# Paradoxical Self-Esteem and Selectivity in the Processing of Social Information

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*Paradoxical self-esteem* is defined as contrasting levels of self-liking and self-competence. Consideration of the social and motivational implications of this uncommon form of self-esteem suggests that heightened selectivity in the processing of social information may be behind its persistence. Two experiments were conducted to confirm the prediction of heightened selectivity in paradoxicals. As expected, those paradoxically low in self-liking were more negatively biased in their memory for personality feedback (Study 1) and interpretation of valuatively ambiguous phrases (Study 2) than were their counterparts who shared the same low self-liking but were also low in self-competence. Symmetrical with this result, those paradoxically high in self-liking exhibited a heightened positive bias relative to those who were high in both self-liking and self-competence. The findings are discussed in relation to attitudes and motivation.

And Richard Cory, one calm summer night, Went home and put a bullet through his head. —Edwin Arlington Robinson, Richard Cory

These final lines of Robinson's famous poem deliver a jarring statement on the separation of self-esteem from public approval. Richard Cory is previously described as a "gentleman from sole to crown" and as having "everything to make us wish we were in his place." He is attractive, popular, and highly accomplished. The reader is left wondering how he could possibly hate himself enough to take his own life. More generally, we are puzzled by those who dislike themselves despite seeing themselves as capable and successful. We are equally puzzled by those who genuinely like themselves despite seeing themselves as unsuccessful on the whole. Consideration of self-esteem as a two-dimensional attitude suggests that these vivid forms of contrasting self-valuation can be justifiably viewed as paradoxical. How are such disparities sustained over time? I argue here that those with paradoxical self-esteem are likely to be distinctively biased in their processing of social information and that this bias makes their self-esteem resistant to change.

# Two-Dimensional Self-Esteem

Competence and socially defined worth have often been considered the two fundamental axes of self-esteem. White (1963), for example, claimed that a person's sense of competence gives rise to a dimension of self-esteem separate from that based on social value, concluding that "a dualistic-or, more accurately, an interactive-theory of self-esteem seems inevitable" (p. 125). Similarly, Diggory (1966) argued for distinguishing between two different forms of self-valuation, one based on objective evaluation of abilities, the other on approval and acceptance. Others have offered versions of the same essential dichotomy (Brissett, 1972; Franks & Marolla, 1976; Gecas, 1971; Silverberg, 1952). Most recently, Tafarodi and Swann (1995) have labeled the two dimensions self-competence and self-liking, suggesting that they are best considered two interdependent but distinct attitudinal dimensions making up global self-esteem. Self-competence refers to the generalized sense of one's own efficacy or power; self-liking, to the generalized sense of one's own worth as a social object, according to internalized values.

Self-competence is the valuative experience of overall agency, the inherently positive awareness of oneself as effective that results from self-consciously imposing one's will on the environment. Self-liking, in contrast, is the valuation of personhood: one's worth as a social entity with reference to internalized standards of good and bad. Self-competence is a relatively autonomous valuation, in that it is determined by the chronic correspondence of goals or intentions with the outcomes of actions aimed at realizing those goals or intentions. Self-liking, in contrast, requires reference to socially transmitted values: It is dependent on normative criteria for worth, whereas selfcompetence need not be. The distinction is best understood through a hypothetical example of opposing self-valuations. Imagine an arsonist with a love for burning down large buildings. He may enjoy the destruction because it affords a sense of power: For him, the feeling of "having a big effect" is selfaggrandizing. At the same time, though, he may feel guilt and self-hatred for his criminal actions, which he recognizes brand

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him a "bad" person according to what he has been taught. The arson might therefore be expected to both boost his selfcompetence and diminish his self-liking. More generally, however, a strong correlation of self-competence and self-liking is expected across individuals. This expectation is based in part on the social implications of self-competence.

The "reality-bound" nature of self-competence suggests that it usually corresponds well with actual competence in achieving explicit goals (Bandura, 1990; Markus, Cross, & Wurf, 1990; Smith, 1968; Seligman, 1995). Furthermore, because those living in the same community or group tend to have similar needs, standards, and priorities, many goals are held in common (Marsh, 1993). There are countless mundane goals that we are either constrained or socialized to share. This commonality implies that an individual's self-perception of generalized competence will usually be in rough accord with in-group members' judgments of the individual's competence. The correspondence offers a causal bridge from self-competence to self-liking, as follows.

In individualistic Western society, personal competence is celebrated by others on aesthetic grounds, as a status marker, and for the instrumental value it holds in social exchange and cooperative activity. Accordingly, competent people tend to enjoy greater approval and liking from others (Droege & Stipek, 1993; Patterson, Helmreich, & Stapp, 1975; Place & Becker, 1991). Of course, not all competent or successful people are liked, but on the whole they enjoy a clear social advantage. Furthermore, as people are fairly good at gauging the social impressions they make (e.g., DePaulo, Kenny, Hoover, Webb, & Oliver, 1987), those who are competent are likely to be sensitive to the approval and acceptance they attract from others. Theoretically, such awareness should boost their self-liking, given that appraisal by others has been shown to be one source of self-liking (Cole, 1991; Ichiyama, 1993; Jussim, Soffin, Brown, Ley, & Kohlhepp, 1992; Schwalbe & Staples, 1991). This suggests that those who are justifiably high in self-competence tend to also be high in self-liking, as they have more (social) cause to like themselves. In line with this, the two dimensions have been found to be highly correlated (Gecas, 1972; Tafarodi & Swann, 1995), meaning that persons with large disparities-those possessing paradoxical self-esteem-are uncommon.

Insofar as their disparities are not reduced over time, paradoxicals are not only rare but also puzzling. If the foregoing dynamic is accurate, paradoxicals-whose self-liking is at great odds with their perceived competence (and, presumably, actual competence)-should frequently receive social feedback that matches the valence of their self-competence but contrasts with the valence of their self-liking. Specifically, competent self-haters should attract approval and acceptance, whereas inept selflovers should attract disapproval and rejection. To the extent that self-liking is responsive to social feedback, or external support, a steady diet of contradictory feedback should effectively pull self-liking in its direction over time, closing the gap between the two dimensions of self-esteem. The psychological tension driving this process is held to lie between paradoxicals' representation of their self-liking and their perception that others feel oppositely about them. No claim is made here that a direct semantic tension exists between self-liking and self-competence within the self-concept. As it is possible to see oneself as highly

competent or incompetent without attaching great social value to this quality, there is no reason to assume inherent conflict between the two dimensions. The argument is that the self-liking of paradoxicals is challenged by their constant awareness of how they are esteemed by others, rather than by their selfcompetence per se.

According to the foregoing account, self-liking should be pulled toward harmony with self-competence. Yet we know that enduring paradoxical self-esteem exists (e.g., Bednar, Wells, & Peterson, 1989). This is the paradox. One potential explanation, pursued here, is that paradoxicals experience the external opposition to their self-liking in a manner that minimizes its persuasive impact. This idea is based on the motivational significance of paradoxical self-esteem and its implications for how information about the self is processed. To outline the basis of the theory, the causes of self-consistency bias in cognitive processing are first discussed.

## Self-Consistent Selectivity

The self, as a mental system, plays a remarkably active role in regulating the individual's experience of the social world (Combs & Snygg, 1949; Epstein, 1973; Greenwald & Pratkanis, 1984; Lecky, 1945; Mancuso & Ceely, 1980; Markus, 1977; Markus & Wurf, 1987; Rogers, 1981). It tends to skew the reflections of itself that are constructed from environmental inputs (see Greenwald, 1980; Swann, 1987, 1990). The form of distortion is often in its own image. That is, the self-system functions conservatively, often biasing the processing of selfrelevant information in a self-consistent direction (Bellezza, 1992). One functional aspect of this conservatism is its potential for guarding against disruptive changes in the organization of the self-concept, especially those precipitated by discrepant information (Epstein, 1973; Swann, 1987, 1990).

