

# Thought self-leadership: The influence of self-talk and mental imagery on performance

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## Summary

Self-leadership theory can be described as the 'process of influencing oneself' as opposed to the influence of leaders over followers (Manz, 1983, 1986). We focus on and develop a model for a particular aspect of self-leadership — thought self-leadership — emphasizing two primary elements, self-talk and mental imagery. The major thrust of this model is that employees can influence or lead themselves by utilizing specific cognitive strategies that focus on individual self-dialogue and mental imagery. It is proposed that constructive thought management through the effective application of cognitive strategies can lead to enhanced individual and organizational performance.

## Introduction

Puff, puff, chug, chug, went  
the Little Blue Engine. 'I  
think I can — I think I can — I  
think I can — I think I can — I.  
Up, up, up.  
Faster and faster the little engine  
climbed, until at last they  
reached the top of the mountain.  
And the Little Blue Engine smiled  
and seemed to say as she puffed  
steadily down the mountain. 'I  
thought I could. I thought I could.  
I thought I could . . .

Watty Piper, 1930

As children, many of us heard these familiar words spoken by the Little Blue Engine, 'I think I can, I think I can, I think I can . . .' These same words have utility for the numerous employees working in organizations today.

This well-known phrase that was uttered by a storybook locomotive is an example of a cognitive strategy known as self-talk. The way in which the Little Blue Engine talked to itself seemed to clearly relate to its performance; i.e. getting over the mountain. In this article, it is hypothesized that there is a significant relationship between cognitive strategies and performance for employees in organizations. More specifically, we argue that the cognitive strategies of self-talk and mental imagery can significantly impact the success or failure of an organization's members.

For decades, authors in the realm of popular or 'pop' psychology have touted the benefits of various cognitive strategies including self-talk and mental imagery (e.g. Peale, 1952, 1982).

While some might argue that this work lacks scientific credibility, it has played an important role in drawing attention to a new fruitful area for empirical studies. More specifically self-talk and mental imagery have been examined and tested in various disciplines including sports psychology (e.g. Andre and Means, 1986; Clark, 1960; Feltz and Landers, 1983; Kendall, Hrycaiko, Martin and Kendall, 1990; Lee, 1990; Mahoney and Avenier, 1977; Meyers, Cooke, Cullen and Liles, 1979; Ryan and Simons, 1981; Wrisberg and Anshel, 1989; Zecker, 1982; Ziegler, 1987), clinical psychology (Bonadies and Bass, 1984; Crowder, 1989; Harrell, Chambless and Calhoun, 1981; Meichenbaum and Goodman, 1971; Rosin and Nelson, 1983; Schill, Monroe, Evans and Ramanaiah, 1978; Steffy, Meichenbaum and Best, 1970; Turner, Kohl and Morris, 1982; Velten, 1968), counseling psychology (Baker, Johnson, Kopala and Strout, 1985; Hazler and Hipple, 1981; Kurpius, Benjamin and Morran, 1985; Morran, 1986; Richardson and Stone, 1981), education (Swanson and Kozleski, 1985), and communication (Boice, 1985). While there has been a paucity of research and application of these and other strategic cognitions to the management literature, the literature of other disciplines provides support for the relationship between the utilization of these methods and enhanced performance.

Various cognitive based perspectives for organizations have been addressed elsewhere — perhaps most notably the schema based information processing perspective (e.g. Feldman, 1981; Sims and Gioia, 1986). However most of this work does not significantly address the ability of the individual to control and/or alter his/her own thinking. An underlying assumption of this manuscript is that individuals do have the power to manage their own thinking. This assumption does not exist without valid support. As one leading psychologist points out: 'One of the most significant findings in psychology in the last twenty years is that individuals can choose the way they think' (Seligman, 1991). This position is especially relevant given recent trends in the management literature towards empowering people to be more autonomous (Hackman, 1986; Lawler, 1986; Manz and Sims, 1989; Walton, 1985). Facilitating the learning of self-leadership skills to deal with increased autonomy is an important part of establishing effective participative systems. An important part of this learning involves helping people to manage their own thinking.

Consequently, the purpose of this paper is to expand on the process of self-leadership introduced by Manz (1983, 1986, 1992). Self-leadership is defined as 'the process of influencing oneself to establish the self-direction and self-motivation needed to perform' This aspect of management has been derived primarily from the social learning literature (Bandura, 1977a, 1986) and related work in self-control (Bandura, 1969; Cautela, 1969; Goldfried and Merbaum, 1973; Kanfer, 1970; Mahoney and Arnkoff, 1978, 1979; Mahoney and Thoresen, 1974; Thoresen and Mahoney, 1974). In the organizational literature, the primary focus has been on the related process usually referred to as self-management (Andrasik and Heimberg, 1982; Manz and Sims, 1980; Marx, 1982; Mills, 1983; Hackman, 1986).

