

Personality Moderates the Interaction of Mood and Cognition

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Some people, when in strong moods, experience momentary lapses of rationality. To avoid such loss of control, these same individuals are motivated to monitor the relation between their thoughts and mood, and those who control their emotions the best are often highly admired. Robert McNamara, former United States Secretary of Defense, considered his thinking to be unclouded by emotion. Within Washington he was regarded as, "the human computer, 'Supermac,' the machine-like man. His own contribution to the mythology had been substantial. In the cavernous Pentagon office, he had sought quantification and coldly objective analysis . . . He would allow for intuition in this process, he explained, 'but not emotion'" (Trehwitt, 1971, p. 279). Later in his career, the Secretary of Defense was involved in waging the emotionally divisive and bitter Vietnam War. Under such circumstances, emotions and thoughts can influence one another in unexpected ways. Despite McNamara's careful self-monitoring, it seems possible that the interplay of his emotions and thoughts contributed to the Secretary of Defense's decision to take an early and potentially self-injurious stand against the war.

The diverse connections between thoughts and moods suggest that this interplay is in part mediated by personality variables. In the present chapter, we review literature concerning the cognitive and behavioral consequences of mood, and try to understand the relations among personality, cognition, and affect. Although some research findings in cognition and affect are clear and have made considerable contributions to psychology, other findings are so inconsistent that "it takes great frustration tolerance and, perhaps, a bent toward self-

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Singer & Salovey, 1987, for reviews). Perhaps the earliest investigation of mood congruent recall was conducted by Fisher and Marrow (1934), who hypnotically induced seven subjects into either happy or sad moods. Subjects generated mood-congruent associates to stimulus words more quickly than incongruent associates. An attempted replication using mood swings of normal college students (Johnson, 1937) found a statistically insignificant trend for subjects to produce mood-congruent associates.

Modern investigations of the mood-congruent recall hypothesis are generally traced to Isen, Shalke, Clark, and Karp (1978) for laboratory-induced moods, and Lloyd and Lishman (1975) for the study of depressed individuals. Isen et al. (1978, Exp. 2) found that individuals who were made happier by succeeding at a task recalled more mood-congruent words from an earlier learned list. Lloyd and Lishman (1975) found faster retrieval speed of negative personal memories relative to positive ones in hospitalized depressed patients.

More recent results have appeared inconsistent. A number of studies using the Velten mood-induction procedure (Velten, 1968) found mood-congruent recall for both the amount of autobiographical memories retrieved (Madigan & Boltenbach, 1982; Snyder & White, 1982; Matthews & Bradley, 1983) and their retrieval speed (Riskind, Rholes, & Eggers, 1982; Teasdale & Fogarty, 1979; Teasdale & Taylor, 1981). Velten studies with neutral control groups, however, have shown much weaker support for mood-congruent recall (e.g., Fiedler, Pamppe, & Scherf, 1986; Siegel, Johnson, & Sarason, 1979), as have studies in which mood was a between-subjects factor (Clark & Teasdale, 1985). Failures to replicate with hypnotically induced moods have been reported (Bower, Gilligan, & Monteiro, 1981, Exps. 2 & 4; Garrig & Bower, 1982), although there have been some positive results (Natale & Hantias, 1982). When self-generated imagery has been used to induce moods, recall congruency has been noted only in positive mood states (Nasby & Yando, 1982, Exp. 1; Schwarz & Clore, 1983), and then only for recent, as opposed to childhood, memories (Salovey & Singer, 1985, 1987).

Success and failure on a task often produce strong mood-congruent recall (Isen et al., 1978, Exp. 2; Mischel, Ebbesen, & Zeiss, 1976; Wright & Mischel, 1982) as do changes in the weather (Schwarz & Clore, 1983). The encouraging results originally reported in Lloyd and Lishman's (1975) investigation of retrieval speed among hospitalized depressives were not replicated by Clark and Teasdale (1982). Mayo (1983) and others have failed to find support for mood-congruent recall in memory content as well (see also Mayer & Bremer, 1985; Mayer & Volanith, 1985; Rohn & Rehm, 1980; Silberman, Weingartner, Larza, Byrnes, & Post, 1983). However, several investigators have found that although sad individuals show no differences in their recall of negative autobiographical material as compared with normals, they tend to recall fewer positive memories (Breslow, Kocsis, & Belkin, 1991; McDowell, 1984). And Kuiper and Derry (1982) found that normal college students show superior recall for positive self-relevant adjectives as compared with mildly depressed students.

