

- Sorrentino & E. T. Higgins (Eds.), *Handbook of motivation and cognition: Foundations of social behavior* (pp. 350-378). New York: Guilford.
- Warren, L. W., & McEachren, L. (1983). Psychological correlates of depressive symptomatology in adult women. *Journal of Abnormal Psychology, 92*, 151-160.
- Weary, G., Elbin, S., & Hill, M. G. (1987). Attributional and social comparison processes in depression. *Journal of Personality and Social Psychology, 52*, 605-610.
- Weary, G., Jordan, J. S., & Hill, M. G. (1985). The attributional norm of internality and depressive sensitivity to social information. *Journal of Personality and Social Psychology, 49*, 1283-1293.
- Weissman, A. N., & Beck, A. T. (1978). *Development and validation of the Dysfunctional Attitude Scale: A preliminary investigation*. Paper presented at the annual convention of the American Educational Research Association, Toronto.
- Weissman, M. A., Sholomskas, D., Pottinger, M., Prusoff, B. A., & Locke, B. Z. (1977). Assessing depressive symptoms in five psychiatric populations: A validation study. *American Journal of Epidemiology, 106*, 203-214.
- Wills, T. A. (1981). Downward comparison principles. *Psychological Bulletin, 90*, 245-271.

LONELINESS AND THE PROCESSING OF SELF-RELEVANT INFORMATION

AMY FRANKEL AND STEVEN PRENTICE-DUNN
University of Alabama

Drawing from the social cognition literature, this study investigated whether lonely peoples' self-schemata lead them to preferentially process negative self-information. Male college students were designated as high- or low-lonely based on Revised UCLA Loneliness Scale scores. After brief interactions with a male or female experimental assistant, subjects viewed prerecorded videotapes depicting positive, neutral, or negative feedback. Subsequently, subjects' performance self-ratings and recognition of the feedback were assessed. Results supported a selective-attention bias such that high-lonely subjects were less likely to misidentify previously seen negative feedback than were low-lonely subjects. In contrast, low-lonely subjects made fewer recognition errors than high-lonely subjects in the positive feedback condition. A tendency for high- and low-lonely subjects to more accurately remember negative and positive information, respectively, was also obtained.

The tendency of lonely individuals' tendencies to self-derogate and expect rejection may interfere with both the development and maintenance of satisfying relationships (See reviews by Hojat & Crandall, 1987; Jones, 1982). However, the means by which such behaviors affect relationships have not been fully specified (Paloutzian & Janigian, 1987). Recent literature on social cognition indicates that the general ideas people have about themselves, called self-schemata, influence their processing of self-relevant information (e.g., Katz, 1987; Markus & Sentis, 1982; Shrauger, 1982; Suls & Greenwald, 1986). Although self-schemata allow people to process information about themselves quickly and confidently, such knowledge structures may also lead individuals to distort their actual social realities by influencing the new information that will be attended to, interpreted, and stored (e.g., Fong & Markus, 1982; Markus, 1977; Markus, Hamil,

The authors gratefully acknowledge the assistance in data collection of Chuck Chamblee, Brian Ganus, Kim Gochneaur, Arlene Kock, Angie Lyle, and Bruce Rye. In addition, the associate editor and anonymous reviewers of an earlier version of the manuscript contributed several helpful suggestions. Requests for reprints should be addressed to Steven Prentice-Dunn, Department of Psychology, University of Alabama, Box 870348, Tuscaloosa, AL 35487-0348.

& Sentis, 1987). Many studies have demonstrated that self-schemata are resistant to inconsistent information (Shrauger, 1982; Swann & Reid, 1981a; Sweeney & Moreland, 1980; Markus & Sentis, 1982) and that one's memory for information is affected by self-schemata (e.g., Katz, 1987; Markus & Zajonc, 1985; Suinn, Osborne, & Page, 1962).

Based on the evidence indicating the effects of self-schemata on information processing, researchers have begun to explore the relation between self-schemata and psychopathology in an effort to link various psychological disorders with distorted information processing. In a series of studies, Kuiper and his colleagues (Derry & Kuiper, 1981; Kuiper & Derry, 1981, 1982; Kuiper, MacDonald, & Derry, 1983) demonstrated that depressed subjects recalled more depressed than nondepressed self-referenced words. Indeed, a tendency to recall self-deprecatory information selectively has also been found for subjects scoring high on measures of neuroticism (Martin, Ward, & Clark, 1983; Young & Martin, 1981) and social anxiety (Clark & Arkowitz, 1975; O'Banion & Arkowitz, 1974).