In summary, this paper proposes the concept of 'thought self-leadership' The underlying premise is that people can influence or control their own thoughts through the application of specific cognitive strategies and ultimately impact individual and organizational performance (Manz and Neck, 1991). A cognitive self-leadership model is proposed that attempts to integrate some of the major issues relating to self-leadership from various bodies of literature. Specifically, we place a primary focus on self-talk and mental imagery. The relationship of these cognitive strategies to other elements of thought self-leadership are discussed.

## **The concepts of self-talk and mental imagery**

Before introducing our comprehensive model of thought self-leadership we will clarify the definitions of two of the model's chief components, self-talk and mental imagery and examine the

literature that addresses these two processes. This initial review will provide a preliminary view of the relationship between self-talk and mental imagery with performance.

### *Self-talk*

Self-talk or self-verbalizations can be simply defined as what we covertly tell ourselves (Ellis, 1962). Weick (1979) suggested the relevance of this cognitive strategy to organizations as he argued that 'organizations are presumed to talk to themselves' (p. 133). Similarly, Manz (1983, 1986, 1992) and Manz and Sims (1989) have suggested the potential of self-talk as a self-influencing tool for improving the personal effectiveness of employees and managers. Various studies in a number of different fields have provided support for the relationship between an individual's self-talk and performance.

For example, in the field of sports psychology, Mahoney and Avenier (1977) studied 12 elite gymnasts competing for births on the 1976 men's U.S.A. Olympic team. Their findings indicated that self-verbalizations differentiated the best gymnasts from those who failed to make the Olympic team — those that became members of the Olympic team practiced self-talk, non-members did not. Similarly, Meyers *et al.*'s (1979) study of nine male members of a university racquetball team found that better performers exhibited more frequent self-statements in training and competition. Finally, Kendall *et al.* (1990) investigated the effects of self-talk combined with mental imagery and relaxation on the performance of a defensive basketball skill (cutting off the offensive players' baseline path to the hoop). Their findings indicated that the performance level observed after the training intervention was higher than the performance level observed prior to intervention. Although the literature is sparse, these studies together suggest that the utilization of self-talk, either alone or in conjunction with other cognitive strategies, and the frequency of these self-verbalizations, are related to successful performance.

Furthermore, in clinical psychology, Steffy *et al.*'s (1970) study of 48 smokers suggested that self-talk was one of the treatment components that helped the smokers reduce their daily intake of cigarettes. Using performance on a perceptual-motor task as the dependent variable, Schill *et al.* (1978) and Bonadies and Bass (1984) examined the hypothesis that rational self-statements increase, and irrational self-statements decrease, behavioral efficiency in performance. The results of both studies indicated that persons designated as part of a rational self-statement group reduced errors and completed their tracings on a mirror-star tracing apparatus more quickly than a neutral or an irrational self-statement group. Finally, Meichenbaum and Goodman's (1971) studies of impulsive children indicate that a cognitive self-guidance program, which trained impulsive children to talk to themselves, was effective in modifying their behavior on a variety of psychometric tests which assessed cognitive impulsivity, performance I.Q., and motor ability. These four clinical psychology studies suggest that the type (rational versus irrational) of self-verbalization influences the resulting performance.

In the field of counseling psychology, studies have focused on the question of whether self-talk increases the performance of the therapist during a counseling session. Kurpius *et al.* (1985) studied counselor trainees and found that those that were taught cognitive strategies that increased their positive self-talk formulated better clinical hypotheses than other treatment (e.g. exposure to the description of good clinical hypothesis) or control groups. Similarly, Richardson and Stone's (1981) study of counselor trainees suggested that the acquisition of facilitative self-talk led to higher levels of reflection, confrontation, and empathy in the trainees. Also, Morran's (1986) study of counselors indicated that there was a positive relationship between higher quality self-talk (self-talk that focused on the analysis of client data) and higher

levels of facilitative performance. This suggests that it is not quantity of self-talk but the quality that counts in effecting performance.

The final two disciplines that have examined this link are education and communication. Swanson and Kozleski's (1985) studies showed that self-talk training can positively influence academic and communication performance in handicapped children. Boice (1985) found that writers who did not suffer from writer's block were less likely to have negative self-talk and more likely to have positive 'psych-up' self-talk during writing sessions.

Overall, the research from several fields provides support for the first link in the basic model in Figure 1 — that is, self-talk enhances individual performance across a variety of tasks and activities.