As compared with the mood-congruent learning hypothesis, much weaker support has been found for mood-congruent recall. The effect is apparent and appears potentially stable only in studies using within-subjects designs or with very depressed subjects. To the extent that the effect exists, pleasant memories appear to be more affected by mood than unpleasant memories. Finally, in these studies it is sometimes difficult to disentangle the influence of mood-congruent recall from mood-congruent learning and mood-dependent retrieval. More elaborate critiques of these problems can be found in reviews by Blaney (1986) and Singer and Salovey (1987).

Mood-Dependent Retrieval

Mood-dependent retrieval supposes that a specific mental context (e.g., a happy mood) becomes associated to materials learned while in that mood context. When individuals then attempt to recall the learned material, they are assisted by a return to the original mood context, which serves as a unique retrieval cue for the originally learned material. Mood-dependent retrieval is a special case of state-dependent recall in which the state of interest is a mood. As such, it is expected or predicted by a number of theories such as drive-stimulus or emotion-stimulus theories (Estes, 1958; Hull, 1943; Miller, 1950) and the arousal-state theory (Clark, Milberg, & Ross, 1983), as well as by the principle of encoding specificity (Tulving & Thompson, 1973).

One early attempt at obtaining mood-dependent retrieval was made by Weingartner, Miller, and Murphy (1977), who had manic-depressive patients generate free associations in a manic and then in a depressed mood. The researchers found the free associations were best recalled when the patients' disorder returned them to the original mood of learning. Because the learning stimuli were free associations, however, the difficulty of the learned stimuli and their relation to episodic and semantic memory were confounded. This confounding was remedied when others employed experimental procedures in the laboratory.

In one such experimental attempt, Macht, Spear, and Lewis (1977) manipulated fear by means of a threatening electric shock during learning and memory. They obtained a mood-dependent retrieval effect in one of two conditions. Bower, Monteiro, and Gilligan (1978) manipulated happy and sad moods with hypnosis. They obtained the effect in the third of three experiments, along with later studies; this result raised considerable hope that the effect could be obtained reliably (Bower, 1981).

By 1982 however, a failure to replicate was reported (Bayer & Spanos, cited in Bower & Mayer, 1985), soon followed by others (Bower & Mayer, 1985; Weitzler, 1985). The conditions that produce mood-dependent retrieval have therefore been focused upon most recently. Two conditions that have been especially scrutinized both involve the salience of mood-with-stimuli associations. First,

predictors of actual performance (Bandura & Adams, 1977; Bandura & Schunk, 1981). Experimentally induced happy and sad moods promote global changes in self-efficacy (Kavanagh & Bower, 1985; Salovey, 1986).

In sum, judgment shifts occur in a variety of domains using a number of different experimental approaches. One such shift is in self-efficacy. Because self-efficacy is in part responsible for mobilization of effort and persistence at tasks (Schwarzer, 1984), cognitions concerning self-efficacy may be exactly the sort that link mood changes to behavioral changes (Salovey & Rodin, 1985). As Bandura (1977) notes, an individual's self-efficacy may determine whether behaviors are initiated and then sustained "in the face of obstacles and aversive experiences" (p. 191).

Some Behavioral Consequences of Mood States

As reviewed in the last section, mood has rather consistent impacts on judgments about the self and others. Salovey and Rodin (1985) proposed that mood-induced changes in self-relevant thoughts link affect to action.

The behavioral effects of sad moods are observed in everyday depression. When Stella, a 36-year-old, became depressed, she no longer participated in tennis games, but rather slept and tried to catch up on neglected housework (Rosenhan & Seligman, 1984; adapted from Beck, Rush, Shaw, & Emery, 1979). Her behavioral changes may have resulted from cognitive alterations. She may have learned about only the most discouraging and tiring aspects of tennis—referred to as tennis is hot, sweaty, and expensive—and finally judged herself a bad tennis player. With such cognition, *anyone* might prefer to sleep.

