means were adjusted against d' for neutral words using ANCOVA.

(Raaijmakers & Shiffrin, 1981). Recognition, as most often tested, requires discriminative judgments of whether old and new presented items have been encountered before in a specific context. Such judgments may be guided as much by the familiarity of the item as by its retrieval from episodic memory (Gardiner & Java, 1993; Mandler, 1980). The relevance theory of selectivity applies to retrieval-based recognition, or true "remembering" (Tulving, 1985), just as it does to free recall. Its relation to familiarity-based recognition is less straightforward. The relevance model implies that those with lower standing on a dimension of self-esteem will tend to experience higher chronic or *base* familiarity of negative content that is conceptually consistent with that dimension. Recognition, however, is affected by *situational* familiarity, or the proportional increment in base familiarity produced by its prior occurrence in a specific context (Engelkamp & Zimmer, 1994; Mandler, 1980). This proportional increment will be lower with increasing base familiarity, suggesting that "relevant" content may actually be less *contextually* familiar to those low in self-esteem and therefore more difficult to discriminate on this basis alone in a recognition memory test. The upshot of this analysis is that recognition evidence consistent with the predictions would imply enhanced episodic retrieval of consistent content, not merely greater subthreshold familiarity of its features. Thus, reliance on recognition memory provides a strong test of heightened selectivity in paradoxicals.

The index of memory strength or sensitivity was d', computed as z(hit rate) – z(false alarm rate) (Macmillan & Creelman, 1990). Using the five hit and three false alarm rates, d' was computed separately for the different categories of trait words. False alarm rate for positive foils was used in computing d' for C+ and W+ words, whereas false alarm rate for negative foils was used in conjunction with C– and W– words. False alarm rate for neutral foils was used for N words. Hits and false alarms were not analyzed separately, given their confounding with criterion and the demonstrated symmetry in their susceptibility to factors affecting memory strength (Glanzer & Adams, 1985, 1990; Glanzer, Adams, & Iverson, 1991).[3] Group means

and standard deviations for category-specific d's appear in Table 1. Higher means represent better memory.

Significant group differences in general recognition accuracy, as indexed by d' for N words, were not expected. This was confirmed in a one-way (group) ANOVA, $F(3, 52) = 1.09$, $p = .36$. To provide sensitive tests of group differences in category-specific memory, individual differences in general recognition accuracy were controlled by using d' for N words as a covariate in a one-way (group) MANCOVA. The results revealed significant group differences, Wilks's $\Lambda = .61$, $F(12, 127) = 2.18$, $p = .02$. Univariate ANCOVAs revealed that the multivariate effect was due to group differences on d' for W– words, $F(3, 51) = 7.80$, $p = .0002$, as predicted, and not d' for C– words, $F(3, 51) = 1.79$, $p = .16$; W+ words, $F(3, 51) = 1.14$, $p = .34$; or C+ words, $F(3, 51) = .36$, $p = .78$. The pattern of means was consistent with the hypotheses: Paradoxical lows showed significantly better memory for W– words than did nonparadoxical lows, $p = .04$, whereas paradoxical highs showed worse memory for these words than did nonparadoxical highs, $p = .009$. The two nonparadoxical groups were not significantly different, $p = .85$.[4]

Change in Self-Liking as a Function of Selective Memory

The foregoing analyses show that the heightened selectivity of paradoxicals pertains exclusively to content conveying low social worth. Paradoxical lows are distinctively good and paradoxical highs are distinctively bad at remembering this type of negative content. The conservative significance of selectivity for the persistence of paradoxical self-liking was posited earlier. If this hypothesis is correct, then the stronger the memory bias of paradoxicals, the less their self-liking should shift over time toward their contrasting level of self-competence. The self-liking of paradoxicals with low bias would not be retrospectively insulated from social influence and would be pushed up or down accordingly.

Multiple regression was used to examine the association of selectivity with change. SL as measured during the second session (SL-2), 4 months after the first session, was simultaneously regressed on average self-liking

(test and retest) at the start of the study (SL-1), the index of selectivity on which paradoxicals were distinctive (d' for W– words), and the relevant covariate (d' for N words). The selective recruitment of participants for the study had produced a sample split on SL. This artificially polarized distribution precluded valid estimation of partial associations in the combined sample (see Cohen & Cohen, 1983). To overcome this limitation, separate regressions were conducted for participants with low SL (paradoxical and nonparadoxical lows) and those with high SL (paradoxical and nonparadoxical highs).