The privileged processing of information that is consistent or associated with beliefs can be viewed as a form of selectivity (Beck, 1985; Erdelyi, 1974). The term is used here specifically to refer to self-consistent bias in the perception, interpretation, and retention of social information. In this form of selectivity, perceptions and interpretations congruent with a stable aspect of self-understanding are more immediate and likely than are incongruent perceptions and interpretations. Similarly, congruent information is remembered better than incongruent information. Such bias has been shown to be specific to the processing of directly self-relevant inputs in that it most often does not extend to the processing of information about others (e.g., Pietromonaco & Markus, 1985; Schlenker & Britt, 1996). The specificity of the bias suggests dependence on self-reference in the course of processing. A consideration of the mechanisms responsible for this dependence points to at least three potential pathways.

First, activation of aspects of the self at the time information is encountered may produce negative or positive affective states that bias information processing. This is due to strong associative links between affective and semantic-conceptual content within the self-representation. As affective content is expected to match the valence of semantic content (e.g., a conception of self as worthless is associated with negative feeling), a crude form of self-consistency bias would emerge because of moodcongruence effects (Blaney, 1986; Isen, 1987; Mayer, McCormick, & Strong, 1995). Specifically, the degree of selectivity in the processing of valuative social information would reflect the negativity (or positivity) of activated aspects of the self-concept and the matched emotional states these produce. Activation of positive aspects of the self-concept would lead to better processing of positive over negative inputs, as positive constructs in long-term memory become more accessible because of transiently improved mood (see Esses, 1989; Rholes, Riskind, & Lane, 1987). Similarly, selectivity favoring negative inputs is expected in cases where negative aspects of the self-concept are activated.

A second pathway from the self-concept to selectivity is best characterized as motivational-anticipatory. Self-concept activation may produce a perceptual set or "readiness" defined by expectancies, vigilance, and even an active search for specific types of social information (Erdelyi, 1974; Gurtman & Lion, 1982; Tuma, 1975; Zuber, 1981). Such an orientation would predispose the individual to quickly recognize target information-that which fits with the conscious or unconscious anticipatory set-and to interpret ambiguous information in a setcongruent manner. As in the case of mood-congruent selectivity, the proximate cause of these effects would be the increased accessibility of set-congruent constructs in memory. Increased accessibility would lower the perceptual threshold for target information, facilitating recognition and interpretation (Bargh, 1982). The effects of motivational set, however, extend beyond accessibility. Once perceived, target information would be subject to deeper processing than nontarget information owing to its greater subjective significance. The enhanced semantic elaboration and integration that define deeper processing would facilitate retention of target memories (Craik & Tulving, 1975; Mandler, 1982). Active selective enhancement of this type could occur independent of level of accessibility. Similarly, heightened accessibility could operate independent of evoked mood states and motivational sets, providing a third potential pathway from the self-concept to selectivity, as follows.

Constructs high in chronic or baseline accessibility have been shown to bias judgment and memory (Higgins & King, 1981; Higgins, King, & Mavin, 1982; Stangor, 1988). In regard to the self-concept, this suggests that independent of the content of one's beliefs about the self, the enduring accessibility of that content influences how information about the self is experienced. Specifically, higher chronic accessibility of an aspect of the self-concept would be accompanied by higher chronic accessibility of associated semantic and episodic nodes in memory (J. R. Anderson, 1983). Therefore, when social information matching in some way with one of these nodes is encountered, it is more readily processed. Furthermore, insofar as these associated nodes later provide retrieval cues for remembering the information encountered, their higher accessibility allows them to come to mind more easily, facilitating memory (Alba & Hasher, 1983). Any biasing effect of individual differences in chronic accessibility would extend beyond that accounted for by situational or phasic factors that increase accessibility, such as priming, mood induction, or processing goals (Bargh, Bond, Lombardi, & Tota, 1986; Higgins & Brendl, 1995). However, the effect is still contingent on self-referential processing and, therefore, general activation of the self-concept. Considered as

a structural feature of the self-concept itself, chronic accessibility thus provides a third source of selectivity dependent on the self.

These potential pathways may all account in part for selfconsistent selectivity. In specific relation to the social dynamic likely to characterize the experience of paradoxicals, two pathways, motivational set and chronic accessibility, are expected to produce an especially high degree of selectivity. This heightened selectivity may explain the persistence of their puzzling amalgam of confidence and doubt.

## Heightened Selectivity in Paradoxicals?

In paradoxical self-esteem, a core belief about the self ("I am a worthy/unworthy person") is assumed to stand in persistent contradiction to the judgments communicated by others. The tension likely to result from this contradiction holds important implications for the motivational character of paradoxicals.

Swann (1987, 1990; Swann, Stein-Seroussi, & Giesler, 1992) has argued that our basic need for predictability and control drives a tendency for verification of stable self-knowledge. This tendency is reflected in thought and behavior aimed at maintaining beliefs about the self. A functional distinction can be made between "routine" and "crisis" self-verification (Swann, 1987). Whereas the former refers to the nexus of habitual or routine behaviors established over time to sustain a given self-conception, the latter involves reactive strategies that are consciously or unconsciously used to reaffirm a threatened self-conception. In most instances, threat derives from environmental feedback that stands in valuative or semantic contradiction to the self-concept (Swann & Hill, 1982).

Assuming self-liking to be a central and deeply entrenched belief, paradoxicals chronically exposed to incongruent social feedback might develop a crisislike form of self-verification that is virtually perpetual. One expression of this tendency would be the very motivational set that produces self-consistent selectivity. This would be reflected in deeper processing, including elaborative rehearsal (Wixted, 1991), of social information that is consistent with self-liking, but shallow processing of information that is inconsistent. Frequent active recall of self-liking-consistent autobiographical memories would also be likely, resulting in diminished recall of any subsequently encountered contradictory information (Lydon, Zanna, & Ross, 1988). Hypervigilance for congruent information, social corroboration seeking, private and public expression of self-liking-related beliefs, and deflection (e.g., "You think I'm an admirable person? Okay, so now let me tell you what's wrong with me!") would also be expected. This pattern of behavior would clearly produce confirmatory bias in how social information about the self is experienced.

Relevant here is Steele's (1988) notion of self-affirmation in the service of maintaining the integrity of the self. According to this view, we often react to specific feedback that does not fit with our global sense of self-worth by affirming unrelated specific self-conceptions that do fit. Such compensation effectively offsets the threatening feedback. Paradoxicals may be especially prone to this compensatory strategy in that they react to social feedback incongruent with their self-liking by shifting focus to self-perceived characteristics that are congruent. Selfaffirmation, however, is conceived as a unidirectional motive,

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aimed at sustaining a positive self-image. In contrast, any compensatory, defensive maintenance on the part of paradoxicals is assumed to be bidirectional or symmetrical, aimed at maintaining either low or high self-liking, depending on the form of paradoxical self-esteem.

The motivational set of crisislike self-verification should not only protect the self-liking of paradoxicals from the destabilizing consequences of disconfirmation but also produce chronic hyperaccessibility of self-liking. Elsewhere, repeated attitudinal expression has been found to increase the relative accessibility of the attitude (DeBono & Snyder, 1995; Powell & Fazio, 1984) as well as the extremity of the attitude (Downing, Judd, & Brauer, 1992). As such, paradoxicals' confirmatory preoccupation with their self-liking would likely result over time in an unusually high degree of chronic accessibility. Because chronic accessibility is itself a source of self-consistent selectivity, as described above, hyperaccessibility of paradoxical self-liking would intensify their already heightened tendency for selective information processing.