Given that loneliness has been found to be correlated with depression (e.g., Anderson & Arnoult, 1985; Anderson & Harvey, 1988), social anxiety (e.g., Anderson & Harvey, 1988), and neuroticism (e.g., Hojat, 1987; Stokes, 1985), lonely individuals' poor social self-concepts (Goswick & Jones, 1981; Spitzberg & Canary, 1985; Spitzberg & Hurt, 1987; Vaux, 1988), self-derogatory behaviors (e.g., Jones, Freeman, & Goswick, 1981), and perceived lack of control over outcomes (e.g., Solano, 1987) may influence their perceptions of social exchanges by leading them to process negative self-relevant material preferentially. Such distorted information processing would undoubtedly hinder satisfying interpersonal relations and help to create and maintain the experience of loneliness.

In the present study, subjects received interpersonal performance feedback following interactions with an experimental assistant. In addition, participants completed self-evaluations of their interpersonal performances. Subsequently, subjects' abilities to identify correctly the cues they had received during the feedback were assessed by calculating the accuracy scores and intrusion errors for each subject. Specifically, three variables were investigated in a $2 \times 3 \times 2$ factorial design: loneliness (low vs. high), performance feedback (positive vs. neutral vs. negative), and sex of partner (male vs. female).

The purposes of the present investigation were twofold. First, by manipulating the type of feedback subjects encountered and assessing their performance self-evaluations, an assessment was made of whether lonely individuals' tendencies toward self-derogation persisted despite social reinforcement to the contrary. Second, two possible mechanisms involved in the maintenance of lonely peoples' negative evaluations of their performances were investigated.

In examining the recall of positive and negative personality information by subjects scoring high in neuroticism, Martin, Ward, and Clark (1983) advanced two possible explanations for subjects' more accurate recall of negative information by those subjects (Young & Martin, 1981): the selective attention and generation hypotheses. First, they hypothesized that selective attention to negative information may have been responsible for the observed effect, as higher levels of retention have been found for attended versus unattended material (e.g., Martin, 1978). Alternatively, the differential recall pattern may have been due to subjects' tendencies to more freely generate negative, rather than positive, information about themselves.

Martin et al. argued that the selective attention and generation hypotheses could be empirically distinguished by studying subjects' patterns of intrusion errors. In the present study, negative intrusions were those items from the negative feedback condition which were falsely identified by subjects as having previously been encountered. Conversely, positive intrusions were defined as items from the positive feedback condition that were similarly misidentified.

If selective attention were responsible for the differential processing of negative information high-lonely individuals, a planned comparison should demonstrate that high-lonely subjects in the negative feedback condition have fewer negative intrusions than do subjects in the low-lonely, negative feedback condition. This is because, if subjects attend mainly to negative cues, they should more accurately recognize those cues. Alternatively, the generation hypothesis predicts that as more negative information is remembered correctly, there would be an increase in negative intrusions because subjects would be likely to identify any new, unrepresented negative information as having previously been encountered; thus, a main effect of loneliness on negative intrusions would be expected.

Regarding positive intrusions, the generation hypotheses predicts a main effect of loneliness on intrusions: Low-lonely subjects would make more positive intrusions than high-lonely subjects because their self-schemata contain a greater number of positive self-generalizations than do those of high-lonely subjects (Bradley & Mathews, 1983; Kuiper et al., 1982, 1983). However, the selective attention hypothesis suggests that in the positive feedback condition, fewer positive intrusions would be made by low-lonely subjects than high-lonely subjects. Lewinsohn, Mischel, Chaplin, and Barton (1980) found that normal individuals tend to be characterized by a "glow that involves an illusory self-enhancement in which one sees oneself more positively than others see one" (p. 210). Such a positive glow may lead to greater attention to, and memory for, positive self-information (Mischel, Ebbesen, & Zeiss, 1973).

