Cognitive Therapy and Research, Vol. 10, No. 6, 1986, pp. 591-605

The Internal Dialogue: On the Asymmetry Between Positive and Negative Coping Thoughts[1]

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The concept of the internal dialogue—and specifically the fundamental polarity between positive and negative thoughts—has historical antecedents from Plato to William James. Recent cognitive-behavioral research suggests that functional groups are characterized by approximately a 1.7 to 1 ratio of positive to negative coping thoughts, whereas mildly dysfunctional groups demonstrate equal frequencies of such thoughts. Furthermore, this research reveals an asymmetry between positive and negative coping thoughts, whereby negative thoughts have greater functional impact and are more likely to change as a result of therapy. After selectively tracing relevant historical factors, this article reviews research supporting these asymmetrical relationships and explores potential implications for increased specificity in cognitive-behavioral therapies.

KEY WORDS: internal dialogue; positive and negative cognition; assymetry; cognitive balance; cognitive-behavior therapy.

The *internal dialogue*—a long-standing object of popular, religious, and philosophical interest—has only recently been subjected to systematic psychological research. Consequently, we can now formulate with more precision the role of the internal dialogue in psychopathology and health, and begin to refine the popularized notions of "positive thinking" that have had widespread appeal since the late 19th century.

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0147-5916/86/1200-0591$05.00/0

An interesting characteristic of the internal dialogue that has been discovered involves asymmetrical relationships between positive and negative coping thoughts. Research that assesses both positive and negative cognitions suggests that functional groups are characterized by a 1.7 to 1 ratio of positive to negative self-statements (*positive dialogue*), whereas mildly dysfunctional groups demonstrate a 1 to 1 ratio (*internal dialogue of conflict*). In addition, such studies consistently demonstrate that negative cognitions, relative to positive, weigh more heavily in distinguishing functional versus dysfunctional groups and are more likely to change as a result of psychotherapy (Kendall & Hollon, 1981; Mavissakalian, Michelson, Greenwald, Kornblith, & Greenwald, 1983; Safran, 1982; Schwartz & Gottman, 1976).

This article will briefly trace selected historical developments related to the conception of thought as positive and negative self-statements, review research supporting these recently discovered asymmetrical relationships, and suggest potential implications of these asymmetries for the "specificity" (cf. Miller & Berman, 1983) of cognitive-behavioral interventions.

SELECTIVE HISTORICAL REVIEW OF POSITIVE AND NEGATIVE THOUGHT

Ryle (1949) observed, "Much of our ordinary thinking is conducted in internal monologue or silent soliloquy, usually accompanied by an internal cinematograph-show of visual imagery" (p. 27). This conception of cognition as self-talk (Ellis, 1962) or internal dialogue (Meichenbaum, 1977) can first be traced to Plato. In Theaetetus, Socrates described thinking "as a discourse that the mind carries on with itself.... When the mind is thinking, it is simply talking to itself, asking questions and answering them, and saying yes or no" (Hamilton & Cairns, 1961, p. 895). Similarly, Watson, who is typically seen as denying thought altogether, observed that "thought is nothing but talking to ourselves" (Watson, 1925, p. 191). Although the position that thought is "nothing but" self-talk is considered incorrect (cf. Barnard, 1981), it is widely accepted that some, if not all, thinking is conducted in words (Ryle, 1979). The heuristic and therapeutic value of this conceptualization is evidenced by the effectiveness of self-statement training as a form of cognitive restructuring (Dush, Hirt, & Schroeder, 1983; Miller & Berman, 1983).

In a chapter entitled the "Will" the *Principles of Psychology,* James (1890/1950) provided a classic and quintessentially human illustration of an internal dialogue of conflict (cf. Schwartz & Gottman, 1976; Heimberg, Chiauzzi, Becker, & Madrazo-Peterson, 1983) that captures the inner struggle between positive and negative thoughts:

> We know what it is to get out of bed on a freezing morning in a room without a fire, and how the very vital principle within us protests against the ordeal. Probably most persons have lain on certain mornings for an hour at a time unable to brace themselves to the resolve. We think how late we shall be, how the duties of the day will suffer; we say, "I must get up, this is ignominious," etc.; but still the warm couch feels too delicious, the cold outside too cruel, and resolution faints away and postpones itself again and again just as it seemed on the verge of bursting the resistance and passing over into the decisive act. (p. 54)

How does one ever arise under such circumstances, James inquires?