The foregoing offers an explanation of how paradoxicals are able to maintain a level of self-liking that is grossly disparate with their level of self-competence. Likely to develop an acute form of self-verification striving and chronic hyperaccessibility of self-liking in response to contrary feedback from others, paradoxicals should exhibit a distinctively high degree of selectivity favoring the processing of social information that is consistent with their self-liking. Heightened selectivity would render the considerable external contradiction that others see confronting paradoxicals somewhat muted in their own mental world. Most important, it would diminish the power of discrepant feedback to effect any change in their self-liking. More likely to go unrecognized or to be superficially processed, misperceived, deflected, compartmentalized, or quickly forgotten, information challenging their low or high self-liking would be prevented from changing the way paradoxicals feel about themselves. Paradoxical levels of self-liking would not necessarily be pushed over time toward the contrasting level of competence and the valuative signals it invites from others. In this manner, the general interdependence of self-liking and self-competence would be undermined, and the persistence of paradoxical self-esteem supported.

Prior to investigating the proposed functional significance of selectivity in paradoxicals, one must confirm that they are indeed prone to heightened selectivity. The studies reported here were aimed at doing just that. Selectivity in information processing can take many forms, ranging from greater perceptual fluency for consistent information to more extensive use of that information later in time. Bias in memory and interpretation of ambiguous stimuli were examined here: memory, because it has been found to be biased in proportion to the "embeddedness" aspect of attitude strength (Pomerantz, Chaiken, & Tordesillas, 1995), a dimension on which self-liking, a core node in the self-concept, is presumably high; interpretation of ambiguity, because it has been shown to be especially susceptible to forms of selectivity (Byrne & Eysenck, 1993; Calvo, Eysenck, & Estevez, 1994; Eysenck, Mogg, May, Richards, & Mathers, 1991; Schutte & Fazio, 1995).

The specific predictions reflecting heightened selectivity are twofold: (a) Persons with paradoxical low self-liking should be more likely to interpret and remember negative than positive information relating to the self, and (b) the degree of this negative selectivity should exceed that exhibited by persons with nonparadoxical low self-liking. In contrast, (a) persons with paradoxical high self-liking should be more likely to interpret and remember positive than negative social information relating to the self, and (b) the degree of this positive selectivity should exceed that exhibited by persons with nonparadoxical high selfliking. Furthermore, self-liking-consistent selectivity should not be evident when the social information does not directly address the self, in accord with the idea that the selectivity is selfschematic and not an expression of some more diffuse processing bias.

The social information of interest here is the valuative response of others to the self. The two experimental studies that follow examine the degree of selectivity in the processing of social information as a function of self-esteem classification. Study 1 examines differential memory for positive and negative trait words, and Study 2 examines interpretive bias for ambiguous conversational phrases. First, however, some preliminary investigation into the nature of paradoxical self-esteem is briefly summarized.

# Preliminary Investigation

The defining feature of paradoxicals is the pronounced disparity between self-liking and self-competence. This feature, however, may itself be subordinate to other aspects of personality that distinguish paradoxicals from others. Such aspects could account for the persistence of paradoxical self-liking independent of any regulative role played by selectivity in information processing. To address this issue, a preliminary investigation was conducted to rule out several potential alternatives for how paradoxicals differ in personality from their nonparadoxical counterparts. Evidence against these alternatives supports the validity of paradoxical self-esteem as a unique phenomenon not easily reducible to other personality dimensions.

# Clarity

One alternative is that paradoxicals are distinguished by the certainty (or uncertainty) of beliefs about themselves. Self-certainty has been taken to reflect the clarity of the self-concept and has been found to be positively associated with self-esteem (Baumgardner, 1990; Campbell, 1990; Setterlund & Niedenthal, 1993). The impoverished self-liking of paradoxical lows may therefore be the result of especially low clarity, irrespective of their high self-competence and the social feedback it attracts. Similarly, the robust self-liking of paradoxical highs may be the result of especially high self-clarity. To examine this possibility, a sample of introductory psychology students at the University of Texas at Austin (N = 236) completed a modified form of the Self-Attributes Questionnaire (SAQ; Pelham & Swann, 1989). Specifically, the students rated themselves in comparison with others on nine dimensions: academic, social, athletic, and artistic/musical ability; physical attractiveness; moral integrity; emotional stability; sense of humor; and caring for others. They then rated how certain they were of each of the self-ratings they had provided, as well as rating the personal importance of each of

the nine dimensions. In addition to the SAQ, the students completed the Self-Liking/Self-Competence Scale (SLCS; Tafarodi & Swann; 1995), a self-report measure of the two selfesteem dimensions (see Study 1). Paradoxical low self-liking was defined at z = -.75 on self-liking and z = .75 on selfcompetence; nonparadoxical low self-liking was defined at z =-.75 on both dimensions. Paradoxical high self-liking was defined at z = .75 on self-liking and z = -.75 on self-competence; nonparadoxical high self-liking was defined at z = .75 on both dimensions. (These levels were chosen to maximize similarity to the paradoxical and nonparadoxical experimental participants described later.) To test the hypothesis that paradoxicals are distinctive in self-concept clarity, the nine certainty ratings were summed and the aggregate was simultaneously regressed on SLCS self-liking score, self-competence score, and their interaction. Critically, the results revealed that self-liking was neither independently, t(232) = 1.40, p = .16, nor interactively, t(232)= 1.81, p = .07, associated to a significant degree ( $\alpha$  = .05) with aggregate certainty. This argues against the alternative hypothesis.

# Depression

A second possibility is that paradoxical lows are especially depressed and paradoxical highs especially nondepressed relative to nonparadoxicals. If so, paradoxicals may exhibit selective processing as a result of their distinctive levels of depressive dysphoria rather than for reasons relating to their self-likingself-competence composite (DeMonbreun & Craighead, 1977; Gotlib, 1983; Gotlib & McCann, 1984; Lloyd & Lishman, 1975; Segal, 1988). To examine this, a second sample from the same population (N = 290) completed the Beck Depression Inventory (BDI; Beck, Ward, Mendelson, Mock, & Erbaugh, 1961) and the SLCS. Regression of BDI score on the two self-esteem dimensions and their interaction revealed that to the extent paradoxical lows differed from nonparadoxical lows, it was through being lower, not higher, in depression, t(286) = -3.66, p =.0003, for simple slope of self-competence for lows. Furthermore, paradoxical and nonparadoxical highs did not differ in their level of depression, t(286) = -.35, p = .73, for simple slope of self-competence for highs. This pattern disconfirms the proposed alternative. It also speaks against the possibility that any distinctive selectivity on the part of paradoxicals is the result of chronic mood-congruence effects relating to depressive affect.

#### Investment

Two possibilities relating to differential ego investment were also examined. The first pertains to selective investment across valuative domains. Specifically, paradoxical highs may hold especially strong personal investment in the few areas wherein they tend to be successful but little investment in the many areas wherein they tend to be unsuccessful (Harter, 1986; Pelham, 1995; Rosenberg, 1968; Tesser & Campbell, 1983). This selfserving tendency could explain how they might slough off the negative social feedback that their incompetencies invite: They would simply not give much mind to such feedback, as the domains of activity addressed are not personally important. In

contrast, paradoxical lows may maladaptively attach great importance to their few pockets of incompetence and therefore be especially sensitive to the negative feedback that their performance in these specific areas invites from others. At the same time, they would be less mindful of the wealth of positive social feedback attracted by their many competencies. This possibility was examined in the first sample by first computing the withinsubject correlation of SAO importance with self-ratings across the nine dimensions. Higher correlations suggest a more selfserving pattern of ego investment: attaching greater personal importance to those dimensions on which one is high. The correlation was then regressed on the self-esteem dimensions, as before. Though a slight Self-Competence × Self-Liking interaction emerged, t(232) = -2.09, p = .04, simple slope testing revealed no significant tendency for paradoxical highs to show greater importance-self-rating congruence than nonparadoxical highs, t(232) = -.83, p = .41, for slope of self-competence for highs. Similarly, no significant opposite tendency for paradoxical lows to exhibit lower congruence than nonparadoxical lows was found, t(232) = 1.13, p = .26, for slope of selfcompetence for lows. Hence, the proposed alternative was disconfirmed.