There is no justification for assuming that the significance of memory bias for the persistence of SL is singular to paradoxicals. Enhanced memory for deficit-relevant experiences also should support *nonparadoxical* low SL over time, irrespective of the clearer substantive basis of this more common form of self-doubt and its lower level of social disconfirmation. The same can be said of impoverished memory for such experiences and the maintenance of nonparadoxical high SL. This reasoning suggests that what distinguishes paradoxicals is the *degree*, not the consequences, of their selectivity. To confirm this functional invariance, paradoxical versus nonparadoxical classification (paradoxicality) was dummy coded as a categorical predictor in both of the regressions, along with the Paradoxicality $\times$ d' for W– words interaction. A significant partial association for the interaction would imply differential predictive significance of selectivity for change in self-liking for paradoxicals versus nonparadoxicals, contradicting the above argument.

In summary, SL-2 was simultaneously regressed on SL-1, d' for W– words, d' for N words, paradoxicality, and the Paradoxicality $\times$ d' for W– words interaction. This effectively tests the unique relation of d' for W– words with change in SL over time (see Cronbach & Furby, 1970). Regressions were conducted separately for those low and high in SL. Within each regression, all noncategorical variables were standardized to facilitate interpretation (Aiken & West, 1991).

For those low in SL, significant coefficients emerged only for d' for W– words and for paradoxicality. As predicted, those who were better at remembering content conveying low social worth showed less increase in SL over time, $\beta = -.59$, $t(21) = -2.26$, $p = .03$, independent of their initial level of SL. The second association revealed, interestingly, that paradoxicals experienced greater increase in SL over time than did nonparadoxicals, $\beta = .92$, $t(21) = 2.53$, $p = .02$. Specifically, paradoxical lows increased, on average, 3.07 points on the 40-point SLCS subscale, whereas nonparadoxical lows increased, on average, .85 points. The absence of interaction ($p = .89$) confirms that the association of selectivity with change in

SL was the same for the two groups, despite the greater average increase for paradoxical lows.

For those high in SL, significant coefficients again emerged only for d' for W– words and for paradoxicality. As before, those who were better at remembering content conveying low social worth showed less increase in SL over time, $\beta = -.65$, $t(23) = -2.77$, $p = .01$, independent of their initial level of SL. Symmetric with the results for lows, the second association revealed that paradoxicals experienced greater *decrease* in SL over time than did nonparadoxicals, $\beta = -1.29$, $t(23) = -3.75$, $p = .001$. Specifically, paradoxical highs decreased, on average, 3.67 points, whereas nonparadoxical highs decreased, on average, 1.35 points. Again, the absence of interaction ($p = .99$) confirms that the association of selectivity with change in SL was the same for the two groups, despite the greater average decrease for paradoxical highs.

Affective Differences

Group differences on the negative affect (NA) and positive affect (PA) subscales of the PANAS-X and the BDI also were examined. Group means and standard deviations appear in Table 2. Significant group differences emerged on all three affective dimensions, $F(3, 52) = 3.90$, $p = .01$, for NA; $F(3, 52) = 8.56$, $p < .0001$ for PA; and $F(3, 52) = 7.15$, $p = .0004$ for the BDI. Post hoc pairwise comparisons among group means were conducted using Tukey's HSD criterion. For NA, the only significant difference was that nonparadoxical lows were higher than nonparadoxical highs. For PA, the only significant differences were that nonparadoxical highs were higher than both nonparadoxical lows and paradoxical highs. Finally, for the BDI, the only significant differences were that nonparadoxical highs were lower than both nonparadoxical lows and paradoxical lows. These results reveal that neither paradoxical lows nor paradoxical highs were distinctively positive or negative in their affective state, dismissing the possibility that their heightened selectivity might be due to some form of mood-congruence effect.

DISCUSSION

Commenting on the seemingly irrational levels of self-regard exhibited by some individuals, William James (1890/1950) noted that "there is a certain average tone of self-feeling which each one of us carries about with him, and which is independent of the objective reasons we may have for satisfaction or discontent." Thus, "a very meanly-conditioned man may abound in unfaltering conceit" and "one whose success in life is secure and who is esteemed by all may remain diffident . . . to the end" (p. 306). Although more than a century has passed since James penned these words, paradoxicals continue to present a puzzle to psychologists, challenging our belief

TABLE 2:   Mean Affective Self-Ratings as a Function of Self-Esteem Group

| | Affective Quality | | |
	Negative Affectivity	Positive Affectivity	Depression (BDI)
Paradoxical low	16.86 (6.33)	29.07 (7.47)	12.57 (8.54)
Nonparadoxical low	19.31 (5.86)	23.69 (5.42)	15.54 (4.24)
Paradoxical high	15.08 (4.80)	25.42 (5.32)	9.42 (5.32)
Nonparadoxical high	12.94 (3.85)	34.76 (7.08)	5.65 (5.45)

NOTE: BDI = Beck Depression Inventory. Metric range is 10 to 50 for both negative affectivity (NA) and positive affectivity (PA) and 0 to 63 for the BDI. Standard deviations are given in parentheses.

that self-esteem is determined by social and environmental feedback.