> A fortunate lapse of consciousness occurs; we forget both the warmth and the cold; we fall into some revery connected with the day's life, in the course of which the idea flashes across us, "Hollo! I must lie here no longer"—an idea which at that lucky instant awakens no contradictory or paralyzing suggestions, and consequently produces immediately its appropriate motor effects. (p. 54)

This engaging phenomenological description illustrates how self-verbalizations can influence human action in both facilitory and inhibitory ways.

Despite the encouragement of these philosophical formulations, scientific study of the internal dialogue encountered difficulty. Methodological problems of introspectionism (Ericsson & Simon, 1979) led to the behavioral retrenchment that commenced with Watson and culminated with Skinner. Although the behavioral paradigm made important contributions to the robust scientific method upon which current cognitive science is now building, it led to a temporary hiatus in the exploration of the internal dialogue by academic psychologists.

By ignoring the scientific study of clinical cognition, psychologists left this area to popular, religious, and philosophical forms of inquiry. For example, the notion that a person could exercise free will in the realm of cognition left an indelible mark on James's (1902/1961) own consciousness and led him to a lifelong interest in what he called, in *Varieties of Religious Experience,* the "religion of healthy mindedness." Around the turn of the century, the systematic cultivation of healthy-mindedness was espoused by various religious programs, collectively referred to by James (1902/1961) as the "mind cure movement." These included lesser known forms such as the New Thoughters, the Don't Worry Movement, and the Gospel of Relaxation, as well as the more familiar and enduring Christian Scientists. The concept guiding the mind cure movement was that "thoughts are things," such that thinking negatively was as destructive as putting poisonous food into the body. Positive thinking was encouraged as an antidote to the delibitating effect of negativity.

These proto-cognitive behaviorists typically cast their approach in theological terms, with the ultimate source of positive thoughts being the Divine presence of God or some related spiritual force. The most popular application of these ideas came, of course, with Norman Vincent Peale's *Power of Positive Thinking.* Peale himself was directly inspired by James's

writings, particularly a brief pamphlet called the "Energies of Men," in which James laid down the basic tenets that are contained in most contemporary self-help guides (Meyers, 1980). Tracing the history of the internal dialogue through these popular expressions need not be a source of embarrassment to its current scientific status. In the same way that the roots of natural science can be traced to magic and religion (Dampier, 1971), aspects of the cognitive-behavioral approach can be seen as secularized, technically sophisticated, and empirically based manifestations that extend well beyond these prototypical early movements.

Given the long-standing interest in positive and negative thoughts from Plato through James, what does cognitive-behavioral research suggest regarding the claim that our cognitions influence us in fundamental and measurable ways?

SCIENTIFIC STUDY OF THE INTERNAL DIALOGUE

In order to place the study of clinical cognition on a secure scientific foundation, Meichenbaum (1977) highlighted the need to develop a "cognitive ethology." This can be defined as the study of the content, function, and structure of the internal dialogue in various stress-related or clinically relevant situations, such as taking an examination, delivering a speech, or coping with cancer. Given the diversity and inaccessibility of human thought, this program might seem destined to fail. However, by focusing on cognitions in narrowly defined stressful situations and by abstracting relevant categories of thought, one makes this enterprise more feasible.

If people are faced with a situation such as refusing an unreasonable request, the shared experience of social reality tends to limit the range of articulated self-verbalizations—"What if the person gets angry?" "But this is an unreasonable request," "I'll feel guilty later if I say no," and so on. Although these thoughts can be classified along a number of dimensions (e.g., self vs. other, realistic vs. unrealistic, rational vs. irrational), they can be categorized at the highest level of abstraction with respect to their *functional* role in achieving a specified goal.

To continue with the assertiveness example, Schwartz and Gottman (1976) defined a positive coping thought as one that *facilitates* the goal behavior of refusal (e.g., "I'll be sorry later if I give in and say yes"), and a negative coping thought as one that *interferes* with the goal behavior (e.g., "I might get embarrassed if I say no"). In coping with a stressful medical procedure, Kendall et al. (1979) identified positive thoughts, such as "This procedure could save my life," and negative thoughts, such as "The catheter might break and stick in my heart." Thus, the positive and negative dimen-

sion as used here relates to the functional role of the thought with respect to a specific goal or desired outcome. In semantic differential studies, between 50 and 75% of the variance is accounted for by the evaluative (good vs. bad) dimension (Averill, 1980). This suggests that even though the positive-negative dimension appears restrictive, it represents a primary and fundamental dimension with respect to coping.