The second possibility relating to differential ego investment involves unusual patterns of investment. The argument for heightened selectivity in paradoxicals is premised on the assumption that their level of self-competence invites social feedback inconsistent with their level of self-liking. This would not be the case, however, if paradoxical lows were competent (and paradoxical highs were incompetent) at activities that most people cared little for. Here, paradoxical self-liking would be less a mystery than it seems, as social feedback would not necessarily be inconsistent with it. One reflection of this pattern would be a tendency for paradoxicals, both lows and highs, to attach importance to valuative domains in a manner that is especially deviant from the population average. To examine this, each of the nine SAQ importance ratings was rescaled as a deviation score by subtracting from it the sample mean for that rating. The absolute values of these scores were summed to produce an overall index of deviation. Regressing this aggregate variable on the self-esteem dimensions, as before, revealed no significant predictors. Most critically, there was no significant independent,  $t(232) \approx -1.01, p = .32$ , or interactive, t(232) = 1.61, p = .11, association for self-liking. These results suggest that atypical importance ratings are not associated with self-esteem, casting doubt on the suggestion that paradoxicality rests on odd patterns of ego investment.

#### Interviews

Finally, some effort was made to gain descriptive, qualitative understanding of the paradoxical phenomenon. Structured interviews were conducted with 13 students who possessed paradoxical composites of self-liking and self-competence. In general, paradoxical lows claimed to be doing well in their endeavors and to be appreciated by others for it. They expressed frustration with their low self-liking, recognizing it as somewhat irrational given the views that others had of them. In contrast, paradoxical highs reported a lack of success in meeting many of their goals and admitted drawing criticism as a result. They maintained, however, that this did not trouble them much for how worthwhile they felt. These profiles dovetail with the interpersonal dynamic hypothesized to underlie the paradox.

In summary, the preliminary investigation provided little support for alternative formulations of the phenomenon, lending credence to the hypothetical portrait of paradoxicals that underlies the heightened selectivity hypothesis. Two experiments were conducted to test the hypothesis.

## Study 1

# Overview

Paradoxical and nonparadoxical participants were exposed to a set of positive and negative trait words. Some were led to believe that the traits had been selected to describe their personality. Others were told that the words described someone else. After a short interval, memory for the words was tested. Participants' ability to discriminate previously presented words from new words was computed separately for positive and negative traits. Selectivity, as reflected in differential memory for positive and negative traits, was compared across groups to test the prediction of heightened bias in paradoxicals.

## Method

Participants. One hundred sixty participants (73 men and 87 women) were recruited over three successive semesters. All were introductory psychology students at the University of Texas at Austin and were selected from an aggregate pool of 4,018 on the basis of their scores on the SLCS, administered during mass testing at the start of each semester. The SLCS consists of two 10-item subscales, measuring generalized self-liking (e.g., "I do not have enough respect for myself," "I like myself") and generalized self-competence (e.g., "I am not very competent," "I am a capable person"). Respondents indicate degree of agreement to the statements on a 5-point Likert-type scale. The a priori two-dimensional structure of the SLCS and discriminant validity of its two correlated (r = .69) subscales have been strongly supported. Cronbach's alpha coefficients of .92 and .89 and uncorrected test-retest correlations (3-week interval) of .80 and .78 have been reported for self-liking and self-competence, respectively (Tafarodi & Swann, 1995).

The Marlowe–Crowne Social Desirability Scale (MCSD; Crowne & Marlowe, 1960) was also administered during mass testing. Respondents whose MCSD scores fell within the top 15% of the class distribution were ineligible for participation in the study. This effectively screened out those whose high positive response bias rendered their SLCS scores suspect.

Those classified as paradoxical participants in the experiment were students who met the following selection criteria: (a) the absolute value of the standardized difference of their rank-normalized self-liking and self-competence scores was greater than 1, and (b) their raw scores on the self-liking and self-competence subscales were above the distribution mean on one dimension but below the mean on the other.<sup>1</sup> Beyond these criteria, an attempt was made to restrict paradoxical recruitment to those students whose normalized scores were approximately as far below the distribution mean on one subscale as they were above the mean on the other. In other words, only those with roughly symmetrical disparities were used. The winnowed group of eligibles formed approximately 6% of the aggregate pool. Within the range of eligibility, an attempt was made to recruit students with the largest subscale disparities.

Those classified as nonparadoxical participants in the experiment were students who met the following selection criteria: (a) the absolute value of the standardized difference of their rank-normalized self-liking and self-competence scores was less than .2, and (b) their raw scores on the self-liking and self-competence subscales were both above or both below the respective distribution means. Beyond these criteria, selection was managed such that the mean self-liking score for the nonparadoxical low self-liking group was not significantly different from that of the paradoxical low self-liking group. Similarly, the mean self-liking score for the nonparadoxical high self-liking group was not significantly different from that of the paradoxical high self-liking group. The same equivalence was achieved for self-competence.

The selection strategy was used to yield four groups of 40 participants each. These were paradoxical low self-liking, paradoxical high selfliking, nonparadoxical low self-liking and nonparadoxical high selfliking. The mean self-liking and self-competence scores were 28.7 and 47.6 for paradoxical lows, 43.5 and 36.9 for paradoxical highs, 29.2 and 37.2 for nonparadoxical lows, and 43.3 and 46.7 for nonparadoxical highs. (Both subscales have a possible range of 10-50.) The modal age of participants was 18.

*Procedure.* Students meeting the selection criteria were recruited by telephone and received course credit in exchange for participation. All were tested individually by an experimenter blind to their self-esteem classification. A computer-administered task was used. The computer alternately assigned participants to the two instruction conditions within each self-esteem group. In the self-relevant condition, participants learned they would view a set of trait adjectives that had been taken from an assessment of their personality. This assessment was described as based on their responses to questionnaires filled out during mass testing. The trait adjectives were presented as words generally used by others to describe the personality type ascribed to the participant. In the non-self-relevant condition, the trait adjectives were said to be taken from the personality assessment of someone other than the participant (a randomly selected student).

All participants in fact saw the same words. These were taken from N. H. Anderson's (1968) normed list of trait adjectives, which orders them from most positive to most negative. Thirty-nine positive traits were selected from the top 35% of the list, excluding the top 5%. Similarly, 39 negative traits were taken from the bottom 35% of the list, excluding the bottom 5%. Forty-two of these 78 traits (21 positive and 21 negative) were used to form the bogus personality assessment. Effort was made to avoid including traits that were directly synonymous or antonymous with each other. In addition, it was confirmed that the positive and negative trait words were not significantly different in meaningfulness, according to Anderson's reported norms, or in familiarity, according to Kučera and Francis's (1967) frequency tables.<sup>2</sup> The 42 traits were presented in the same randomly mixed order for all participants. The remaining 36 (18 positive and 18 negative) trait words were used later, in the recognition memory test.

To create an incidental learning context, the following instructions were used:

We are interested in knowing what these traits mean to you. At a later point during this session we may be asking you to describe what you think some of these qualities represent. For now simply read the words to yourself as they appear.

Questioning during debriefing confirmed that participants did not interpret this instructions as implying that they should memorize the trait

<sup>&</sup>lt;sup>1</sup> Normalization prior to subtraction was warranted by the unequal skew of the two subscale distributions.

<sup>&</sup>lt;sup>2</sup> Obviously, negations of a word are less frequent than the word itself, though the familiarity level of the base word is shared. Several of the negative trait words were simply prefix-negated versions of positive trait words (e.g., uninteresting). In considering frequency, the positive base of the negated trait was indexed.

words. The words appeared at the center of the monitor screen in yellow lowercase characters against a dark background. The characters measured 3.5 mm  $\times$  5.5 mm. Each word was displayed for 1,500 ms with a 1,000-ms ISI of blank screen.