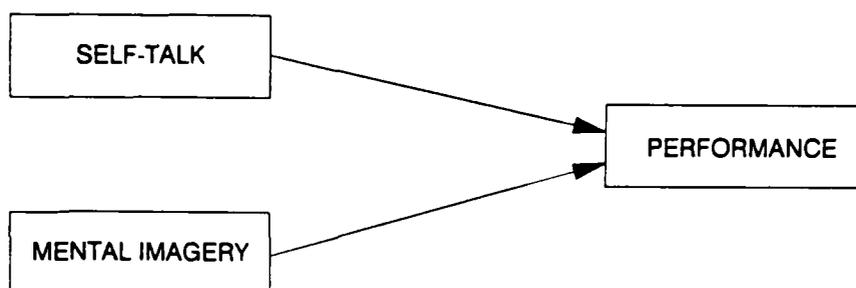


Figure 1. Simplified thought self-leadership model

### *Mental imagery*

In sports psychology, mental imagery is viewed as a method involving rehearsal of a physical task in the absence of observable movement (Corbin, 1972; Richardson, 1967). In clinical psychology, mental imagery is defined as 'the mental invention or recreation of an experience that in at least some respects resembles the experience of actually perceiving an object or an event, either in conjunction with, or, in the absence of, direct sensory stimulation (Finke, 1989). Similarly, another perspective views mental imagery as follows: 'we can create and, in essence, symbolically experience imagined results of our behavior before we actually perform' (Manz, 1992, p. 75). From these views, mental imagery refers to imagining successful performance of the task before it is actually completed. For example, managers are frequently required to make public presentations. A manager can potentially enhance the presentation performance by visualizing the completion of a successful presentation in his/her mind before it is actually performed. Weick's (1979) concept of 'future perfect thinking' provides a parallel argument as he states: '... If an event is projected and thought of as already accomplished, it can be more easily analyzed' (p. 199). '... Managers' success or failure invoking this complicated linguistic form will have much to do with the success of their planning' (p. 198).

Much of the current research addressing the relationship between mental imagery and performance is found in sport psychology, counseling education, and clinical psychology. The number of sports psychology studies examining this relationship is quite vast. Feltz and Landers (1983) performed a meta-analysis of 60 sport studies addressing the effect of mental practice on performance. The studies reviewed differed markedly in the types of tasks (motor, strength, and cognitive) used, ages (elementary, high school, and college ages), and backgrounds (sex and experience with task) of subjects, as well as research designs (pre-post test, simple control group, or motiva-

tional control group) and methodologies (time of post-test and the number and length of practice sessions given before the post-test was employed). Since some of the studies included in this meta-analysis measured the effect of mental imagery on more than one task or under more than one condition, the number of effect-size measures exceeded the number of studies. Thus, of the 60 studies yielding 146 effect sizes, the overall average effect size (calculated by dividing the difference between the means of the treatment and control groups by the within-group standard deviation) was 0.48, which suggests that mentally practicing a task influences the actual performance on that task. In addition, this meta-analysis indicated that studies employing cognitive tasks had larger average effect sizes than motor or strength tasks, suggesting that the use of mental imagery to enhance performance may be more conducive to cognitive tasks. Overall, the meta-analysis provides significant support for the positive relationship between mental imagery and successful performance across a wide range of tasks and performance conditions.

Lee's (1990) study of 52 male students in a muscular endurance task (sit-ups), examined whether the content of the mental imagery (task relevant versus task irrelevant) affected the relationship between imagery and performance. It was found that task relevant imagery was more effective in increasing performance than a control condition and that task irrelevant imagery was not. Andre and Means (1986) examined the effects of mental imagery visualized in slow-motion. It was hypothesized that the use of slow-motion imagery in mental practice might enhance the effectiveness of such practice by enriching each subject's imagined experience. Their study of 66 male students performing a 'putting' stroke involved in the game of Frisbee disc golf did not reveal different effects on performance resulting from the rate of mental practice (slow-motion versus normal). In summary, these two studies suggest that the specific content of the mental imagery is crucial in determining its effect on performance; but, that the rate of the imagery is not a critical factor.

Studies in the counseling education discipline parallel the findings in sports psychology and suggest that mental imagery can enhance the performance of counselors. Hazler and Hipple (1981) found that neophyte counselors trained in imagery to practice interviews exhibited superior performance in comparison to counselors not receiving this training. Similarly, a study of Masters of Counseling Education candidates' ability to acquire test interpretation skills indicated that mental imagery can lead to successful performance on complex higher order skills such as decision-making and strategy formulation (Baker *et al.* 1985).

In clinical psychology, Turner *et al.* (1982) found that skill imagery facilitated bilateral skill performance (dominant to non-dominant hand). Specifically, subjects imagining performance of a rotary pursuit task with their dominant hand performed significantly better with their non-dominant hand than subjects receiving no training in mental imagery. In addition, no relationship was found between the personality type (introversion versus extroversion) of the individual utilizing mental imagery and the resulting performance. Similarly, another study indicated that mental imagery enhanced an individual's ability to identify pairs of musical tones (Crowder, 1989). Students were exposed to two successive tones played on different musical instruments, and were asked to identify whether the second tone was identical to the original one. The results indicated that students, who after exposure to the first tone imagined what the same tone played on a different instrument would sound like, reacted faster in correctly pinpointing identical tones. Overall, findings in clinical psychology suggest that positive mental imagery can enhance performance for a wide range of individuals with differing personality types.