In fact, cognitive-behavioral study of the internal dialogue—conceptualized as an inner struggle between positive and negative self-statements—can be viewed as a special case of the *dialectical* nature of human thought. According to Rychlak (1968), the dialectical model of thinking holds that reasoning proceeds through the "opposition of contradictories" (Rychlak, 1968, p. 268)—that the human capacity to conceive of opposing ideas provides the dynamic behind thinking itself. The internal dialogue, with its inherent conflict and tension, is thus an inevitable and basic aspect of the human condition.

ASYMMETRIES IN THE INTERNAL DIALOGUE

Assessing coping thoughts along the positive-negative dimension has yielded asymmetrical relationships that are of potential clinical interest. For example, in Schwartz and Gottman's (1976) "task analysis" of assertive behavior, high assertive subjects had significantly more positive than negative thoughts, whereas low assertives did not differ in the reported frequency of these thoughts. Specifically, high assertives demonstrated a positive dialogue consisting of a 1.7 to 1 ratio of positive to negative thought, whereas low assertives were characterized by a 1 to 1 ratio or an internal dialogue of conflict (see Table I).[3]

[3]In our initial study assessing positive and negative coping cognitions (Schwartz & Gottman, 1976), we simply presented the means for positive and negative thoughts separately. The use of ratio scores here was inspired by Hollandsworth et al. (1979), who, in their study of test anxiety, observed that low anxious subjects reported about two facilitative statements for every debilitative statement, whereas for high anxious subjects the ratio was about 1 to 1. The ratios presented in Table I were calculated by dividing the larger mean self-statement score by the smaller mean self-statement score for both functional and dysfunctional groups. For example, the ratios for the high assertives (functionals) and low assertives (dysfunctionals) in the Schwartz and Gottman (1976) study were derived as follows: Functionals = Mean Positive Thoughts/Mean Negative Thoughts = 57.0/33.0 = 1.727, which yields (rounding to tenths) a positive to negative ratio of 1.7 to 1; Dysfunctionals = Mean Negative Thoughts/Mean Positive Thoughts = 51.0/48.0 = 1.06, yielding a positive to negative ratio of 1 to 1.1 (see Table I).

For theoretical reasons, in a forthcoming work on these cognitive asymmetries (see Schwartz & Garamoni, 1986), we are now combining positive and negative cognitions by calculating a proportion of positive to total thoughts.

Table I. Ratios of Positive and Negative Thoughts for Functional and Dysfunctional Groups

Study	Cognitive assessment	Functional *M*			Dysfunctional *M*		
		Positive	Negative	Ratio	Positive	Negative	Ratio
Assertiveness							
Schwartz & Gottman, 1976	Inventory/						
High vs. low assertive	ASST[a]	57.0	33.0	1.7:1	48.0	51.0	1:1.1
Bruch, 1981	Inventory/						
High vs. low assertive	ASST	59.0	35.0	1.7:1	48.0	51.0	1:1.1
Heimberg et al., 1983	Inventory/						
High vs. low assertive	ASST-R[b]	41.8	23.8	1.8:1	38.0	33.2	1.1:1
Social anxiety							
Glass et al., 1982	Inventory/						
High vs. low socially anxious	SISST[c]						
Sample 2: Females and males combined		54.9	33.0	1.7:1	42.7	47.3	1:1.1
Cacioppo et al., 1979	Production/						
High vs. low socially anxious	thought listing[d]	1.6	1.2	1.3:1	1.5	2.0	1:1.3
Test anxiety							
Hollandsworth et al., 1979	Production/						
High vs. low test-anxious	talking aloud	67.3	32.0	2.1:1	45.0	61.3	1:1.4
Self-esteem							
Vasta & Brockner, 1979	Production/						
High vs. low self-esteem	thought sampling	2.4	1.5	1.6:1	2.3	2.0	1.2:1
	Mean ratio			1.70:1			1:1.14

[a]Assertiveness Self-Statement Test.
[b]ASST-Revised generalizes to a broader range of assertion situations.
[c]Social Interaction Self-Statement Test.
[d]Scores averaged across high and low anonymity conditions.

This pattern of differences in self-statements has been directly replicated in the area of assertive refusal by Bruch (1981) and was generalized across a broader range of assertiveness situations with psychiatric inpatients by Heimberg et al. (1983). It has also been demonstrated to hold across a variety of clinical problems such as social anxiety (Glass, Merluzzi, Biever, & Larson, 1982), test anxiety (Hollandsworth, Glazeski, Kirkland, Jones, & Van Norman, 1979), and self-esteem (Vasta & Brockner, 1979). Furthermore, these differences in self-statements cannot be attributed to an artifact of method since they have been replicated using diverse methods of cognitive assessment such as inventories (Schwartz & Gottman, 1976; Glass et al., 1982), thought listing (Cacioppo, Glass, & Merluzzi, 1979), talking aloud (Hollandsworth et al., 1979), and thought sampling (Vasta & Brockner, 1979). Thus, across problem areas and methods of cognitive assessment, the functional groups were characterized by approximately a 1.7 to 1 ratio of positive to negative thoughts and the dysfunctionals by a 1 to 1 ratio (see Table I).[4]