Finally, Suinn et al. (1962) demonstrated that the degree of accuracy of self-related information is a function of the degree of inconsistency between the self-concept and the new material. Therefore, because positive self-information regarding interpersonal performance was presumed to be inconsistent with high-lonely subjects' negative self-schemata, they were expected to obtain lower accuracy scores than low-lonely subjects in the positive feedback condition, but more accurate scores in the negative feedback condition.

METHOD

SUBJECTS

Initially, a large group of male introductory psychology students completed the 20-item, Revised UCLA Loneliness Scale (Russell, Peplau, & Cutrona, 1980) during a pretest session. Previous research on the UCLA with college populations has yielded approximately equivalent means and standard deviations (e.g., Russell et al., 1980; Sloan & Solano, 1984). Based on these studies, a weighted mean and standard deviation were computed ($M = 38.1$, $SD = 10.5$) and were not significantly different from the current sample ($M = 35.7$, $SD = 8.68$, $p > .05$).

From the original pool of males, 144 subjects were designated as either high-lonely (at least one standard deviation above the mean) or low-lonely (at least one standard deviation below the mean). Further, subjects were randomly assigned to a male or female partner and to one of three performance feedback conditions (positive vs. neutral vs. negative). Thus, all cells contained 12 subjects, with the exception of 11 in the conditions of low lonely-positive feedback-female partner and low lonely-neutral feedback-female partner. Data from these two subjects were deleted due to the correct listing of an experimental hypothesis on a suspicion questionnaire.

MEASURES

Postinteractional self-evaluation. Following brief dyadic interactions and videotaped interpersonal performance feedback, subjects were asked to rate themselves on an inventory consisting of 12 adjective scales. These adjectives were drawn from the 17 desirable attributes used by Lewinsohn et al. (1980) to measure social skills and interpersonally observable and important attitudes; only the 12 adjectives designed to assess social skills were used. Each adjective was followed by a 7-point rating scale on

which subjects indicated self-perceptions of their performances during the interactions. Scores on each scale were summed to yield an overall measure of evaluation. Higher scores were indicative of more positive evaluations.

Recognition test. Subjects' memories of the videotaped feedback were assessed on the recognition test. The recognition test consisted of 72 verbal and nonverbal interpersonal descriptors divided equally among the three feedback types (24 positive, 24 neutral, and 24 negative descriptors). Further, one-half of the descriptors in each feedback category were duplicates of those actually presented on the various feedback videotapes. The remaining 12 items in each feedback category were entirely new descriptors, none of which were previously seen on any of the videotapes. Subjects were asked to identify which of the descriptors their partners had or had not used on the prior feedback videotapes by answering "yes" in the former case and "no" in the latter. Each subjects' ability to correctly discriminate between the old and new items was assessed by an accuracy score, a tally of the correctly identified old items. Both positive and negative intrusion errors were also calculated for each subject.

PROCEDURE

Subjects were tested in groups of two; one being a naive participant, the other an experimental assistant. Subjects were informed that the purpose of the study was to explore the manner in which people form first impressions of others. Subjects then engaged in 5-minute interactions, following which they were separated and instructed to evaluate their interaction partners.

The experimenter informed subjects that they had been randomly selected to describe their partners in written form while their partners' evaluations of them would be videotaped. Subjects were instructed to complete a partner evaluation form on which they described their impressions of their partners' personalities and their opinions of their partners' competencies as friends and coworkers. Although such information was not analyzed, it served to make the cover story more plausible and to make the feedback subjects received from their partners seem more credible.

Subjects had 5 minutes to complete the form while the experimenter ostensibly videotaped their partners' feedback. Subjects were then allowed to view the feedback videotapes. In reality, subjects were shown one of three previously recorded videotapes depicting their partners presenting either positive, neutral, or negative feedback concerning the impressions

they had formed of the subjects. For example, frequent smiling and statements indicating a favorable impression were seen in the positive condition, whereas behaviors indicative of boredom and comments suggesting extreme dissatisfaction were viewed in the negative condition. The neutral tape was a combination of behaviors previously rated as slightly positive and slightly negative. Each videotape consisted of an equal number of descriptors that were found in previous research (Frankel et al., 1986) to convey the intended message. After viewing the feedback tapes, subjects completed the postinteractional self-evaluation forms and the recognition test. Upon completion of these measures, a suspicion questionnaire concerning experimental manipulations, hypotheses, and previous knowledge of the study was administered to subjects. Afterward, they were fully debriefed, using Mills' (1976) recommendations for studies employing deception.