In summary, the research from several fields provides preliminary support for the second link in the basic model in Figure 1 — that is, mental imagery facilitates successful performance. While one sports psychology study of collegiate wrestlers in tournament competition (Gould,

Weiss and Weinberg, 1981) failed to provide support for the positive relationship of mental imagery and self-talk with performance, the overwhelming majority of reported research provides convincing evidence for this relationship. Additionally, in the studies reviewed thus far, the construct 'performance' has tended to refer to a number of different meanings including quality of skill performed (e.g. counselor decision-making) and quantity of the task output (e.g. number of sit-ups performed). Drawing from this past research, we conceptualize performance as the effectiveness of the behaviors utilized to complete a task, and the quantity and/or quality of the task output.

Thus, it appears that self-talk and mental imagery significantly influence the performance on a variety of tasks under a variety of conditions. The model suggests that purposeful practice of self-talk and mental imagery can potentially enhance individual performance.

## **Towards a theory of thought self-leadership**

Thought self-leadership is conceptualized as a process of influencing or leading oneself through the purposeful control of one's thoughts (Manz and Neck, 1991). This includes the utilization of specific cognitive strategies including management of self-talk and mental imagery. Thought self-leadership focuses on a particular aspect of the broader process of self-leadership (Manz, 1983, 1992) and builds upon perspectives in the organizational literature including Weick's (1979) 'future perfect thinking' and the analysis of affect in organizations (e.g. Sims and Gioia, 1986).

Our cognitive perspective of self-leadership is derived primarily from social learning theory (Bandura, 1977a, 1986). Social learning theory argues that behavior is a function of a triadic reciprocity between the person, the behavior, and the environment (Davis and Luthans, 1980). An alternative perspective to behavior, reinforcement theory, describes behavior as a function of environmental factors (e.g. Skinner, 1953; Luthans and Kreitner, 1975). More specifically, this externally oriented perspective is concerned with the role that reinforcing contingencies play in maintaining and changing behavior.

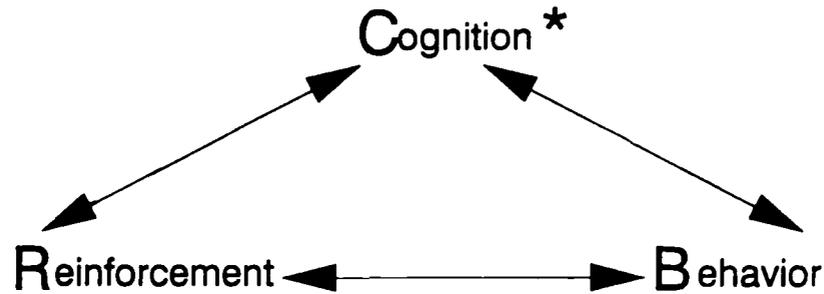
Thus, the major differences between social learning theory and reinforcement theory are two-fold. First, social learning theory argues for the mediating effects of cognitive processes between the individual and the environment, whereas reinforcement theory ignores the role of cognitive processes in terms of explaining behavior. Second, since social learning theory argues for the mediating function of cognitive processes, it allows for the possibility of focusing on self-regulation of cognitions as a mechanism for influencing individual behavior and performance. By ignoring cognition and self-regulation and instead focusing on the controlling role of the environment, reinforcement theory precludes this kind of analysis (Davis and Luthans, 1980).

Thus, our social learning theory based self-leadership perspective goes beyond reinforcement theories of leadership (e.g. Luthans and Kreitner, 1975; Sims, 1977). As Figure 2 depicts, the general thrust of a reinforcement view of leadership is that leaders can control subordinate behavior (B) through the manipulation of various reinforcing contingencies (R). Thought self-leadership argues that individual behavior (B) is influenced not only by external reinforcing factors (R), but also by the self-regulation of cognitive processes (C) (see Figure 3).

Figure 1 suggests a simple, direct relationship between self-talk, mental imagery and performance. It does not, however, incorporate all of the necessary elements needed to more fully integrate the literature and to provide a more complete model of thought self-leadership. In order to develop this more comprehensive model, some additional critical elements and their



Figure 2. Reinforcement theory of behavior



\* (e.g. self-dialogue, mental imagery, beliefs/assumptions, thought patterns)

Figure 3. Thought self-leadership view of behavior. \*(e.g. Self-dialogue, mental imagery, beliefs/assumptions, thought patterns)

relationship to self-talk and mental imagery need to be addressed. These elements include the role of beliefs, emotions, patterns of thinking, psychological scripts, and perceived self-efficacy. Thus, Figure 4 presents our more comprehensive model.