Another interesting asymmetical relationship emerged in Schwartz and Gottman's (1976) task analysis study: Although high and low assertives differed in the frequency of both positive and negative self-statements, there was a stronger relationship on the negative dimension. This asymmetry has been consistently supported by subsequent studies of nonassertiveness. Bruch (1981), in a replication of the task analysis of assertive behavior, found a significant inverse relationship between cognitive complexity and negative self-statements, whereas complexity and positive self-statements were not related. Rhyne, Sullivan, and Claiborn (1983) extended the task analysis to male psychiatric inpatients, finding that negative self-statements added significantly to a multiple regression equation predicting actual assertive behavior, whereas positive self-statements failed to increase the predictive power. Klass (1981) examined the relationship of frequency and impact of two types of positive (criticism of other and self-directed concerns) and negative (harm and responsibility) self-statements to a measure of guilt over assertion. For both frequency and impact, the negative self-statements (relative to positive) were more strongly related to guilt.

This asymmetrical pattern has also been observed in research on social anxiety, test anxiety, and coping with stressful medical procedures. Using a thought-listing method of cognitive assessment, Cacioppo et al. (1979) had male subjects write their thoughts as they anticipated meeting an unfamiliar woman. Although positive and neutral thoughts were unrelated to self-evaluation, the greater the number of negative thoughts emitted, the lower the self-evaluation for both judge-scored ($r = -.32$) and subject-scored ($r = -.34$) thoughts. In the area of test anxiety, Galassi, Frierson, and Sharer

[4]For a more extensive review of this literature, see Schwartz and Garamoni (1986).

(1981) developed a Checklist of Positive and Negative Thoughts to assess cognitive differences between high and low test-anxious subjects. They found that negative self-statements correlated +.44 with test anxiety, whereas the correlation for positive self-statements was only −.28. In a study of coping with cardiac catheterization, Kendall et al. (1979) found that only negative thoughts differentiated the effective from the ineffective coper; positive thoughts apparently did not relate to how well the person managed this stressful event.

Psychotherapy outcome studies that assessed cognitive change also support this asymmetry. The pattern of change that appears in the few available studies is that negative thoughts tend to decrease without a corresponding increase in positive thoughts. For example, Derry and Stone (1979) found that cognitive self-statement therapy for nonassertives resulted in a larger decrease in negative self-statements than attributional or behavioral treatments. There were no changes, however, in positive self-statements or other cognitive variables. Malkiewich and Merluzzi (1980) reported that both rational restructuring and systematic desensitization reduced negative thoughts in socially anxious patients; however, no differences were obtained for positive thoughts. In a recent study of agoraphobia, Mavissakalian et al. (1983) added self-statement and paradoxical intention treatment components to an in vivo exposure approach. Both treatments resulted in a decrease in negative or fearful thoughts, with no corresponding increase in positive coping thoughts.

This asymmetry between positive and negative thoughts is further supported by diverse findings from areas outside cognitive-behavioral research. For example, May and Johnson (1973) found that negative thoughts such as "multilation" increased heart rate, whereas positive thoughts such as "peace" or "calm" did not decrease it. Vinokur and Selzer (1975) reported that negative life events were related to depression, anxiety, tension, aggression, paranoia, and suicidal proclivity, whereas positive events were unrelated to these disorders—a finding typically supported by life events research (cf. Johnson & Sarason, 1979).

In the context of the psychology of choice, Tversky and Kahneman (1981) reviewed a number of studies supporting a phenomenon they call "loss aversion," according to which the response to losses is more extreme than the response to objectively equivalent gains. Experimental subjects, for example, would not risk betting $1 in a fair coin toss unless the odds were 3 to 1. That is, the aversiveness of losing $1 was apparently greater than the pleasantness of winning an equal amount, such that the subjects would bet only when the prospect of gain was increased to three times the potential loss. Extrapolating to coping with stress, the asymmetry between positive and negative thoughts supports the notion that—all things being equal—

negative thoughts interfere with coping more than positive thoughts facilitate it.