RESULTS

PRELIMINARY ANALYSES

Sex of partner did not significantly affect self-ratings $F(1, 130) = .91, p > .34$. Similar results were obtained on a multivariate ANOVA on the recognition test measures, $F(3, 128) = 1.48, p > .22$. Based on these results, the data from subjects' interacting with the male assistants were combined with the data from subjects who had female interaction partners.

SELF-RATINGS

High-lonely subjects ($M = 55.0$) rated themselves more negatively than low-lonely subjects ($M = 64.2$), $F(1, 130) = 78.66, p < .0001$. Performance feedback also significantly affected subjects' self-ratings, $F(2, 130) = 9.87, p < .0001$. Scheffé *t*-tests indicated that subjects who received positive feedback ($M = 62.6$) rated themselves more positively than subjects who received either neutral ($M = 56.9, p < .01$) or negative ($M = 59.2, p < .05$) feedback. The difference between subjects viewing neutral and negative feedback was not significant ($p > .10$). Finally, the interaction effect was not significant.

RECOGNITION MEASURES

A multivariate ANOVA using negative intrusions, positive intrusions, and accuracy as dependent variables revealed a main effect for performance

feedback, $F(6, 256) = 40.13, p < .0001$. However, this effect was qualified by a significant Loneliness \times Performance feedback interaction, $F(6, 256) = 3.13, p < .005$. Finally, the main effect for loneliness was not significant, $F(3, 128) = .64, p > .59$. Subsequent univariate effects were therefore not examined for loneliness.

Negative intrusions. The lack of a significant multivariate main effect for loneliness on the recognition measures provided no support for the generation hypothesis. However, a planned comparison of two cells supported the selective-attention hypothesis (see Table 1): High-lonely subjects made fewer negative intrusions in the negative feedback condition than did low-lonely subjects viewing the same feedback videotape ($p < .05$).

Univariate analysis of variance also revealed a significant main effect of feedback on negative intrusions, $F(2, 130) = 109.32, p < .0001$. Subjects in the negative feedback condition ($M = 4.3$) made more negative intrusions than subjects in the neutral feedback condition ($M = 1.3$), who in turn made more of such errors than subjects in the positive feedback group ($M = .06$, all $ps < .005$.)

Positive intrusions. Once again, evidence for the generation hypothesis was not found due to the nonsignificant multivariate main effect of loneliness on the recognition measures. However, comparison of the two cells suggested by the selective-attention hypothesis indicated that high-lonely subjects made more positive intrusion errors after viewing positive feedback than did low-lonely subjects ($p < .01$) in the same feedback condition (see Table 1). Univariate analysis revealed a significant effect of feedback on positive intrusions, $F(2, 130) = 49.98, p < .0001$. However, the main effect of performance feedback must be interpreted in light of a significant Loneliness \times Performance feedback interaction, $F(2, 130) = 4.91, p < .008$. High-lonely subjects made more positive intrusions than low-lonely subjects when both groups viewed positive feedback ($p < .05$), but the differences between the high- and low-lonely groups in the neutral feedback condition and the negative feedback condition were not significant (both $ps > .75$).

Accuracy scores. The Loneliness \times Performance Feedback interaction reached significance, $F(2, 130) = 3.35, p < .04$. Although not reaching conventional levels of significance, there was a trend in the predicted direction for cell comparisons on accuracy scores. Low-lonely subjects in the positive feedback condition tended to be more accurate than high-lonely subjects in that feedback condition ($p < .10$). Further, in the negative feedback condition, the difference between the high-lonely group and the low-lonely group approached significance ($p < .08$). Means for the high-lonely and low-lonely groups receiving neutral feedback were nearly identical. Finally, the main effect of performance feedback did not reach significance.

DISCUSSION

The present study was designed to expand upon previous research (e.g., Jones, Sansone, & Helm, 1983) examining the negative self-evaluations made by lonely people following social interactions and to explore the possibility that the negative self-schemata held by such individuals interfere with their information processing. The results of this investigation suggest that distortion in perception occurs in the early stages of information processing, such that lonely individuals selectively attend to negative self-relevant information.