Laboratory studies have demonstrated that sadness and depression often inhibit helping others (e.g., Berkowitz, 1972; Isen, 1970; Isen, Horn, & Rosenhan, 1973; Moore, Underwood, & Rosenhan, 1973; Rosenhan, Underwood, & Moore, 1974). One exception is that procedures eliciting guilt or shame (e.g., observing someone cause another harm) tend to promote subsequent altruistic behavior (e.g., Apsler, 1975; Freedman & Doob, 1968; Konecni, 1972; D.T. Regan, 1972; J.W. Regan, 1971; Steele, 1975; for reviews see Hoffman, 1984; Rosenhan, Karylowski, Salovey, & Hargis, 1981). Occasionally, when helping behavior is viewed as an opportunity to terminate a negative mood, sadness can lead to subsequent helping (e.g., Cialdini, Darby, & Vincent, 1973; Cialdini & Kenrick, 1976; Kenrick, Baumann, & Cialdini, 1979), although clinical depressives may fail to seize these opportunities.

In direct contrast to sadness, happiness tends to promote self-gratification (Mischel, Coates, & Raskoff, 1968). It makes people more willing to initiate conversations (Batson, Coke, Chard, Smith, & Taliaferro, 1979), and express greater liking for others (Gouaux, 1971; Griffin, 1970; Veitch & Griffin, 1976). In addition, subjects who have been induced to feel joy are more likely to take risks, so long as these risks are not too great (Isen, Means, Patrick, & Nowicki, 1982; Isen &

Patrick, 1983) and do not endanger their pleasant affective state (Forest, Clark, Mills, & Isen, 1979; Isen & Patrick, 1983; Isen & Simmonds, 1978).

The most consistent finding in the domain of altruism—a finding known by every Christmas holiday Salvation Army worker—is that pleasant moods (induced, perhaps, by hearing a favorite Christmas carol played by a small brass band) create a "glow of goodwill" and increase altruistic behavior (Adelman, 1972; Berkowitz & Connor, 1966; Isen, 1970; Isen, Clark, & Schwartz, 1976; Isen & Levin, 1972; Kazdin & Bryan, 1971; Rosenhan, Salovey, & Hargis, 1981). Happiness also bolsters confidence about one's ability to carry out helping behaviors, even when helping involves some risk to the self (Salovey, 1986).

Personality and Social Effects on Cognition and Affect

The preceding overview can be thought of as examining the interaction of two domains of personality. The first domain consists of all *mood-sensitive cognitions* including such effects as mood-congruent memory and mood-congruent judgment. Influences upon these mood-sensitive cognitions are exerted by mood and reflected by *mood-state introspections*, processes that introspect and label a mood according to the status of cognitive, postural, and physiological subsystems. Sometimes the interaction of these two domains appears to be consistent, sometimes not. The inconsistent interactions may be better understood by taking into account three other personality subsystems or domains that may moderate them. One of these domains is *mood-related traits*, such as neuroticism, that predict momentary mood states. Below, we discuss how mood-related traits may interact with states to magnify or reduce cognitive effects. Another domain is that of *meta-mood experience*, which is indicative of processes that monitor, evaluate, and sometimes change mood. We discuss how these processes may at times alter a mood and its influence on cognition. Finally, we point out how the *self* may increase effects the more closely it is associated with mood and cognition. Thus, the mediating effects we will discuss can be organized according to these domains.

State and Trait Interactions in Cognition and Affect

Not only mood-states have effects on cognition, mood-related traits have such effects as well (Hamilton, 1983; Gollib & McCann, 1984; Mayer & Volanah, 1985). Effects on cognition may be better predicted by considering mood states and traits together. For instance, introducing a sad mood-state should lead to negative judgments among both depressives and life-long happy people. But one would expect depressives to be more negativistic, a lifetime of pessimistic thoughts having influenced the depressive's cognitions accordingly.

affect in two ways. Both the self-relevance of moods and the self-relevance of information may lead to more powerful changes in cognition. Recent research on mood and memory supports both these hypotheses.