In sum, it appears that negative events and cognitions are more salient and make a greater impact than positive ones—that negative thoughts and feelings, relative to positive, may be more central to adaptation. Perhaps psychology's focus on illness rather than health, or the well-known difficulties of defining health in ways other than the absence of illness, can be better understood in terms of this. Indeed, in the broadest sense, this research lends support to the view that life's goal is more accurately conceptualized as freedom from suffering than as pursuit of happiness. As the Epicureans advised, "Seek not to be happy, but rather to escape unhappiness."[5]

CLINICAL IMPLICATIONS

Thus, a growing body of empirical research supports the popular contention that the internal dialogue bears a relationship to psychological health and disorder. These early intuitions were correct as far as they went, but the contemporary research outlined above permits a more precise understanding of the role of positive and negative coping thoughts in psychopathology and psychotherapy. Although somewhat tentative, the observation that functional groups were characterized by approximately a 1.7 to 1 ratio of positive to negative thoughts suggests that balancing one's cognition according to certain proportions may have *adaptive* significance. Such a state of mind is on the whole more positive than negative, but not entirely free of some negative thinking. That some mixture of both positive and negative thoughts characterizes functional individuals is consistent with Rychlak's (1968) dialectical position noted earlier. If the presence of opposing ideas provides the dynamic force behind thinking, then even optimal states of mind will not be free of some negative considerations. Thus, "positive thinking"—if construed as the complete absence of negative thoughts—would violate the dialectical nature of thinking and therefore be less adaptive than more *balanced states of mind.*

At the same time, the finding that mildly dysfunctional groups were characterized by a 1 to 1 ratio of positive to negative thoughts indicates that

[5]Schopenhauer, the 19th-century philosopher, anticipated this asymmetry and made it central to his view of the nature of existence. In an essay entitled "On the Suffering of the World" (1981), he graphically illustrated the fundamental and pervasive role of this asymmetry in life: "This is also consistent with the fact that as a rule we find pleasure much less pleasurable, pain much more painful than we expected. A quick test of the assertion that enjoyment outweighs pain in this world, or that they are at any rate balanced, would be to compare the feelings of an animal engaged in eating another with those of the animal being eaten." (p. 42)

an equal balance of positive and negative cognitions—an internal dialogue of conflict—has maladaptive clinical significance. Certainly, more negative ratios, as might be found in severely anxious or depressed individuals, would also be pathological. If future research confirms that the 1.7 to 1 ratio associated with functional groups represents some preferred balance, then cognitive-behavioral therapies that monitor and modify coping thoughts might strive to approximate this ratio as the therapeutic goal of cognitive restructuring.

The finding that negative cognitions (relative to positive) are more strongly related to psychopathology and therapy outcomes has implications for whether therapeutic interventions should focus more heavily on the positive or negative dimension of thinking. The existence of this functional asymmetry has led Kendall and Hollon (1981) to aptly observe that the "power of non-negative thinking" may be a more accurate formulation than the familiar, popularized phrase. According to this formulation, the cultivation of positive thinking is something of a fallacy, or at least of less relative importance than the disciplined avoidance of negative thoughts.

Cognitive Specificity

Asymmetry has potentially important implications for the "cognitive specificity" (cf. Miller & Berman, 1983) of therapeutic interventions in cognitive-behavioral and other forms of psychotherapy. Specifically interventions that focus on insight into negative and unproductive thinking may be more critical than those that build positive coping repertoires through self-instructional training (cf. Emmelkamp & Mersch, 1982; Vasta & Brockner, 1979). If so, this would support the goal—although not necessarily the means—of Rational-Emotive Therapy, in which the primary focus is on eliminating negative or irrational thoughts. Ellis (1977) speculated about this very issue: "The specific hypothesis of RET that positive thinking works, but that it remains a less elegant and less effective form of therapy than helping people to scientifically attack and invalidate their negative thinking (Ellis, 1962; Ellis & Harper, 1975), does not seem to have led to any validating studies yet" (p. 67). Such validating studies are beginning to emerge and, as noted above, tend to support this view.

However, component analysis studies of cognitive restructuring that assess the differential therapeutic impact of positive and negative components of the overall treatment have been inconclusive. Thorpe, Amatu, Blakey, and Burns (1976) found that in treating public speaking anxiety, groups in which instructional training of positive, rational ideas was *absent* actually performed better on four outcome measures. This is consistent with studies

that found that self-instructional training failed to add to behavioral treatment and in some cases interfered (Emmelkamp, Kuipers, & Eggeraat, 1978; Girodo & Roehl, 1978; Ladouceur, 1983). Carmody (1978) found essentially no difference between rational-emotive therapy, self-instructional training, and behavioral assertion training in the treatment of nonassertiveness, except that RET was superior on an in vivo test of transfer of training.