Once all traits had been presented, instructions appeared for a digit detection task. This was included to prevent any spontaneous rehearsal of the trait words. For each of 20 trials, a string of seven digits was displayed for 500 ms. Immediately following each display, the question "Did you see a 5?" appeared. Participants were required to press the space bar on the keyboard if they had seen the digit 5 in the string. The question was displayed for 3,000 ms and was immediately followed by the next trial. A random half of the strings contained the digit 5.

Recognition memory for the traits was then tested. All but the first six trait words seen before were used, together with the same number of new words. Thus, there were four categories of 18 words each: positive-old, negative-old, positive-new, and negative-new. New and old words had been matched as closely as possible on likableness. The 72 test words were presented serially in the same randomly mixed order for all participants. Each word remained on the screen until the participants made a new-old decision using the keys. Following the test, participants completed the SLCS to confirm their self-esteem classification.<sup>3</sup> Finally, participants were probed for suspicion and debriefed. The entire session lasted approximately 30 min.

# Results

Eleven participants were eliminated because their SLCS scores, as recorded at the end of the session, did not meet the tightly defined criteria that had originally qualified them. This elimination was justified by the theoretical aims of the study. Only those whose self-esteem was stable were desired, as the paradox under investigation involves the persistence of selfesteem. Repeated measurement was used to guard against the inclusion of participants mistakenly classified as chronic paradoxicals or nonparadoxicals because of short-term shifts in their self-esteem. Only 7% of the sample was thus eliminated, supporting the general stability of classification. Four more participants were eliminated because of suspicion toward the cover story, and two more were eliminated for failure to follow onscreen instructions. This left a final sample of 143. The pattern of loss was fairly evenly distributed across cells. Sex of participant did not qualify any of the effects to be reported and is not discussed further.

Predictions for recognition memory. Applied to memory, the heightened selectivity hypothesis predicts that paradoxicals will remember self-relevant social information better when its valence is consistent with self-liking than when it is inconsistent. Recognition memory rather than recall was examined because of the latter's greater dependence on active retrieval, involving reconstruction of a past episode from self-generated cues (Raaijmakers & Shiffrin, 1981). Recognition is somewhat less affected by voluntary or involuntary retrieval strategies and therefore is better able to isolate biases due to representational structure. Both greater conceptual elaboration during encoding (due to motivational set) and chronic hyperaccessibility of self-liking in memory-the two theoretical causes of heightened selectivity in the memory of paradoxicals-relate to representational structure. Recognition therefore seems well suited to testing the hypothesis.

A second advantage of recognition it that it provides a means of accounting for subjective decision factors that confound the measure of memory. A classic index of memory strength or sensitivity is d', which is computed to be independent of response criterion, the subjective threshold for concluding that a test item was seen before. Because criterion influences the proportion of old information correctly recognized (hits), the simple proportion is not a satisfactory measure of retention. In contrast, d' takes into account the recognition of new information, where accuracy is oppositely affected by criterion. This offsetting effectively nullifies the influence of criterion on d', making it a purer measure of retention than hit rate (Banks, 1970; Murdock, 1982; Zuroff, Colussy, & Wielgus, 1986).

Richer conceptual elaboration of words is known to improve recognition memory (Engelkamp & Zimmer, 1994; Mandler, 1980). If paradoxicals do indeed possess a motivational set that promotes greater elaboration of self-liking-consistent material relative to self-liking-inconsistent material, they should be especially good at remembering consistent material. Defining consistency on the basis of valence, paradoxical lows in the present study should exhibit relatively heightened d' for negative traits. In contrast, paradoxical highs should exhibit relatively heightened d' for positive traits.

The mirror effect in recognition memory (Glanzer & Adams, 1985; Glanzer, Adams, & Iverson, 1991) describes the tendency for any encoding factor that improves hits to also decrease false alarms (new items misjudged as old). As such, conceptual elaboration of material at the time of presentation tends to boost d' by improving accuracy in the recognition of both new and old information (Glanzer & Adams, 1990). If so, paradoxicals should have both relatively higher hits and fewer false alarms for consistent traits. However, because hit and false alarm rates considered separately are not criterion adjusted, as is d', they provide an overly noisy test of the heightened selectivity predictions, especially in a "constructed" sample, in which individual differences in criterion may loom large. As such, hits and false alarms are examined separately only for the purpose of informal comparison with the d' results, rather than as the basis for hypothesis testing.

Beyond motivational set, paradoxicals are also expected to have chronically hyperaccessible self-liking. Should this also boost d' for self-liking-consistent traits? Perhaps not. The base accessibility (before presentation) of a word in memory does not necessarily improve recognition memory for that word. In fact, it can hinder it when the incremental activation produced by presentation is proportionally less for words high in base accessibility than for words low in base accessibility. This is why low-frequency words are generally remembered better than high-frequency words in recognition tests (Mandler, Goodman, & Wilkes-Gibbs, 1982; Ratcliff, McKoon, & Tindall, 1994). Ironically, then, high chronic accessibility of self-liking (and therefore high accessibility of associated word nodes) could potentially hinder recognition memory for those words, increasing false alarms and decreasing hits accordingly. But is the high chronic accessibility of paradoxical self-liking really comparable in effect to the high chronic accessibility of high-

<sup>&</sup>lt;sup>3</sup> The possibility that the two experimental conditions differentially influenced participants' responses on the SLCS was examined. Analysis of test-retest scores revealed that this was not the case for any of the four groups.

frequency words? There is good reason to suspect a difference. The activation of self-liking presumably promotes the very motivational set argued above to boost d'. Hyperaccessibility (high chronic activation) of self-liking may therefore intensify this motivational set, indirectly facilitating, not hindering, recognition memory for consistent traits. The expected net effect of hyperaccessibility of paradoxical self-liking on d' is therefore left ambiguous. In contrast, the role of motivational set does offer clear expectations of heightened selectivity in paradoxicals, reflected in better d' for consistent traits in the self-relevant processing condition.

Analysis. d' was computed separately for positive and negative trait words, as z(proportion hits) minus z(proportion falsealarms) (see Macmillan & Creelman, 1990). Higher values reflect better memory. A total of 7 trait words (2 old and 5 new)in the memory test were correctly identified by less than 10%or greater than 90% of the participants. These words were notincluded in the computation of <math>d' because of their lack of memorial variability. Words that are too easy or difficult to remember decrease the sensitivity of d' as a measure of selectivity. Selectivity is expressed most strongly in situations where there is room for movement in either direction. Including words that are uniformly memorable or forgettable would only obscure selective memory for more discriminating words. A total of 34 old and 31 new words were used to test memory.

To see whether paradoxicals showed heightened selectivity as expected, d' values were submitted to a 2 (self-liking: low or high)  $\times$  2 (classification: paradoxical or nonparadoxical)  $\times$  2 (self-relevance: no or yes)  $\times$  2 (trait valence: positive or negative) analysis of variance (ANOVA), with trait valence a repeated variable. The cell means are displayed in Figure 1. Significant effects were found for self-liking, F(1, 135) = 11.95,

p = .0007; self-relevance, F(1, 135) = 11.15, p = .001; Self-Liking × Valence, F(1, 135) = 20.70, p < .0001; Self-Relevance × Valence, F(1, 135) = 17.91, p < .0001; and Self-Liking × Self-Relevance × Classification × Valence, F(1, 135) = 8.14, p = .005. Because the four-way interaction qualifies all other effects, it was decomposed to clarify the pattern of cell differences in line with specific predictions.