Self-Relevant Mood

Perhaps few things are as personal as a mood, and yet moods can be more or less self-relevant. One can, for instance, feel sadness about oneself or sadness for another (Thomson, Cowan, & Rosenhan, 1980). It may be that mood-induction procedures that lead to self-relevant moods (through the use of self-generated imagery, success, and failure, inactive emotional experiences, and role-playing) have different and more powerful cognitive consequences than mood-induction procedures that lead to less self-relevant moods (e.g., guided imagery, Velten statements, "general" arousal cf. Salovey & Rodin, 1985). Attending to the self during emotionally evocative circumstances serves to clarify and intensify affect (Scheier & Carver, 1977; Scheier, Carver, & Gibbons, 1981), and related bodily sensations (Fenigstein & Carver, 1978; Schwarzer, 1984; Wegner & Giuliano, 1980). As a consequence, these self-relevant moods may provide more discriminating contextual cues than typically found in mood-memory experiments. In a review of studies from the mood-memory and mood-helping behavior literatures, Salovey and Rodin (1985) found that self-relevant mood-inductions produced more consistent and more symmetrical results than empathic procedures.

Self-Relevant Stimuli

A second class of effects depends on the association between stimuli and self. Self-relevance—regardless of one's mood—enhances memory for emotional material in experiments (Miall, 1986; Rogers, Kuiper, & Kirker, 1977) perhaps because of increased depth of processing. In a review of the mood-memory literature, Blaney (1986) noted that subjects encouraged to focus on the relevance of stimuli to themselves (as opposed to focusing on the semantic, or phonemic aspects, etc.) show greater mood-congruent processing effects (e.g., Bradley & Matthews, 1983; Brown & Taylor, 1987; Hammen, Miklowitz, & Dyck, 1986; Ingram, Smith, & Brehm, 1983; Kuiper & Derry, 1982; Kuiper, Olinger, MacDonald, & Shaw, 1985; Nashby, 1987).

Judgment effects are similarly enhanced by self-reference (Forgas, 1987; Pietromonaco & Markus, 1985). Pietromonaco and Markus (1985) examined judgments that were self-relevant, relevant to a friend, and relevant to an unknown other, and found that the more self-relevant the judgment, the stronger the effect of mood on the shift in judgment.

In summary, self-involvement may moderate cognition and affect in two ways. As either mood or the object of one's thoughts becomes more self-relevant, effects become more powerful.

Conclusions

We have outlined several of the major relations between cognition and affect including the mood-congruent learning and memory effects, mood-state memory effects, and mood-congruent judgment effects.

Collectively, these phenomena may be regarded as *mood-sensitive cognitions*. These mood-sensitive cognitions are sometimes strongly, sometimes weakly, influenced by mood states, as reported in *mood-state-introspections*. The weak influences may be detected only part of the time, leading to conflicting findings in some areas. Such weak effects may be more reliably detected, however, by consideration of personality effects that can amplify the interaction of mood and cognition. For instance, *mood-related traits* may strengthen effects when they are congruent with the individual's mood-states (e.g., sad neurotics are sadder than other sad people). Such effects may be actively mediated by *meta-mood experiences* that reflect attempts to monitor, evaluate, and sometimes change mood. For instance, if one's experience of a mood is strong or deeply absorbing, the mood may enhance cognitive effects. Finally, as moods and cognitions are more closely associated with the *self*, effects may become more powerful.

At the beginning of this paper we noted that the consistent findings in cognition and affect made major contributions to psychology, but that the inconsistent findings led many research teams to experience years of frustration, self-doubt, and sometimes despair. Evaluation of an area is like mood itself, sometimes subject to change. At first glance the inconsistencies in experimental results appeared to be, like the fabled ugly-duckling, misfits among the flock of cognitive- and affect effects. Like the ugly-duckling that was really a swan, however, some of the inconsistent effects may in fact have been reliable indicators of personality influences—and these effects may therefore lead to a deeper understanding of personality itself.