In contrast to these studies, Glogower, Fremouw, and McCroskey (1978) found a coping rehearsal group to be superior to an insight into negative self-statement group in the treatment of social anxiety. Similarly, Barnard, Kratochwill, and Keefauver (1983) found that RET alone did not result in reduction of anxiety and hair pulling in a single-subject study of a 17-year-old girl. Introduction of self-instructional training led to rapid elimination of the symptoms, supporting the need for an additional focus on building positive self-statements for this individual.

Process of Cognitive Change

The inconclusiveness of these component analysis studies suggests that, while useful, they may be too global to add substantially to the issue of cognitive specificity. In discussing the process of cognitive change in therapy, Glass and Merluzzi (1981) raised such question as these: Do positive coping self-statements replace negative ones? Do the negative ones disappear? How are clients' new internal dialogues integrated into their belief systems? These authors suggested that even if therapy focuses on changing self-statements and this results in cognitive and behavioral change, the reasons for the changes may be at a different level than the mere substitution of positive for negative thoughts. These comments raise the issues of the *process of cognitive change over time* and the distinction between *cognitive content* and *cognitive structure,* and suggest that more detailed studies that systematically assess positive and negative self-statements over the course of treatment will be necessary.

Although the data reviewed earlier support the fact that negative thoughts carry more weight than positive ones, it does not directly follow that eliminating negative thoughts is a more effective strategy than developing positive thinking. The actual state of affairs will likely be more complex. Consider, for example, the possibility that early in treatment positive coping thoughts may be an important part of the internal dialogue in terms of developing and supporting new behaviors, but that over time they result in the formation of new cognitive structures (e.g., self-efficacy, scripts, preconscious cognitions), such that the positive self-statements no longer appear in the content of the surface dialogue. A study by Kendall and Finch (1978) of impulsive children provides suggestive support for this formula-

tion. They found that impulsive children increased thier on-task verbal behavior (positive self-statements) as a result of therapy when measured immediately at posttreatment. At follow-up, the total amount of on-task verbal behavior decreased, but the task performance remained significantly improved relative to the pretherapy assessment.

These considerations and data are consistent with the role of inner speech in self-regulation outlined by Luria (1961) and Vygotsky (1962). In their view, self-statements are originally made aloud by children (before age 5) but later internalized and transformed into differently encoded forms that are more condensed and telegraphic. If the therapy patient learns new behaviors analogously to a child, the process of cognitive-behavioral change may require a transitional period of positive coping self-verbalization until a sense of mastery is experienced and the performance is incorporated into deeper, preconscious, and perhaps nonverbal self-structures (cf. Meichenbaum, 1977). At this point, there is no longer a need for positive self-talk in the internal dialogue because the behavior is automated and no longer problematical. Indeed, the changes in states of mind during therapy might be described as a progression from a negative or conflicted internal dialogue to a positive coping dialogue, leading finally to a state of "inner speechlessness" or what Langer (1978) has called "mindlessness."

CONCLUSION

Recent cognitive-behavioral and related research suggests that functional groups are characterized by a 1.7 to 1 ratio of positive to negative thoughts, whereas mildly dysfunctional groups approximate a 1 to 1 ratio. This raises the possibility that this particular *cognitive balance* has functional value and may represent an optimal therapeutic outcome. Furthermore, both positive and negative thoughts have been shown to influence clinical dysfunctions, but there is a stronger relationship on the negative dimension. In terms of treatment, it may be more critical to eliminate these negative thoughts than to establish positive ones, at least as the *final end point* of treatment. However, research on the process of therapeutic change over time that assesses both positive and negative cognitions may lead to the finding that a period of positive coping thought in the internal dialogue is necessary to facilitate short-term change until these newly acquired patterns of thinking, feeling, and acting are integrated into new self-structures. Perhaps this will represent a synthesis of the popular and intuitive focus on positive thinking and the emerging scientific evidence that emphasizes the relative salience of negative thoughts.

REFERENCES

Averill, J. R. (1980). On the paucity of positive emotions. In K. R. Blankstein, P. Pliner, & J. Polivy (Eds.), *Assessment and modification of emotional behavior.* New York: Plenum Press.

Bernard, M. E. (1981). Private thought in rational-emotive psychotherapy. *Cognitive Therapy and Research, 5,* 125-142.

Barnard, M. E., Kratochwill, T. R., & Keefauver, L. W. (1983). The effects of rational-emotive therapy and self-instructional training on chronic hair pulling. *Cognitive Therapy and Research, 7,* 273-279.