As predicted, loneliness clearly was related to subjects' postinteractional self-ratings in this study. Despite the nature of the performance feedback they received, lonely subjects consistently displayed the well-documented tendency toward self-derogation (e.g., Jones et al., 1981) when evaluating their own interpersonal performances. In the present research, self-ratings were also affected by the type of performance feedback subjects received. For high-lonely subjects, the results indicating more favorable self-ratings after viewing positive feedback may appear contradictory to the assumption that people strive to maintain consistency in self-image. However, the work of Swann and Hill (1982) suggests that such changes are likely to be temporary.

The results of the recognition test indicated that loneliness may have interfered with accurate information processing, although not in a simplistic way. Similar to the outcome of the Martin et al. (1983) study, the current findings support the selective-attention hypothesis rather than the generation hypothesis. In particular, the effects of loneliness may have been functional during initial encoding of information, apparently aiding lonely subjects in later recognizing the negative feedback they had seen. As a result, high-lonely subjects were less likely than low-lonely subjects to confuse new negative stimuli with previously seen negative information. These findings corroborate previous research, indicating that people are more likely to attend to information that is consistent with their self-schemata (e.g., Mischel et al., 1973; Shrauger, 1982; Swann & Read, 1981a, 1981b).

With regard to positive intrusions, the results were also in line with the selective-attention hypothesis. Thus, high-lonely subjects who received positive performance feedback made more positive intrusions than low-lonely subjects who received the same feedback. No such difference was obtained between high- and low-lonely subjects in the other feedback conditions. Even low-lonely participants who viewed neutral feedback interpreted such feedback in ways that would confirm their more positive self-views (cf. Lewinsohn et al., 1980; Swann & Read, 1981b).

TABLE 1
Mean Recognition Variable Scores as a Function of Loneliness and Performance Feedback

	HIGH-LONELY		LOW-LONELY	
	NEGATIVE INTRUSIONS	POSITIVE INTRUSIONS	NEGATIVE INTRUSIONS	POSITIVE INTRUSIONS
Negative feedback	3.9	.1	4.8	.04
Neutral feedback	1.3	1.6	1.3	2.6
Positive feedback	.1	5.1	.04	3.4
		ACCURACY		ACCURACY
		9.6		8.7
		9.3		9.8
		8.7		9.5

The pattern of accuracy scores provides further suggestive evidence of the distortions in information processing associated with loneliness, although it must be cautioned that the results failed to reach conventional levels of statistical significance. As expected, high-lonely subjects tended to display more accurate recognition of previously presented negative self-relevant feedback than did low-lonely subjects, but their memories were less accurate than those of low-lonely subjects when attempting to recognize positive feedback about themselves. These results support the conclusion drawn by others (Markus & Sentis, 1982; Suinn et al., 1962) that one's accuracy of recall is affected by how consistent or inconsistent the information to be recalled is with the self-view.

Another issue addressed by this study concerned the sex-of-partner effects on lonely peoples' self-ratings and recognition memories. Interestingly, the sex of the interaction partner had no significant effect on any of the dependent measures. These results lend credence to Jones' (1978) belief that the self-derogation that is characteristic of lonely individuals is not attributable to increased sensitivity in heterosexual encounters. Rather, it appears that loneliness is related to self-evaluations and processing of social interactions regardless of the sex composition of the people involved.

The present results must be interpreted with caution since only males participated in the study. In addition, our findings should be compared to positive and negative performance feedback conditions in which the information conveyed is not of such uniform valence. Such conditions may more closely approximate naturalistic settings. Finally, although the selective-attention mechanism has much intuitive appeal, confirmation of its role must await the actual assessment of attention among subjects. Until such time, the possibility remains that differential efficiency of individuals' encoding, rather than the amount of attention, may be responsible for the observed effects.

In conclusion, the results of this investigation have shed further light on the self-derogatory tendencies of lonely individuals. Lonely persons may be caught in a cycle such that their self-schemata elicit selective attention to negative personal information, which in turn validates and strengthens their original self-views. The treatment of loneliness, then, may be enhanced by breaking this self-defeating pattern through strategies that will correct these biased modes of thinking.