Summary

For most of this century, the interaction between mood, thought, and behavior has intrigued researchers. Their efforts, though, have been primarily focused on the impact of affect on mood-sensitive cognitions. Mood-sensitive cognitions include such effects as mood-congruent learning and judgment, and may also include mood-congruent memory and mood-state dependent memory. Although some effects of mood on cognition are cloudy, even cloudy effects have their silver lining, because their coming and goings suggest the existence of personality domains that moderate them. The influence of mood-states on cognition may be better understood by taking into consideration whether mood-states are in agreement with mood-related traits (as in an anxious neurotic), whether meta-mood experience is pleasant or unpleasant, and the degree to which moods and cognitions are self-relevant. The consideration of these personality influences may lead to better specification of when moods' effects on cognition will appear.

- altruism: A case for hedonism. Journal of Experimental Social Psychology, 9, 502-516.
- Cialdini, R.B., & Kenrick, D.T. (1976). Altruism and hedonism: A social development perspective on the relationship of negative mood state and helping. Journal of Personality and Social Psychology, 34, 907-914.
- Clark, D.M. & Teadale, J.D. (1982). Diurnal variation in clinical depression and accessibility of memories of positive and negative experiences. Journal of Abnormal Psychology, 91, 87-95.
- Clark, D.M. & Teadale, J.D. (1985). Constraints on the effects of mood on memory. Journal of Personality and Social Psychology, 48, 1595-1608.
- Clark, M.S. & Isen, A.M. (1982). Toward understanding the relationship between feeling states and social behavior. In A. Hastorf & A. M. Isen (Eds.), Cognitive social psychology. (pp. 73-108). New York: Elsevier North-Holland.
- Clark, M.S., Milberg, S., & Ross, J. (1983). Arousal cues material stored in memory with a similar level of arousal: Implications for understanding the effects of mood on memory. Journal of Verbal Learning and Verbal Behavior, 22, 633-649.
- Collins, A.M. & Loftus, E.F. (1975). A spreading-activation theory of semantic processing. Psychological Review, 82, 407-428.
- Conte, H.R. & Plutchik, R. (1981). A circumplex model for interpersonal personality traits. Journal of Personality and Social Psychology, 40, 701- 711.
- Costa, P.T. & McCrae, R.R. (1982). Influence of extroversion and neuroticism on subjective well-being: Happy and unhappy people. Journal of Personality and Social Psychology, 38, 668-678.
- Eich, E. & Metcalfe, J. (in press). Mood dependent memory for internal versus external events. Journal of Experimental Psychology: Learning, Memory, and Cognition.
- Ellis, H. C. (1985). On the importance of mood intensity and encoding demands in memory: Commentary on Hasher, Rose, Zacks, Sanft, & Doren. Journal of Experimental Psychology: General, 114, 392-395.
- Emmons, R. A., & Diener, E. (1985). Personality correlates of subjective well-being. Personality and Social Psychology Bulletin, 11, 89-107.
- Epstein, S. & O'Brien, E.J. (1985). The person-situation debate in historical and current perspective. Psychological Bulletin, 98, 513-537.
- Estes, W. K. (1958). Stimulus-response theory of drive. In M. R. Jones (Ed.), Nebraska Symposium on Motivation. Lincoln, NE: University of Nebraska Press.
- Fenigstein & Carver, (1978). Self-focusing effects of false heartbeat feedback. Journal of Personality and Social Psychology, 36, 1241-1250.
- Fiedler, K., Pampe, H. & Scherf, U. (1986). Mood and memory for tightly organized social information. European Journal of Social Psychology, 16, 149-164.
- Fisher, G.A., Heise, D.R., Bohrnstedt, G.W., & Lucke, J.F. (1985). Evidence for extending the circumplex model of personality trait language to self-reported moods. Journal of Personality and Social Psychology, 49, 233-242.
- Fisher, V.E. & Marrow, A.J. (1934). Experimental study of moods. Character and Personality, 2, 181-188.
- Folkman, S. & Lazarus, R.W. (1985). If it changes it must be a process: Study of emotion and coping during three stages of a college