Separate 2 (self-liking)  $\times$  2 (classification)  $\times$  2 (valence) ANOVAs were conducted for the two self-relevance conditions. For participants in the non-self-relevant condition, only a significant effect for valence emerged, F(1, 67) = 5.75, p = .02, with participants generally remembering positive words better than negative. In the self-relevant condition, effects were found for self-liking, F(1, 68) = 8.43, p = .005; valence, F(1, 68)= 13.42, p = .0005; Self-Liking × Valence, F(1, 68) = 53.16, p < .0001; and Self-Liking × Classification × Valence, F(1,(68) = 9.83, p = .003. The form of the three-way interaction, which qualifies all other effects, was consistent with the heightened selectivity hypothesis. As predicted, paradoxical lows showed negative selectivity (better memory for negative than positive traits), F(1, 16) = 44.76, p < .0001, and this negative selectivity was greater in degree than that shown by nonparadoxical lows, F(1, 68) = 5.21, p = .03. Also as predicted, paradoxical highs showed positive selectivity (better memory for positive than negative traits), F(1, 17) = 10.38, p = .005, and this positive selectivity was greater in degree than that shown by nonparadoxical highs, F(1, 68) = 4.62, p = .04.

To look at the pattern of group differences in false alarm rate, a parallel 2 (self-liking)  $\times$  2 (classification)  $\times$  2 (selfrelevance)  $\times$  2 (trait valence) ANOVA was conducted on -z(false alarms). Only self-relevance, F(1, 135) = 10.41, p= .002; valence, F(1, 135) = 4.29, p = .04; and Self-Relevance



Self-Liking Classification

Figure 1. Recognition memory for positive and negative trait words as a function of self-esteem classification and self-relevance.

× Valence, F(1, 135) = 6.59, p = .04, emerged as significant. These effects were due to participants on the whole displaying fewer false alarms for negative than for positive traits in the self-relevant condition, F(1, 71) = 10.00, p = .002, but not in the non-self-relevant condition, F(1, 70) = 0.12, p = .73. Given that false alarm rate considered separately is not criterion adjusted and has even been interpreted by some as a crude index of response bias, the lack of correspondence with the d' results is not especially troubling.

A similar four-way ANOVA was conducted on z(hits). A significant four-way interaction emerged, F(1, 135) = 4.63, p = .03, roughly parallel in form with that found for d'. The greater correspondence of group differences in hits with group differences in d' than was the case for false alarms eliminates the possibility that paradoxicals were mainly distinguishing themselves in how they dealt with new items. Rather, their recognition of old items was clearly involved in their heightened selectivity: They were *remembering* consistent information better, as expected.

## Discussion

The results provide initial evidence for heightened selectivity in paradoxicals. The hypothesis was symmetrically supported, holding for both low and high paradoxical self-liking. Furthermore, the predicted pattern emerged only in the condition in which self-referential processing was induced, suggesting that the bias is dependent on activation and engagement of the selfconcept. The results can be interpreted as suggesting that paradoxicals are especially prone to greater conceptual elaboration of consistent feedback, though it is not yet known how deliberate or controllable this tendency is. If motivational set is indeed the primary basis for their deeper processing of consistent feedback, paradoxicals should also tend toward longer inspection time for consistent material when presentation rate is not controlled. This remains to be examined. As for chronic accessibility, its independent contribution to the selectivity observed is also unknown. However, given its ambiguous theoretical relation to recognition memory in the present context, it is doubtful that it played a major role in producing heightened selectivity (see also Teasdale, Taylor, Cooper, Hayhurst, & Paykel, 1995). A means of distinguishing mnemonic effects due to motivational set from those due to chronic accessibility of self-liking would be desirable in future work.

Trait words were used here as social feedback: how others viewed the participants. This applies equally to all words in the set. However, the words differed unsystematically in their semantic content, with some more closely associated with self-liking and others with self-competence. To examine whether this distinction was important for the selectivity shown, the 34 old words used in the analysis were categorized by two independent judges unfamiliar with the hypothesis as being either closer in meaning to self-liking or to self-competence. The judges agreed on 32 of the 34 words and decided on the remaining two through discussion. This resulted in 20 (8 positive and 12 negative) self-liking and 14 (9 positive and 5 negative) self-competence words. Despite the questionable reliability of gauging memory for such small numbers of items, d' was computed separately for the four different groups of words. This allowed semantic category

(liking vs. competence) to be added as a second repeated variable to the original four-way ANOVA. No significant effects involving semantic category emerged, suggesting that the specific meaning of the words was less important than their general valence. This is perhaps not surprising in consideration of the contextual significance of the words.

Participants in the self-relevant condition believed they were learning how others viewed them, according to their personality type. It is therefore highly likely that they were spontaneously considering how well the trait words matched with how they saw themselves. This entails reflexive judgment of oneself as a social object (i.e., "Am I the kind of person who can be seen as being ?"). Self-awareness of this form may engage selfliking more than it does self-competence, given the hypothetical origins of the latter in agency rather than social appraisal. In this context, competence-related words would be elaborated on primarily in terms of their social valuative significance. The word capable, for example, not only reflects the experience of personal agency but is also a socially valued characteristic relevant to assessing the worth of others and oneself. Thus, the contextual demands of processing may have diminished the relevance of semantic category for selectivity. The words, however, had not been selected to cleanly represent self-liking and selfcompetence. Categorization was post hoc, and many of the words were only weakly reflective of the self-esteem dimensions. Hence, the lack of any semantic effects beyond valence should not be overinterpreted. Clearer is the finding that valence matters: Paradoxicals exhibited the predicted selectivity when consistency of self-liking with social feedback was defined in terms of gross positivity and negativity.

If selective memory in paradoxicals is one form of a more general selectivity in social information processing, as argued, then additional forms should be demonstrable. The hypothesis would be challenged if heightened selectivity were found to be limited to recognition memory. In the second study, participants were required to interpret the affective meaning of ambiguous phrases by imagining how they might be used in social situations. Paradoxicals were expected to show heightened bias in interpretation.

#### Study 2

# Overview

Paradoxical and nonparadoxical participants read common conversational phrases. The affective meaning of some of the phrases was ambiguous with regard to social approval or disapproval. Some participants imagined speakers directing the phrases at them in conversation. Others imagined speakers directing the phrases at other people. Participants then judged the degree of positive or negative attitude toward the target on the part of the speaker. It was predicted that paradoxicals would be especially likely to imagine self-directed phrases being used in a manner consistent with their level of self-liking. This is based on the premise that both motivational set and chronic hyperaccessibility of self-liking facilitate consistent scenarios coming to mind.

### Method

Participants. One hundred sixty participants (77 men and 83 women) meeting the same criteria as in Study 1 were recruited by

telephone to take part in two successive experiments, only the first of which is relevant here. As before, 40 participants made up each of the four self-esteem groups. The mean self-liking and self-competence scores were 29.4 and 47.3 for paradoxical lows, 43.0 and 37.6 for paradoxical highs, 30.2 and 37.6 for nonparadoxical lows and 43.0 and 46.3 for nonparadoxical highs. The modal age was 18.

Procedure. Participants were tested in the same computer-equipped room used in Study 1 and were assigned to one of two conditions using within-group alternation. On-screen instructions were used. All participants learned that they would be presented with phrases frequently used in everyday speech. Participants in the self-as-target condition were instructed to read each phrase carefully before closing their eyes and imagining a social situation in which someone was directing the phrase at them. It was emphasized that a different situation and different speaker were to be conjured up for each phrase. Having visualized a situation in which they were the target of the phrase, participants were then required to decide whether the phrase had been used by the imaginary speaker in a way that suggested positive or negative feeling toward them. Even when the perceived affect was unclear, participants were required to make a positive-negative decision. After making the judgment, participants rated the intensity of the positive or negative feeling on a 5-point scale, with higher ratings indicating more intense feeling. Participants in the other-as-target condition received the same instructions with the exception that they were required to imagine each phrase being spoken by and directed at persons other than themselves. It was emphasized that a different speaker and different target were to be visualized for each phrase.