The two-dimensional conception of global self-esteem affords a framework for understanding the phenomenon. It directs our focus to the question of how paradoxicals are able to sustain their self-liking against the social ramifications of their contravalent level of self-competence. We argued here that the key to the persistence of paradoxical self-liking is not passive immunity to social evaluation but active reduction of its influence on self-understanding through selective perception, interpretation, and memory. In this study, we examined the precise form of such selectivity in relation to recognition memory. The design permitted sensitive comparisons of paradoxical and nonparadoxical memory within valence and semantic categories.

*The Selective Memory
of Paradoxicals*

The results revealed that the relative bias of paradoxicals was limited to content suggestive of low social worth, as predicted. Specifically, of the four groups examined, paradoxical lows were the best at remembering this content, whereas paradoxical highs were the worst. Paradoxicals were not distinctive in their memory for content suggestive of weak agency. This is consistent with our theory, which does not provide any basis for heightened selectivity in this domain. The semantic asymmetry confirms the targeted nature of selective memory in paradoxicals, discounting the suggestion that they are prone to more general forms of positivity or negativity in self-referential contexts. Thus, the findings offer a clarified picture of the memory differences found in previous work (Tafarodi, 1998), where the significance of valence and semantic address was not adequately examined.

Before dismissing the possibility of heightened selectivity in paradoxicals for agency-related content, however, encoding contexts that selectively activate their self-competence without activating their contrasting (and perhaps antagonistic) level of self-liking need to be examined. For example, Tafarodi, Marshall, and Milne (2001) found that performance situations involving clear success and failure outcomes are more effective at activating self-competence than are situations involving the passive encoding of agency-related words. In fact, selective memory for words conveying weak agency was not found as a function of self-competence in the latter context. This suggests that although there does not appear to be anything distinctive about the self-competence of paradoxicals that might lead to heightened selectivity, further research is needed to confirm this. Of more importance, however, *self-liking* has not been associated with selective memory for agency-related content in *any* encoding context, consistent with the relevance model and with the specificity found here.

Nonparadoxical highs and lows did not significantly differ in their memory for words conveying low social worth. This suggests that the relatively modest difference (16.49 points) in self-liking that separated these groups was insufficient in the context of small-sample comparison to reveal the more general relation of self-liking with selective memory posited by the relevance model and confirmed by Tafarodi, Marshall, and Milne (2001) as a continuous association in a much larger, nonselect sample. Confirmation of this aspect of the theory, however, is not directly relevant to the predictions, which pertain to the distinctive bias of paradoxicals and its significance for the persistence of their self-liking.

The absence of heightened selectivity in relation to positive content supports the relevance model's claim that such content does not hold differential subjective importance as a function of self-esteem. This suggests that neither paradoxical lows nor paradoxical highs devote an unusually small or large amount of thought to what it means to be a good and worthwhile person. Such ideals are integral to all self-concepts, even the most negative. Indeed, ideals are responsible for the "tyranny of the shoulds" that Horney (1950) described as underlying the neurotic conflict of self-haters.

What does appear to distinguish paradoxicals is the extent to which they incorporate and elaborate on experiences that draw their social worth into question. The tendency of paradoxical lows to form memorable representations of these negative experiences is consistent with the claim that they are preoccupied with social deficit, with not being "good" enough in the eyes of selfhood's "generalized other." Although not examined here, heightened spontaneous recall or intrusions also might be expected, producing, in severe cases, a proclivity toward obsessive negative ideation (I. A. James & Kendell, 1997). Paradoxical highs, in contrast, appear to represent experiences that are inimical to their sense of social worth in a relatively shallow manner, hindering them from returning to haunt consciousness in the

future. This encoding tendency fits with our contention that paradoxical highs are nonchalantly disinterested in the social criticism they receive. Whether this disinterest is accompanied by defensive reactivity under certain conditions remains to be examined.