- Isen, A.M. (1970). Success, failure, attention and reactions to others: The warm glow of success. Journal of Personality and Social Psychology, 15, 294-301.
- Isen, A.M. (1984). Toward understanding the role of affect in cognition. In R.S. Wyer & T.K. Srull (Eds.), Handbook of Social Cognition (Vol. 3) (pp. 179-236). Hillsdale, NJ: Erlbaum.
- Isen, A.M. (1985). The asymmetry of happiness and sadness in effects on memory in normal college students. Journal of Experimental Psychology: General, 114, 388-391.
- Isen, A.M., Clark, M., & Schwartz, M.F. (1976). Duration of the effect of good mood on helping: "Footprints in the sands of time." Journal of Personality and Social Psychology, 34, 385-393.
- Isen, A.M. & Daubman, K.A. (1984). The influence of affect on categorization. Journal of Personality and Social Psychology, 47, 1206-1217.
- Isen, A.M., Horn, N., & Rosenhan, D.L. (1973). Effects of success and failure on children's generosity. Journal of Personality and Social Psychology, 27, 239-248.
- Isen, A.M. & Levin, P.F. (1972). The effect of feeling good on helping: Cookies and kindness. Journal of Personality and Social Psychology, 21, 384-388.
- Isen, A.M., Means, B., Patrick, R., & Nowicki, G. (1982). Some factors influencing decision-making and risk taking. In M.S. Clark & S.T. Fiske (Eds.) Affect and Cognition. (pp. 243-261). Hillsdale, NJ: Erlbaum.
- Isen, A.M. & Patrick, R. (1983). The effects of positive feelings on risk taking: When the chips are down. Organizational Behavior and Human Performance, 31, 194-202.
- Isen, A.M., Shalke, T., Clark, M. & Karp, L. (1978). Positive affect, accessibility of material in memory and behavior: A cognitive loop? Journal of Personality and Social Psychology, 36, 1-12.
- Isen, A.M. & Simmonds, S.F. (1978). The effect of feeling good on a helping task that is incompatible with good mood. Social Psychology, 41, 345-349.
- James, W. (1890). The principles of psychology. New York: Holt. (Reprinted by Dover, 1950).
- James, W. (1902). The varieties of religious experience. New York: Longmans, Green, & Co.
- Johnson, W.B. (1937) Euphoric and depressed moods in normal subjects. Character and personality, 6, 79-98.
- Johnson, E.J. & Tversky, A. (1983). Affect, generalization, and the perception of risk. Journal of Personality and Social Psychology, 45, 20-31.
- Kavanagh, D.J. & Bower, G.H. (1985). Mood and self-efficacy: Impact of joy and sadness on perceived capabilities. Cognitive Therapy and Research, 9, 507-525.
- Kazdin, A.E. & Bryan, J.H. (1971). Competence and volunteering. Journal of Experimental Social Psychology, 7, 87-97.
- Kenrick, D.T., Baumann, D.J., & Cialdini, R.B. (1979). A step in the socialization of altruism as hedonism: Effect of negative mood on children's generosity under public and private conditions. Journal of Personality and Social Psychology, 37, 737-755.
- Konecni, V.J. (1972). Some effects of guilt on compliance: A field replication. Journal of Personality and Social Psychology, 23, 30-32
- Kuiper, N.A. & Derry, P.A. (1982). Depressed and nondepressed content