REFERENCES

Anderson, C. A., & Arnoult, L. H. (1985). Attributional style and everyday problems in living: Depression, loneliness, and shyness. *Social Cognition*, 3, 16-35.

- Anderson, C. A., & Harvey, R. J. (1988). Discriminating between problems in living: An examination of measures of depression, loneliness, shyness, and social anxiety. *Journal of Social and Clinical Psychology*, 6, 482-491.
- Bradley, B., & Mathews, A. (1983). Negative self-schemata in clinical depression. *British Journal of Clinical Psychology*, 22, 173-181.
- Clark, J. V., & Arkowitz, H. (1975). Social anxiety and self-evaluation of interpersonal performance. *Psychological Reports*, 36, 211-221.
- Derry, P. A., & Kuiper, N. A. (1981). Schematic processing and self-reference in clinical depression. *Journal of Abnormal Psychology*, 90, 286-297.
- Fong, G. T., & Markus, H. (1982). Self-schemas and judgments about others. *Social Cognition*, 1, 191-205.
- Frankel, A. G., Prentice-Dunn, S., Gochneaur, K. S., Carver, M., Niemann, E., & Rye, B. (1986, March). *Loneliness and perceptions of social feedback*. Paper presented at the annual meeting of the Southeastern Psychological Association, Orlando, FL.
- Goswick, R. A., & Jones, W. H. (1981). Loneliness, self-concept, and adjustment. *Journal of Psychology*, 107, 237-240.
- Hojat, M. (1987). A psychodynamic view of loneliness and mother-child relationships: A review of theoretical perspectives and empirical findings. In M. Hojat & R. Crandall (Eds.), *Loneliness: Theory, research, and applications* [Special issue]. *Journal of Social Behavior and Personality*, 2, 89-104.
- Hojat, M., & Crandall, R. (Eds.) (1987). *Loneliness: Theory, research, and applications* [Special issue]. *Journal of Social Behavior and Personality*, 2.
- Jones, W. H. (1982). Loneliness and social behavior. In L. A. Peplau & D. Perlman (Eds.), *Loneliness: A sourcebook of current theory, research, and therapy* (pp. 238-252). New York: Wiley-Interscience.
- Jones, W. H., Freemon, J. A., & Goswick, R. A. (1981). The persistence of loneliness: Self and other determinants. *Journal of Personality*, 49, 27-48.
- Jones, W. H., Sansone, C., & Helm, B. (1983). Loneliness and interpersonal judgments. *Personality and Social Psychology Bulletin*, 9, 437-441.
- Katz, A. N. (1987). Self-reference in the encoding of creative-relevant traits. *Journal of Personality*, 55, 97-120.
- Kuiper, N. A., & Derry, P. A. (1981). The self as a cognitive prototype: An application to person perception and to psychopathology. In N. Cantor & J. F. Kihlstrom (Eds.), *Personality, cognition, and social interaction* (pp. 215-232). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Kuiper, N. A., & Derry, P. A. (1982). Depressed and nondepressed content self-reference in mild depression. *Journal of Personality*, 50, 67-69.
- Kuiper, N. A., Derry, P. A., & MacDonald, M. R. (1982). Self-reference and person perception in depression: A social cognition perspective. In G. Weary & H. Mirels (Eds.), *Integrations of clinical and social psychology* (pp. 79-103). New York: Oxford Press.
- Kuiper, N. A., MacDonald, M. R., & Derry, P. A. (1983). Parameters of a depressive self-schema. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self: Vol. 2* (pp. 191-217). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Lewinsohn, P. N., Mischel, W., Chaplin, W., & Barton, R. (1980). Social competence and depression: The role of illusory self-perceptions. *Journal of Abnormal Psychology*, 89, 203-212.
- Markus, H. (1977). Self-schemata and processing information about the self. *Journal of Personality and Social Psychology*, 35, 63-78.
- Markus, H., Hamil, R., & Sentis, K. (1987). Thinking fat: Self-schemas for body weight and processing of weight relevant information. *Journal of Applied Social Psychology*, 17, 50-71.