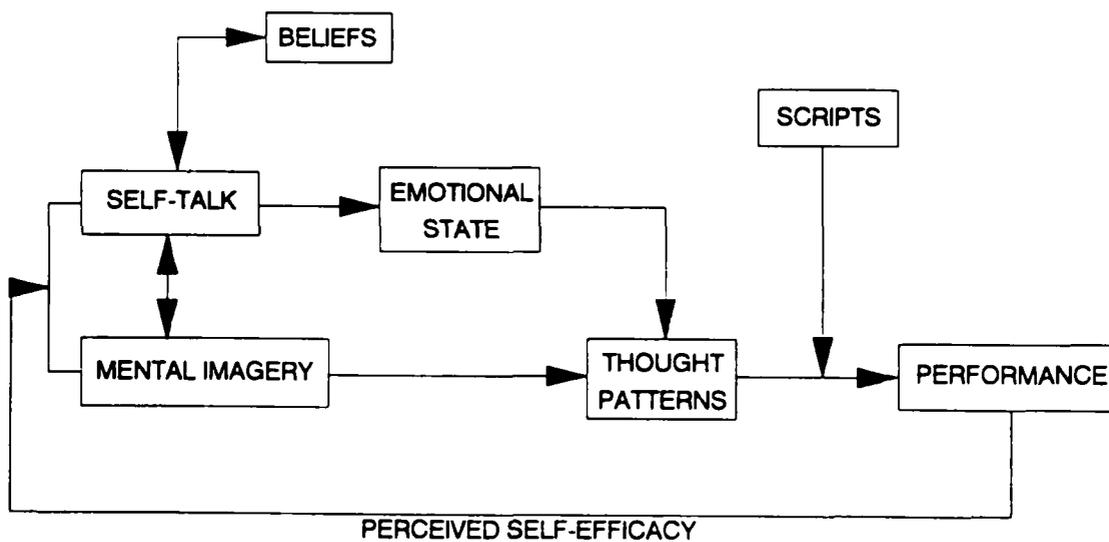


Figure 4. Comprehensive thought self-leadership model

*Emotion and thought self-leadership*

The research reviewed thus far suggests there is a direct relation between self-talk and performance. Other literature, however, suggests that the impact of self-talk and performance is mediated

by affective responses. Ellis (1962, 1975, 1977), for example, asserts that irrational or maladaptive thoughts produce emotional distress, whereas rational thoughts result in positive emotional states; and, that these emotions are the result of our self-talk. He states that 'one may control one's emotions by changing the internalized sentences, or self-talk, with which one largely created these emotions in the first place' (1975, p. 52). Furthermore, recent psychiatric work suggests that an individual's 'self-soothing' internal dialogue, which begins during childhood, can lead to the emotional state of solace (Horton, 1981).

Beck (1976) adds further specificity to this cognitive-affective relationship, hypothesizing that the type of thought determines the specific nature of the emotional response. Ellis' Horton's and Beck's views suggest that one's beliefs are related to the type of internal dialogue that one executes, which in turn corresponds to one's resulting emotional state. This relationship has received significant empirical support. Studies by Velten (1968), Rimm and Litvak (1969), and Harrell *et al.* (1981) all supported the assumption that specific rational and irrational self-statements were found to be highly correlated with corresponding affective states. Additionally, Rosin and Nelson (1983) examined the effects of rational and irrational beliefs on self-report measures of emotional state. Subjects who experienced rational self-talk reported less anxiety on the task of solving a cube puzzle, whereas subjects experiencing irrational self-talk exhibited an increase in anxiety. Taken as a whole, these studies supported the hypothesis that self-talk results in a corresponding emotional state; and, the type of self-talk experienced is a result of the beliefs the individual has internalized.

Secondary support for the emotion effects exhibited in the comprehensive model (Figure 4) is provided by Sims and Gioia's (1986) review of the recent studies that examine the effects of mood on memory, thinking, social learning, and social judgment (Bower, 1981; Bower and Cohen, 1982; Srull, 1983; Gilligan and Bower, 1984; Clark and Isen, 1982; Wright and Mischel, 1982). Bower (1981) proposes that mood can influence learning, perception, memory and judgment in terms of two processes: (1) mood-congruity effect, and (2) mood-state-dependent retention effect. The former means that individuals will attend to more and better learn those events that convey an emotional tone that is similar to their current mood. The latter implies that the retrieval from memory will be enhanced when the mood state at the time of recall matches the mood state that occurred during learning.