- information about the self. Manuscript submitted for publication.
- Nasby, W. & Yando, R. (1982). Selective encoding and retrieval of affectively valent information: Two cognitive consequences of children's mood states. Journal of Personality and Social Psychology, 43, 1244-1253.
- Natale, M. & Hantas, M. (1982). Effect of temporary mood states in selective memory about the self. Journal of Personality and Social Psychology, 42, 927-934.
- Pietromonaco, P.R., & Markus, H. (1985). The nature of negative thoughts in depression. Journal of Personality and Social Psychology, 48, 799-807.
- Posner, M.I. & Snyder, C.R.R. (1975). Attention and cognitive control. In R.L. Solso (Ed.), Information processing and cognition: The Loyola symposium. (pp. 55-85). Hillsdale, NJ: Erlbaum.
- Potts, R., Morse, M., Felleman, E. & Masters, J.C. (1986). Children's emotions and memory for affective narrative content. Motivation and Emotions, 10, 39-57.
- Riskind, J.H., Rholes, W.S., & Eggers, J. (1982). The Velten mood induction procedure: Effects on mood and memory. Journal of Consulting and Clinical Psychology, 50, 146-147.
- Regan, D.T. (1972). Effects of a favor and liking on compliance. Journal of Personality and Social Psychology, 7, 627-639.
- Regan, J.W. (1971). Guilt, perceived injustice and altruistic behavior. Journal of Personality and Social Psychology, 18, 124-132.
- Rogers, T.B., Kuiper, N.A., & Kirker, W.S. (1977). Self-reference and the encoding of personal information. Journal of Personality and Social Psychology, 35, 677-688.
- Rosenhan, D.L., Karylowski, J., Salovey, P., & Hargis, K. (1981). Affect and altruism. In J.P. Rushton & R.M. Sorrentino (Eds.), Altruism and helping behavior. (pp. 233-248). Hillsdale, NJ: Erlbaum.
- Rosenhan, D.L., Salovey, P., & Hargis, K. (1981). The joys of helping: Focus of attention mediates the impact of positive affect on altruism. Journal of Personality and Social Psychology, 40, 899-905.
- Rosenhan, D.L., Underwood, B., & Moore, B. (1974). Affect moderates self gratification and altruism. Journal of Personality and Social Psychology, 30, 546-552.
- Rosenhan, D.L. & Seligman, M.E.P. (1984). Abnormal Psychology. New York: Norton & Co.
- Roth, D. & Rehm, L.P. (1980). Relationships among self-monitoring processes, memory, and depression. Cognitive Therapy and Research, 4, 149-157.
- Salovey, P. (1986). The effects of mood and focus of attention on self-relevant thoughts and helping intention. Dissertation submitted to the Department of Psychology, Yale University.
- Salovey, P. & Rodin, J. (1985). Cognitions about the self: Connecting feeling states and social behavior. In P. Shaver (Ed.), Self, situations, and social behavior: Review of personality and social psychology (Vol. 6). (pp. 143-166). Beverly Hills: Sage Publications.
- Salovey, P. & Singer, J.A. (1985, August). Mood and recall of autobiographical memories. Presented at the annual convention of the American Psychological Association, Los Angeles, CA.
- Salovey, P. & Singer, J.A. (1987). Mood congruency effects in recall of childhood versus recent memories. Submitted for publication.
- Scheier, M.F. & Carver, C.S. (1977). Self-focused attention and the ex-

- Watson, D. & Tellegen, A. (1985). Toward a consensual structure of mood. Psychological Bulletin, 98, 219-235.
- Wegner, D.M. & Guillano, T. (1980). Arousal-induced attention to self. Journal of Personality and Social Psychology, 38, 719-726.
- Weingartner, H., Cohen, R.M., Murphy, D.L., Martello, J. & Gerdt, C. (1981). Cognitive processes in depression. Archives of General Psychiatry, 38, 42-47.
- Weingartner, H., Miller, H., & Murphy, D.L. (1977). Mood-state dependent retrieval of verbal associations. Journal of Abnormal Psychology, 86, 276-284.
- Weiner, B., Kun, A., & Benesh-Weiner, M. (1980). The development of mastery, emotions, and morality from an attributional perspective. In W.A. Collins (Ed.), Minnesota Symposium on Child Psychology (Vol 13) (Pp. 103-109). Hillsdale, NJ: Erlbaum.
- Wessman, A.E. & Ricks, D.F. (1966). Mood and Personality. New York: Hold, Rinehart & Winston.
- Wetzler, S. (1985). Mood state-dependent retrieval: A failure to replicate. Psychological Reports, 56, 759-765.
- Wright, J., & Mischel, W. (1982). Influence of affect on cognitive social learning person variables. Journal of Personality and Social Psychology, 43, 901-914.
- Wyer, R.S. & Srull, T.K. (1981). Category accessibility: Some theoretical and empirical issues concerning the processing of social stimulus information. In E.T. Higgins, C.P. Herman, & M. P. Zanna (Eds.), Social cognition: The Ontario Symposium. (Vol. 1). (pp. 161-197). Hillsdale, NJ: Erlbaum.