Memory and Change

Perhaps the most notable outcome of this study is the evidence suggesting that heightened selectivity helps maintain the externally undersupported self-liking of paradoxicals. As predicted, paradoxicals who exhibited the strongest memory bias during their initial session showed the least increase (lows) or decrease (highs) in their self-liking 4 months later. This association was not peculiar to paradoxicals but applied equally to nonparadoxicals. Because paradoxicals exhibited the strongest bias on average, however, they were presumably also most subject to its conservative influence. This does not imply that paradoxical self-liking is generally more stable than nonparadoxical self-liking. To the contrary, paradoxicals, on average, experienced greater systematic change in self-liking than did nonparadoxicals (about 2 points more on the 40-point scale). The slighter shift in the self-liking of nonparadoxicals, all of whom had been selected on the basis of lower- or higher-than-average scores, may reflect regression toward the mean. The greater shift in paradoxical self-liking, however, implies an additional cause, given that paradoxicals and their nonparadoxical counterparts were matched on the extremity of their self-liking. This conclusion is reinforced by the recognition that, on the whole, paradoxicals shifted more than nonparadoxicals *despite* being higher on a bias that was similarly associated with stability for paradoxicals and nonparadoxicals. The additional source of instability in paradoxicals is implicit in the guiding theory. Because paradoxicals experience frequent social disconfirmation of their self-liking, as argued, this aspect of their self-esteem *should* show greater movement toward their self-competence over time than is the case for nonparadoxicals. This difference, in fact, lends credence to the premise that paradoxical self-liking is challenged by the valuative responses elicited by their level of demonstrated competence. The association of change with selective memory, on the other hand, suggests that the normal tendency for this social dynamic to push paradoxical self-liking toward self-competence over time is diminished if negative social experiences are magnified or effaced in a manner that reflects the tone of self-liking. Heightened bias therefore does provide a solution to the paradox: To the extent that paradoxicals selectively distort their present and past in conformity with their sense of social worth, they may effectively silence the internal and external voices suggesting that they are not who they think

they are. Thus, the persistence of paradoxical self-esteem may be the consequence of memory bias and related forms of selectivity.

Irrespective of the sustaining effect of selectivity, the greater inherent lability of paradoxical self-liking is consistent with some of the correlates of unstable self-esteem. For example, Kernis, Cornell, Sun, Berry, and Harlow (1993) found that instability of low self-esteem was associated with acceptance of negative feedback, whereas instability of high self-esteem was associated with rejection of negative feedback. This pattern fits with the differential relevance that such feedback holds for paradoxical lows and highs, respectively, according to the present account. Insofar as paradoxicals are unstable in their self-liking, they also may be lower in self-concept clarity (Campbell et al., 1996). Arguing against this possibility, however, Tafarodi (1998) found that paradoxicals did not differ from nonparadoxicals in the certainty of their self-ratings, one expression of clarity (Campbell, 1990). Also associated with instability is compartmentalization rather than integration of negative and positive aspects of the self-concept (Showers, 1995). Compartmentalization would be consistent with paradoxicals' contrasting levels of self-liking and self-competence. Extreme affective responses have been associated with compartmentalization (Showers & Kling, 1996), suggesting that the distinctive emotional and motivational reactions of paradoxicals to environmental triggers may provide insight into the organization of their unusual self-concepts (see, e.g., Tafarodi & Vu, 1997). Although the present findings suggest that paradoxicals are not distinguished by their general affective state, they may show unique patterns of reactivity.

The Benefits of Forgetfulness

The tendency of paradoxical highs to forget experiences that are at odds with their self-affection can hardly be judged maladaptive on the whole. We should all be so lucky. The lot of paradoxical lows is more tragic. This group appears to be caught in a vicious circle. Their deep-seated self-doubt promotes memory for thematically consistent events, and these remembrances then serve as echoes of inadequacy, amplifying their self-doubt and sustaining the negative preoccupation it produces. Therapeutic interventions aimed at breaking this circle might include intensive training in antagonistic attentional, rehearsal, and retrieval strategies that inhibit the tendency to recall and ruminate on negative social experiences. Insofar as we are what we remember of our lives, willful control of memory may help create the conditions conducive to improving self-esteem. That negative memory bias was inversely related to increase in

self-liking over time highlights the promise of this approach.

NOTES

1. In that study, memory for positive and negative words could not be separately analyzed because of the lack of control over individual differences in general memory. Furthermore, words in the memory set had not been selected to represent distinct semantic categories. Crude grouping of items after the fact did not allow for clean and meaningful comparisons, rendering the results inconclusive.

2. Because word category was not highlighted as an encoding feature, the semantic separation of positive/negative foils from competence/worth words did not render the former especially detectable in the recognition test. False alarm rate was in fact slightly higher for positive/negative than for neutral foils.

3. Mean hit rate was less than 90% and false alarm rate was greater than 10% for all word categories. Variances were comparable across categories.

4. The relevance theory of selectivity implies nothing about the location of the subjective criterion (c) for judging an item familiar enough to be judged old. Consistent with this, significant group differences in c, computed as $-.5(z[\text{hit rate}] + z[\text{false alarm rate}])$ (Macmillan & Creelman, 1990), were not found for any of the four word categories, using c for neutral words as a covariate.

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