Similarly, other recent research has examined the influence of mood on cognitive processes in general (Zajonc, 1980) as well as on problem solving, decision-making, judgment and evaluation (Isen, Shalke, Clark and Karp, 1978; Isen and Shalke, 1982; Isen, Means, Patrick and Nowicki, 1982; Isen and Means, 1983; Isen, 1984; Isen and Patrick, 1983; Isen and Daubman, 1984; Hill, Lippitt and Serkowneck, 1979). Most of this research has focused on the effect of a positive, rather than a negative mood. These studies suggest that a positive mood influences evaluation, judgment and decision-making by shaping decision-making strategies and by increasing the likelihood that positively toned material will be retrieved from memory (Sims and Gioia, 1986). The findings of this research suggest that an employee's mood state may influence his/her performance.

An additional linkage in the comprehensive model that differs from the skeletal model centres on the relationship between mental imagery and performance. This simple model suggests that imagery and performance were directly related. However, the comprehensive model portrays an indirect relation in which imagery affects performance through its impact on the thought patterns an individual enacts. Additionally, unlike the relation of self-talk to thought patterns, the relationship of imagery to thought patterns is not viewed as being mediated by a corresponding emotional state. This relationship is reinforced empirically in Lee's (1990) previously discussed sports psychology study that examined the relationship of emotions to imagery and

performance. She found that the specific content of the mental imagery is important in determining its effect on performance and that the effect does not depend on alterations of mood state.

Additionally, Sims and Gioia's (1986) conception of the 'organizational trajectory image' indirectly reinforces the influence of imagery on performance at the organizational level. They describe this concept as 'the projection of what the organization hopes to become and what it wants to achieve' (p. 305). It is argued that this organizational projection influences organizational decision-making.

Furthermore, while the basic model depicts self-dialogue and mental imagery as noninteractive, the comprehensive model suggests that these two TSL elements influence each other. It should be noted, however, that while certain aspects of self-talk may also contain elements of mental imagery (and *vice versa*) these two components are basically distinct from each other — that is, self-talk is an individual's internal dialogue (e.g. Ellis, 1962), whereas mental imagery is a symbolic/mental representation (e.g. Manz, 1992).

### *Thought patterns*

The next step in the model suggests that an emotional state leads to a particular type of thought pattern. Manz (1991) describes a thought pattern as, 'certain ways of thinking about our experiences' and as, 'habitual ways of thinking'. The view taken here is that individuals tend to engage in both negative and positive chains of thought (habitual ways of thinking) that affect emotional and behavioral reactions. These thoughts flow in relatively consistently repeated patterns when triggered by specific circumstances. The model suggests that self-talk and mental imagery influence each other to produce an individual's thought patterns. As Manz (1991) states: '... These thought patterns involve among other things, our beliefs, our imagined experiences, and our self-talk' (p. 81).

An example of the types of thought patterns that a person could adopt include 'opportunity thinking' and 'obstacle thinking' (Manz, 1992). Opportunity thinking involves a pattern of thoughts that focuses on opportunities, worthwhile challenges, and constructive ways of dealing with challenging situations. Obstacle thinking, on the other hand, involves a focus on the negative aspects (the obstacles) involved in challenging situations — e.g. reasons to give up and retreat from problems. Weick's (1979) conceptualization of organizational limitations seems to resemble obstacle thinking. He argues that constraints in the organization's environment become 'self-imposed restrictions on the options that managers consider and exercise when confronted with problems' (p. 149).

Additionally, some of Sullivan's (1953) psychiatric work is an example of opportunity thinking. He argues that one method of learning occurs via 'trial and success' as opposed to 'trial and error'. In other words, an individual learns by focusing on his/her successes rather than failures in a given number of trials. Similarly a thought pattern paralleling that of opportunity/obstacle thinking has been posited by a leading psychologist as he argues that individuals tend to evoke one of two habits of thinking, optimism or pessimism (Seligman, 1991). He argues that when confronted by a bad situation optimists 'perceive it as a challenge and try harder' whereas pessimists believe 'bad events will last a long time and will undermine everything they do' (p. 4–5).

Finally, some of the literature in strategic management indicates that managers adopt habitual patterns of thought in terms of opportunities or threats (Jackson and Dutton, 1988). More specifically, one study indicates that managers succumb to a threat bias — that is, they habitually view environmental stimuli as threats (negative/no gain situations) rather than opportunities (positive/may gain situations) (Jackson and Dutton, 1988).

As the model suggests, a corresponding relationship between the types of one's thought pattern and their performance is specified. In other words, if one's thought patterns are constructive in the sense that they focus on opportunities and potential ways of overcoming challenges, rather than obstacles, subsequent performance should be enhanced. If on the other hand, a person is an 'obstacle thinker' his/her performance will likely be hindered.