Paradoxicals are characterized as having chronic hyperaccessibility of self-liking and as motivated to draw self-liking-consistent significance from self-relevant social information. These features should bias the valuative interpretation of ambiguous social feedback, even when that feedback is merely imagined. Heightened self-liking-consistent bias on the part of paradoxicals was therefore predicted, with paradoxical lows showing negative bias and paradoxical highs showing positive bias, both absolutely and relative to nonparadoxical groups. Moreover, the bias should be evident only when the self is squarely referenced in the course of judgment (self-as-target condition). When it is not (other-as-target condition), bias should not appear.

A total of 39 phrases were selected from a much larger set that had been pilot tested on a sample of introductory psychology students (N = 122). The phrases had been judged as either positive or negative in affective meaning, with no neutral option. Thirteen phrases that had been judged positive by at least 80% of the pilot sample (e.g., "I have faith in you") were used as positive phrases in the present study. Thirteen phrases that had been judged negative by at least 80% of the sample (e.g., "I want to forget about you") were used as negative phrases. Finally, 13 phrases that had been judged positive by 40–60% of the sample (e.g., "What did you say?") were used as ambiguous phrases.

All participants viewed the phrases in the same randomly mixed order. Each phrase appeared as a complete sentence centered on the screen and was replaced by the next phrase only after it had been judged and rated. Once the last phrase had been rated, participants completed the SLCS before taking part in a second, unrelated study.<sup>4</sup> Participants were fully debriefed regarding both studies before being dismissed. The entire session lasted approximately 60 min.

## Results

Thirteen participants were eliminated from the analysis because their self-liking and self-competence scores at the time of the experiment did not meet the selection criteria that had previously qualified them. This left 147 participants for analysis. Sex of participant did not qualify any of the effects to be reported and is not discussed further.

For each phrase, the intensity rating was given a positive sign if the phrase had been judged positive and a negative sign if the phrase had been judged negative. Thus, the resulting affective rating ranged from -5 to 5. Ratings were averaged within each of the three phrase valence types (positive, negative, and ambiguous). These mean ratings were submitted to a 2 (self-liking)  $\times$  2 (classification)  $\times$  2 (target: self or other)  $\times$  3 (phrase valence: positive, negative, or ambiguous) ANOVA, with phrase valence included as a repeated variable (see Figure 2 for means). Significant effects emerged for self-liking, F(1, 139)= 6.93, p = .009; phrase valence, F(2, 278) = 1791.76, p <.0001; the Self-Liking  $\times$  Phrase Valence interaction, F(2, 278)= 6.03, p = .003; and the Self-Liking × Classification × Phrase Valence  $\times$  Target interaction, F(2, 278) = 5.60, p = .004. Because the four-way interaction qualifies all other effects, further analyses were conducted to break it down.

First, 2 (self-liking) × 2 (classification) × 3 (phrase valence) ANOVAs were conducted separately for the two target conditions. For the other-as-target condition, only the obvious effect for phrase valence emerged as significant, F(2, 144) = 927.72, p < .0001, with positive phrases receiving a more positive average rating and negative phrases receiving a more positive average rating and negative phrases. For the self-as-target condition, in contrast, significant effects emerged for self-liking, F(1, 67) =7.45, p = .008; phrase valence, F(2, 134) = 868.68, p < .0001; the Self-Liking × Phrase Valence interaction, F(2, 134) = 7.16, p = .001; and the Self-Liking × Phrase Valence × Classification interaction, F(2, 134) = 6.22, p = .003.

To reveal the nature of the three-way interaction in the selfas-target condition, 2 (self-liking)  $\times$  2 (classification) ANOVAs were conducted separately for the three phrase valence types. No significant effects were found for the positive or negative phrases. For the ambiguous phrases, however, effects emerged for self-liking, F(1, 67) = 13.33, p = .0005, and the Self-Liking  $\times$  Classification interaction, F(1, 67) = 8.42, p = .005. The form of the interaction was in line with predictions. That is, planned comparisons confirmed that paradoxical lows were more negative than nonparadoxical lows in their interpretation of ambiguous phrases, F(1, 67) = 4.49, p = .04. Also as expected, paradoxical highs were more positive than nonparadoxical highs in their interpretation of these phrases, F(1, 67) =3.95, p = .05.

Paradoxicals were also biased in the absolute sense. Recall that phrases were considered ambiguous if they were individually judged positive by 40–60% of the pilot sample. On average, the 13 ambiguous phrases were rated as positive by 49% of the pilot sample—virtual perfect ambiguity. This implies that in the present experiment, any significant deviation from zero in the average affective rating of ambiguous phrases can be taken as evidence for selectivity.<sup>5</sup> The hypothesis predicts negative absolute selectivity on the part of paradoxical lows. Testing their group mean against zero confirmed this, t(67) = -4.38, p < .0001. The hypothesis also predicts positive absolute selectivity

<sup>&</sup>lt;sup>4</sup> Analysis of test-retest SLCS scores again revealed no effect of condition on self-esteem.

<sup>&</sup>lt;sup>5</sup> In the aggregate, ratings of intensity were symmetric for positive and negative interpretations of ambiguous phrases. Hence, the average affective rating should be zero for groups showing no selectivity.



Figure 2. Affective rating of conversational phrases as a function of self-esteem classification, target, and valence.

Andersen, 1996).

on the part of paradoxical highs. Testing the group mean against zero confirmed this, too, t(67) = 2.16, p = .03. In contrast, neither of the nonparadoxical groups showed significant absolute bias.

Discussion

# General Discussion

to divorce self from speaker in considering what is brought to

mind, for the two are interdependent (Baldwin, 1992; Hinkley &

# Participants in Study 2 used either themselves or others as the contextual target in interpreting the social significance of conversational phrases. As expected, the groups distinguished themselves only when using themselves as the target. When paradoxical lows imagined themselves as the target of valuatively ambiguous phrases, their judgments of the speaker's attitude reflected a negative interpretive bias. In line with prediction, this bias was greater for them than for nonparadoxical lows. Symmetrically, paradoxical highs produced judgments reflecting a positive interpretive bias that was greater in degree than that of their nonparadoxical counterparts.

It is assumed that bias in the generation of hypothetical situations occurred as a function of stable self-conceptions. Alternatively, it might be argued that group differences were caused by differences in the type of *speakers* brought to mind. This suggestion, however, loses force when one recognizes that group differences emerged only in the self-as-target condition. If the groups differed in the sort of speakers brought to mind only when thinking of *themselves* being spoken to, then the self is clearly implicated. Furthermore, if the self-as-target situation is construed in social-relational terms, then it makes little sense In both memory for feedback and interpretation of phrases, paradoxicals were more biased in the direction of their selfliking than were nonparadoxicals. The parallel results for two very different forms of cognitive activity support the argument that paradoxicals have a general tendency toward heightened bias in how they deal with social information. Both expressions of selectivity, however, were limited to self-relevant forms of processing, suggesting that the generality is qualified by context. In line with the claim that the selectivity under investigation is dependent on activation and engagement of the self, paradoxicals were not distinctive in how they processed social information relating to others.

The confirmation of heightened selectivity in paradoxicals warrants direct testing of its hypothesized functional significance. Critical here are studies simultaneously tracking change in selectivity, self-liking, and social approval to discover their precise interrelations. Longitudinal investigation would reveal whether cognitive tailoring of social feedback does indeed promote the persistence of paradoxical self-liking as expected. Evidence for a supporting role would invite linkages with more general social–cognitive processes.