Bruch, M. A. (1981). A task analysis of assertive behavior revisited: Replication and extension. *Behavior Therapy, 12,* 217-230.

Cacioppo, J. T., Glass, C. R., & Merluzzi, T. V. (1979). Self-statements and self-evaluations: A cognitive-response analysis of heterosocial anxiety. *Cognitive Therapy and Research, 3,* 249-262.

Carmody, T. P. (1978). Rational-emotive, self-instructional, and behavioral assertion training: Facilitating maintenance. *Cognitive Therapy and Research, 2,* 241-253.

Dampier, W. C. (1971). *A history of science: And its relations with philosophy and religion.* Cambridge: Cambridge University Press.

Derry, P. A., & Stone, G. L. (1979). Effects of cognitive-adjunct treatments on assertiveness. *Cognitive Therapy and Research, 3,* 213-221.

Dush, D. M., Hirt, M. L., & Schroeder, H. (1983). Self-statement modification with adults: A meta-analysis. *Psychological Bulletin, 94,* 408-422.

Ellis, A. (1962). *Reason and emotion in psychotherapy.* New York: Lyle Stuart.

Ellis, A. (1977). Research data supporting the clinical and personality hypotheses of RET and other cognitive-behavior therapies. In A. Ellis & R. Grieger (Eds.), *Handbook of rational-emotive therapy* (pp. 35-71). New York: Springer.

Ellis, A., & Harper, R. (1975). *A new guide to rational living.* Englewood Cliffs, New Jersey: Prentice-Hall.

Emmelkamp, P. M. G., Kuipers, C. M., & Eggeraat, J. B. (1978). Cognitive modification versus prolonged exposures *in vivo. Behaviour Research and Therapy, 16,* 33-44.

Emmelkamp, P. M. G., & Mersch, P. P. (1982). Cognition and exposure in vivo in the treatment of agoraphobia: Short-term and delayed effects. *Cognitive Therapy and Research, 6,* 77-88.

Ericsson, K. A., & Simon, H. A. (1979). *Sources of evidence on cognition: An historical review* (C.I.P. working paper No. 406, October 17, 1979).

Galassi, J. P., Frierson, H. T., & Sharer, R. (1981). Behavior of high, moderate, and low test anxious students during an actual test situation. *Journal of Consulting and Clinical Psychology, 49,* 51-62.

Girodo, M., & Roehl, J. (1978). Cognitive preparation and coping self-talk: Anxiety management during the stress of flying. *Journal of Consulting and Clinical Psychology, 46,* 978-989.

Glass, C. R., & Merluzzi, T. V. (1981). Cognitive assessment of social-evaluative anxiety. In T. V. Merluzzi, C. R. Glass, & M. Genest (Eds.), *Cognitive assessment.* New York: Guilford Press.

Glass, C. R., Merluzzi, T. V., Biever, J. L., & Larson, K. H. (1982). Cognitive assessment of social anxiety: Development and validation of a self-statement questionnaire. *Cognitive Therapy and Research, 6,* 37-55.

Glogower, F. D., Fremouw, W. J., & McCroskey, J. C. (1978). A component analysis of cognitive restructuring. *Cognitive Therapy and Research 2,* 209-223.

Hamilton, E., & Cairns, H. (Eds.). (1961). *The collected dialogues of Plato.* Princeton, New Jersey: Princeton University Press.

Heimberg, R. G., Chiauzzi, E. J., Becker, R. E., & Madrazo-Peterson, R. (1983). Cognitive mediation of assertive behavior: An analysis of the self-statement patterns of college students, psychiatric patients, and normal adults. *Cognitive Therapy and Research, 7,* 455-464.

Hollandsworth, J. G., Jr., Glazeski, R. C., Kirkland, K., Jones, G. E., & Van Norman, L. R. (1979). An analysis of the nature and effects of test anxiety: Cognitive, behavioral and physiological components. *Cognitive Therapy and Research, 3,* 165-180.

James, W. (1950). *The principles of psychology* (Vol. 2). New York: Dover. (Original work published 1890).

James, W. (1961). *Varieties of religious experience: A study in human nature.* New York: Collier Macmillan. (Original work published 1902).

Johnson, J. J., & Sarason, I. G. (1979). Recent developments in research on life stress. In V. Hamilton & D. M. Warburton (Eds.), *Human stress and cognition: An information processing approach.* Chichester, England: Wiley.

Kendall, P. C., & Finch, A. J. (1978). A cognitive-behavioral treatment for impulsivity: A group comparison study. *Journal of Consulting and Clinical Psychology, 46,* 110-118.