### *Psychological scripts*

A concept that pertains to the relationship between thought patterns and performance is a psychological script (Abelson, 1976, 1981; Gioia and Poole, 1984; Gioia and Manz, 1985). A script is a 'hypothesized cognitive structure that provides a guide to appropriate behavior sequences in a given context' (Gioia and Manz, 1985, p. 528). In other words, scripts refer to the ideal that individuals adopt stereotyped sequences of behavior that they use when confronted with certain types of situations (Manz, 1992). For example, when eating at a restaurant, we act out certain expected sequences of behavior such as waiting for the host to seat us, ordering something to drink before ordering the meal, and ordering the main course before ordering the dessert. Consequently, scripts suggest that individuals tend to automatically behave and think in specific ways when cued to do so by a particular situation. In the comprehensive model, scripts are depicted as moderating the relationship between thought patterns and performance. This relationship was described by Manz (1992): . . . The relationship between our pattern of thinking and our behavior, however, will often call for more than thinking our way to new isolated behaviors. In many cases, it may call for changing entire sequences of deep-rooted stereotypical behaviors (both physical and psychological) that have been habitually matched to specific situations . . . (p. 84).

In order to more fully conceptualize the relationship between thought patterns and performance, the element of scripts is included in our model.

### *Past performance experience and perceived self-efficacy*

The final aspect of the comprehensive model involves the element of experience. The model hypothesizes that the frequency of successful performance outcomes will directly effect the self-talk and mental imagery of the individual. In other words, the more times a person experiences success, the greater will be the likelihood that this person will enact positive self-talk and positive mental imagery. This logic is supported by Bandura's (1977a, 1986) empirically based theory of self-efficacy. The major thrust of this theory involves the individual's perception of his/her ability to overcome challenges. Bandura argues that this perception is a function of (1) past experience (actual experience); (2) observation of others (vicarious experience); (3) persuasion; and (4) physiological perceptions. Bandura's work suggests that past performance experience is the strongest contributor to perceived self-efficacy. Furthermore, the level of perceived self-efficacy has been found to effect the amount of effort expended and the degree of persistence, which are both significantly related to performance (Bandura, 1986).

## **Propositions**

The comprehensive model served as a catalyst in developing the following thought self-leadership propositions for future research.

*Proposition 1*

Individuals with functional beliefs will exhibit positive self-statements.

*Proposition 1a*

Individuals with dysfunctional beliefs will exhibit negative self-statements.

*Proposition 2*

Individuals who engage in constructive internal dialogue will exhibit a corresponding constructive emotional state.

*Proposition 2a*

Individuals who engage in destructive internal dialogue will exhibit a corresponding destructive emotional state.

The first two categories of proposition should serve to test the basic assumptions represented in the model and proposed by Ellis (1977) — that is, self-statements mediate the relation between belief and emotional states. As discussed previously, the work in clinical psychology by Velten (1968), Rimm and Litvak (1969), and Harrell *et al.* (1981) provides empirical support for this link. These propositions are included for examining this relationship within an organizational setting.

*Proposition 3*

Individuals engaging in constructive self-talk will tend to exhibit constructive mental imagery.

*Proposition 3a*

Individuals engaging in destructive self-talk will tend to exhibit destructive mental imagery.

*Proposition 4*

Individuals engaging in constructive mental imagery will tend to exhibit constructive self-talk.

*Proposition 4a*

Individuals engaging in destructive mental imagery will tend to exhibit destructive self-talk.

The propositions in categories 3 and 4 will test the reciprocal influence of self-talk and mental imagery as proposed by Manz (1983, 1986, 1992). This set of propositions is designed to address a void in the literature regarding the reciprocal interchange between these two cognitive processes. Most of the research reviewed examined the impact of self-talk and mental imagery on performance but failed to examine the correlation between these specific elements in the thought self-leadership model.

*Proposition 5*

Individuals exhibiting constructive emotional states will possess thought patterns of a constructive nature (e.g. opportunity thinking).

*Proposition 5a*

Individuals exhibiting destructive emotional states will possess thought patterns of a destructive nature (e.g. obstacle thinking).

*Proposition 6*

Individuals performing destructive forms of mental imagery will exhibit thought patterns of a destructive nature.

The propositions in categories 5 and 6 should serve to test the role of mental imagery and emotional state as antecedents of thought patterns as specified in the model.

*Proposition 7*

Individuals exhibiting constructive forms of thought patterns (e.g. opportunity thinking) and who adopt reinforcing/complementary scripts will attain a higher level of performance than individuals exhibiting negative forms of thought patterns (e.g. obstacle thinking) without reinforcing scripts.

This proposition will allow for the empirical test of the effect of thought patterns on individual performance. In other words, the logical notion that opportunity thinkers should perform better than obstacle thinkers will be examined. Additionally, this proposition will serve to examine the moderating role of scripts between thought patterns and performance, as depicted by Manz (1992).