# Paradoxical Self-Liking: A Challenged Attitude

The present findings fit with the claim that paradoxicals are actively engaged in a defensive effort to sustain their socially unsupported level of self-liking. Such motivated bias would be augmented over time by the more passive chronic accessibility to which it gives rise. Theoretically, then, if a stable paradoxical were to suddenly become devoid of any enduring drive to confirm self-liking, the hyperaccessibility of self-liking resulting from past motivational investment would persist for some time thereafter (see Higgins & King, 1981). This chronic accessibility could produce selectivity independent of motivational set, especially for aspects of information processing strongly associated with unconscious influence, such as perceptual fluency (Johnston, Dark, & Jacoby, 1985). More generally, the likely interplay of "hot" and "cold" factors underlying paradoxical selectivity recommends against considering its proximate causes exclusively motivational or cognitive (cf. Tetlock & Levi, 1982). Even in the case of recognition memory, in which motivational set is the likely cause of selectivity, the exact role of chronic accessibility remains unclear.

A second complexity arises when considering paradoxicality as potential ambivalence. Ambivalent attitudes have been defined as those consisting of valuatively contradictory dimensions (Thompson & Zanna, 1995). As self-competence and self-liking are both valuative dimensions, the paradoxical's chronic orientation to self is both positive and negative. One way to construe paradoxical self-esteem, then, is as an ambivalent or conflicted attitude. Insofar as such conflict results in internal tension when the attitude is activated, as has been shown for social beliefs (e.g., Hass, Katz, Rizzo, Bailey, & Moore, 1992), paradoxical self-esteem may have negative emotional consequences. This tension would be independent of that caused by social feedback discrepant with self-liking. Identifying paradoxical self-esteem as an ambivalent attitude may, however, be unjustified. Selfliking and self-competence are semantically distinct attitudes. Just as it is possible to see oneself as intelligent but lazy or as ugly but charming without experiencing any psychic discomfort, there is little reason to expect that contrast between the two dimensions of self-esteem is inherently problematic. Recall that it is paradoxicals' presumed awareness of the esteem in which they are held by others-not their self-competence per sethat is expected to directly contradict and therefore threaten their self-liking. Furthermore, no evidence for greater depressive affect in paradoxicals was found in the preliminary investigation. This hints that they are not more emotionally distressed than their nonparadoxical counterparts, arguing against the possibility of significant internal tension due to ambivalence.

Though it is tempting to cast paradoxicals as an exotic personality type, such a definition obscures their larger significance. It is likely that the heightened selectivity of paradoxicals is not a peculiarity of social cognition but rather an intensified expression of normal processes. After all, *situational* parallels to the chronic challenge of paradoxicals are commonplace. The average person frequently contends with feedback that contrasts with self-liking. In such situations, compensatory reactions often ensue (Greenberg & Pyszczynski, 1985), just as they do for disconfirmed social attitudes (Kunda & Oleson, 1995; Seta & Seta, 1993). If one extends the parallel, it is possible that attitude-consistent selectivity is transiently heightened in such situations, for the same basic defensive reason that paradoxicals are hypothesized to become chronically selective. If so, the main import of paradoxicals for social cognition may be their potential to vividly portray a common consistency phenomenon in the form of an uncommon personality. In the same way that a hyperactive gland highlights normal endocrine function, the paradoxical may provide an emphatic representation of our own confirmatory tendencies. Also in this respect, the present findings may be relevant for other *stable* paradoxical attitudes those that persist despite frequent disconfirmation. For example, we might expect doting parents whose cherished child is prone to wrongdoing to be especially selective in their perception, interpretation, and memory of the child's behaviors.

### The Paradox as Personality

Bearing in mind the hazards of "typologizing" paradoxical self-esteem at this early point, its superficial resemblance to types previously described in the literature warrants some discussion. Two topics appear relevant: the *impostor phenomenon* and *defensive pessimism*.

The impostor phenomenon, originally described by Clance and Imes (1978), refers to a sense of intellectual phoniness or inauthenticity felt by some high-achieving individuals. Impostors feel that they are less competent than others believe them to be-that they are truly incompetent and have fooled others into believing otherwise through sheer luck or effort (King & Cooley, 1995; Langford & Clance, 1993). Their sense of pretense results in generalized anxiety, lack of self-confidence, and often depression. How does this phenomenon fit with paradoxical self-esteem? The high self-competence of paradoxical lows was measured using the SLCS, implying that they responded affirmatively to items such as "Owing to my capabilities, I have much potential," "I am talented," and "I am a capable person." Such a response pattern does not fit with the doubt in one's abilities that characterizes the impostor. The low self-competence of paradoxical highs, on the other hand, is consonant with the impostor phenomenon. However, the heightened positive selectivity in memory and interpretation shown by paradoxical highs contrasts with the impostor's tendency to deflect or undermine positive social feedback (Clance & Imes, 1978). Moreover, paradoxical highs appear to like themselves, whereas impostors do not. Clearly, paradoxicals and impostors appear to be quite distinct types.

The strategy of defensive pessimism (Norem & Cantor, 1986) involves setting low expectations and thinking through possible negative outcomes before engaging in an activity. Such anticipatory negativity allows the defensive pessimist to focus on how things might go wrong and to implement strategies aimed at avoiding these possibilities. Negativity also affords a degree of preparedness for failure should it occur. As such, defensive pessimism can be an adaptive strategy for anxiety-prone individuals (Norem & Illingworth, 1993; Showers, 1992).

The negativity of paradoxical lows seems at first to bear some resemblance to the negativity of defensive pessimists. There are at least two reasons, however, for viewing the phenomena as distinct. First, defensive pessimism produces negative focus in anticipation of performance, whereas the negative selectivity of paradoxicals, as found here, applies to social feedback. Second, the lowered expectations that reflect defensive pessimism should reduce deflation and distress in the face of ultimate failure. Paradoxical lows, in contrast, have been shown to be highly reactive to failure: They suffer an especially sharp decrement in persistence relative to other groups (Tafarodi & Vu, 1997). Such a tendency does not fit well with the motivational features believed to characterize defensive pessimism (Showers, 1992). These differences suggest distinct dispositions.

A hitherto unaddressed aspect of the paradoxical personality is why paradoxicals dislike or like themselves in the first place. Some speculation is perhaps appropriate here. As the basis for paradoxicals' self-liking is not found in their regular social feedback (which is expected to be contradictory) or in their selfperceived competence, the answer must lie elsewhere. One possibility is that paradoxicals possess an especially vivid core of self-liking formed early in development as a result of parentchild dynamics, perhaps before personal competence has much to do with received love and acceptance (Bowlby, 1985; Guidano & Liotti, 1983). The emotional quality of this core would render it hard to verbalize and confront later in development, as well as reduce its sensitivity to modification through subsequent social experience or self-perceived competence-even where that experience and competence consistently contradict it. The core itself may be based on intense emotional memories that determine fear of and attraction to others. Insofar as this early social conditioning involves subcortical neural pathways, it would be highly resistant to extinction (LeDoux, Romanski, & Xagoraris, 1989). The impact of early conditioning on how social responses are internalized and synthesized into the "generalized other" of emergent self-awareness may be profound, with lasting implications for self-liking. Thus, aspects of early social experience may be critical to the genesis of paradoxical self-esteem.

#### Concluding Comments

The pronounced selectivity of paradoxicals attests to the selfsustaining power of attitudes. As a chronically challenged selfconception, paradoxical self-liking appears to be associated with consistency biases that affect how self-relevant communication is experienced. This implies a considerable resistance to change. Just how representative self-liking is of other central attitudes remains to be seen, but there is no reason at this time to think that its capacity for preservation is anomalous. Any important belief is likely to behave tenaciously under fire. The unanswered issues surrounding paradoxical selectivity are many: its semantic and contextual specificity, the separate and interactive contributions of motivational set and chronic accessibility, its range with regard to other aspects of social information processing, its reciprocal causal relations with self-esteem, its sensitivity to executive control. Pursuit of these questions may shed light not only on the Richard Corys of the world but on attitude dynamics in general.

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