Kendall, P. C., & Hollon, S. D. (1981). Assessing self-referent speech: Methods in the measurement of self-statements. In P. C. Kendall & S. D. Hollon (Eds.), *Assessment strategies for cognitive-behavioral interventions.* New York: Academic Press.

Kendall, P. C., Williams, L., Pechacek, T. F., Graham, L. E., Shisslack, C., & Herzoff, N. (1979). Cognitive-behavioral and patient education interventions in cardiac catheterization procedures: The Palo Alto Medical psychology project. *Journal of Consulting and Clinical Psychology, 47,* 49-58.

Klass, E. T. (1981). A cognitive analysis of guilt over assertion. *Cognitive Therapy and Research, 5,* 283-297.

Ladouceur, R. (1983). Participant modeling with or without cognitive treatment for phobias. *Journal of Consulting and Clinical Psychology, 51,* 930-932.

Langer, E. J. (1978). Rethinking the role of thought in social interaction. In J. H. Harvey, W. Ickes, & R. F. Kidd (Eds.), *New directions in attribution research* (Vol. 2, pp. 35-58). Hillsdale, New Jersey: Erlbaum.

Luria, A. R. (1961). *The role of speech in the regulation of normal and abnormal behavior.* Oxford: Pergamon Press.

Malkiewich, L. E., & Merluzzi, T. V. (1980). Rational restructuring vs. desensitization with clients of diverse conceptual levels: A test of a client-treatment matching model. *Journal of Counseling Psychology, 27,* 453-461.

Mavissakalian, M., Michelson, L., Greenwald, D., Kornblith, S., & Greenwald, M. (1983). Cognitive-behavioral treatment of agoraphobia: Paradoxical intention vs. self-statement training. *Behaviour Research and Therapy, 21,* 75-86.

May, J. R., & Johnson, H. J. (1973). Physiological activity to internally elicited arousal and inhibitory thoughts. *Journal of Abnormal Psychology, 82,* 239-245.

Meichenbaum, D. (1977). *Cognitive-behavior modification: An integrative approach.* New York: Plenum Press.

Meyers, D. (1980). *The positive thinkers: Religion as pop psychology from Mary Baker Eddy to Oral Roberts.* New York: Pantheon Books.

Miller, R. C., & Berman, J. S. (1983). The efficacy of cognitive-behavior therapies: A quantitative review of the research evidence. *Psychological Bulletin, 94,* 39-53.

Rhyne, L. D., Sullivan, T., & Claiborn, J. M. (1983). *An analysis of assertive behavior in male psychiatric inpatients.* Unpublished manuscript.

Rychlak, J. R. (1968). *A philosophy of science for personality theory.* Boston: Houghton Mifflin.

Ryle, G. (1949). *The concept of mind.* New York: Harper & Row.

Ryle, G. (1979). *On thinking* (K. Kolenda, Ed.). Totowa, New Jersey: Rowman and Littlefield.

Safran, J. D. (1982). The functional asymmetry of negative and positive self-statements. *British Journal of Clinical Psychology, 21,* 223-224.

Schopenhauer, A. (1981). *Essays and aphorisms* (R. J. Hollingdale, Ed.). New York: Penguin Books.

Schwartz, R. M., & Garamoni, G. L. (1986). A structural model of positive and negative states in mind: Asymmetry in the internal dialogue. In P. C. Kendall (Ed.), *Advances in cognitive-behavioral research and therapy.* (Vol. 5, pp. 1-62). New York: Academic Press.

Schwartz, R. M., & Gottman, J. M. (1976). Toward a task analysis of assertive behavior. *Journal of Consulting and Clinical Psychology, 44,* 910-920.

Thorpe, G. L., Amatu, H. I., Blakey, R. S., & Burns, L. E. (1976). Contributions of overt instructional rehearsal and "specific insight" to the effectiveness of self-instructional training: A preliminary study. *Behavior Therapy, 7,* 504-511.

Tversky, M., & Kahneman, D. (1981). The framing of decisions and the psychology of choice. *Science, 211,* 453-458.

Vasta, R., & Brockner, J. (1979). Self-esteem and self-evaluative covert statements. *Journal of Consulting and Clinical Psychology, 47,* 776-777.

Vinokur, A., & Selzer, M. L. (1975). Desirable versus undesirable life events: Their relationship to stress and mental distress. *Journal of Personality and Social Psychology, 32,* 329-337.

Vygotsky, L. S. (1962). *Thought and language.* Cambridge, Massachusetts: M.I.T. Press.

Watson, J. B. (1925). *Behaviorism.* New York: W. W. Norton.