- Markus, H., & Sentsis, K. (1982). The self in social information processing. In J. Suls (Ed.), *Psychological perspectives on the self: Vol. 1* (pp. 41-70). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Markus, H., & Zajonc, R. B. (1985). The cognitive perspective in social psychology. In G. Lindzey & E. Aronson (Eds.), *The handbook of social psychology: Vol. 1*. (pp. 137-230). New York: Random House.
- Martin, M. (1978). Retention of attended and unattended auditorily and visually presented material. *Quarterly Journal of Experimental Psychology*, 30, 187-200.
- Martin, M., Ward, J. C., & Clark, D. M. (1983). Neuroticism and the recall of positive and negative personality information. *Behavior Research and Therapy*, 21, 495-503.
- Mills, J. A. (1976). A procedure for explaining experiments involving deception. *Personality and Social Psychology Bulletin*, 2, 3-13.
- Mischel, W., Ebbesen, E. B., & Zeiss, A. M. (1973). Selective attention to the self: Situational and dispositional determinants. *Journal of Personality and Social Psychology*, 27, 129-142.
- O'Banion, K., & Arkowitz, H. (1974). *Social anxiety and selective memory for affective information about the self*. Unpublished manuscript, University of Oregon, Eugene.
- Paloutzian, R. F., & Janigian, A. S. (1987). Models and methods in loneliness research: Their status and direction. In M. Hojat & R. Crandall (Eds.), *Loneliness: Theory, research, and applications* [Special issue]. *Journal of Social Behavior and Personality*, 2, 89-104.
- Russell, D., Peplau, L. A., & Cutrona, C. (1980). The Revised UCLA Loneliness Scale: Concurrent and discriminant validity evidence. *Journal of Personality and Social Psychology*, 39, 472-480.
- Shrauger, J. S. (1982). Selection and processing of self-evaluative information: Experimental evidence and clinical implications. In G. Weary & H. L. Mirels (Eds.), *Integrations of clinical and social psychology* (pp. 128-153). New York: Oxford University Press.
- Sloan, W. W., & Solano, C. H. (1984). The conversational styles of lonely males with strangers and roommates. *Personality and Social Psychology Bulletin*, 10, 293-301.
- Solano, C. H. (1987). Loneliness and perceptions of control: General traits versus specific attributions. In M. Hojat & R. Crandall (Eds.), *Loneliness: Theory, research, and applications* [Special issue]. *Journal of Social Behavior and Personality*, 2, 201-214.
- Spitzberg, B. H., & Canary, D. J. (1985). Loneliness and relationally competent communication. *Journal of Social and Personal Relationships*, 2, 387-402.
- Spitzberg, B. H., & Hurt, H. T. (1987). The relationship of interpersonal competence and skills to reported loneliness across time. In M. Hojat & R. Crandall (Eds.), *Loneliness: Theory, research, and applications* [Special issue]. *Journal of Social Behavior and Personality*, 2, 157-172.
- Stokes, J. (1985). The relation of social network and individual difference variables and loneliness. *Journal of Personality and Social Psychology*, 48, 981-990.
- Suinn, R. M., Osborne, D., & Page, W. (1962). The self-concept and accuracy of recall of inconsistent self-reported information. *Journal of Clinical Psychology*, 18, 473-474.
- Suls, J., & Greenwald, A. G. (1986). *Psychological perspectives on the self* (Vol. 3). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Swann, W. B., & Hill, C. A. (1982). When our identities are mistaken: Reaffirming self-conceptions through social interaction. *Journal of Personality and Social Psychology*, 43, 59-66.
- Swann, W. B., & Read, S. J. (1981a). Acquiring self-knowledge: The search for feedback that fits. *Journal of Personality and Social Psychology*, 41, 1119-1128.
- Swann, W. B., & Read, S. J. (1981b). Self-verification processes: How we strain our self-conceptions. *Journal of Experimental Social Psychology*, 17, 351-372.

- Sweeney, P., & Moreland, R. L. (1980). *Self-schemas and the perseverance of beliefs about the self*. Paper presented at the annual meeting of the American Psychological Association, Montreal.
- Vaux, A. (1988). Social and personal factors in loneliness. *Journal of Social and Clinical Psychology*, 6, 462-471.
- Young, G. C. D., & Martin, M. (1981). Processing of information about self by neurotics. *British Journal of Clinical Psychology*, 20, 205-212.