*Proposition 8*

The more an individual experiences successful performance, the greater the likelihood that he/she will exhibit positive self-talk and positive mental imagery.

*Proposition 8a*

The more an individual experiences unsuccessful performance, the greater the likelihood that he/she will exhibit negative self-talk and negative mental imagery.

Propositions 8 and 8a will allow for the testing of the experience factor in the comprehensive model that is suggested by Bandura's (1977a, 1986) self-efficacy theory.

*Proposition 9*

Individuals who undergo thought self-leadership training — that is training that focuses on creating constructive patterns of beliefs, self-talk, and mental imagery — will evidence enhanced performance over those not receiving the training.

Proposition 9 will serve as the integral test of a central tenet of thought self-leadership — effective self regulation of cognitions can be learned/developed, and, thus, the contention that an individual's cycle of negative thinking can be altered.

## **Implications of thought self-leadership for practice**

The model we have developed is designed to provide an integration of variables contributing to the relationship between thought self-leadership and performance. An underlying assumption

of this model is that the individual has the ability to control and manage his/her thoughts in order to influence subsequent behavior and performance. In other words, through the process of thought self-leadership, employees can lead themselves to attain higher performance by the adoption and/or alteration of specific cognitive processes. As the comprehensive model suggests, there are various cognitive strategies that employees can execute in order to constructively manage their thinking and consequently to improve their performance. These involve adopting and/or changing their (1) beliefs, (2) internal dialogues, (3) mental imagery, and (4) thought patterns. The following examples provide speculation (supported by the significant research that we have reviewed that has been conducted in several fields of study) regarding the application of thought self-leadership strategies for members of organizations.

### *Changing beliefs*

An initial step that an employee can undertake to improve his/her performance involves performing a process similar to that prescribed by Ellis (1975) and Burns (1980). According to these views, individuals can identify and confront their dysfunctional beliefs and replace them with more rational beliefs. For example, a manager completely 'freezes' up during an important presentation to his Board of Directors and forgets many of the facts necessary to support his proposal. He goes back to his office and thinks to himself 'I'm a zero; I'll never be able to make an effective presentation'

According to the work of Burns (1980), which draws heavily on the research of Beck (1976), this type of thinking is an example of dysfunctional self-talk based on a distorted belief called 'all or nothing thinking'. This refers to an individual's tendency to evaluate his/her personal qualities in extreme, black or white categories. Similar to procedures posited by Ellis (1962, 1975, 1977), Burns suggests that such beliefs can be altered by identifying the dysfunction and then altering the thoughts that occur to be more rational in nature. The manager could challenge his thoughts of himself as a complete failure, and revise his beliefs regarding himself using constructive self-talk such as 'I've made successful presentations before; I will learn from this mistake. It's not the end of the world; I will do better next time'

### *Changing self-talk*

Through our comprehensive model, we hypothesize that self-statements correspond to emotional states which in turn affect performance. Consequently, an employee may be able to enhance his/her performance by controlling his/her emotional state. We propose that this can be attempted through the alteration of his/her internal dialogue. As Ellis (1975) states: '... the psychotherapist's main goal should include demonstrating to patients that their self-verbalizations not only have been but usually still are the source of their emotional disturbances. Patients should be shown that their internalized sentences are quite illogical and unrealistic in certain respects and that they have the ability to change their emotions by telling themselves — or rather, convincing themselves of the truth of — more rational and less self-defeating sentences' (p. 58).

Employees who bring their self-defeating internal verbalizations to a level of awareness, and who re-think and re-verbalize these inner dialogues, may be able to enhance their performance. In terms of the earlier example, before his next presentation, the manager needs to pay attention to what he is telling himself. Instead of telling himself, 'hey, you messed up last time, you might do it again' he could tell himself out loud, 'I'm going to captivate this audience; I have done my homework well and with concentration on what I know, I have no doubt in my mind that my presentation will be a success'. Over a number of attempts at utilizing construc-

tive self-talk, it should become internalized so that the employee learns to use it silently in his/her mind to improve performance of a task.

### *Using mental imagery*

As the various empirical studies discussed earlier suggest, individuals who utilize various mental imagery techniques tend to enjoy more successful performance than those who fail to practice such methods. Returning to our example, before his upcoming speech, the manager could mentally picture himself giving a fluent and exciting presentation to a receptive audience, while concentrating on the details of his most important points. This mental visualization of the speech should increase the manager's ability to make the presentation effectively, as well as his self-confidence because he has already performed the actual behavior in his mind. On the other hand, if the manager had mentally pictured himself as poorly presenting his speech to a hostile audience, the resulting lack of self-confidence could lead to the very failure that was imagined.

### *Alteration of thought patterns*

The comprehensive thought self-leadership model hypothesizes a direct relationship between individuals' thought patterns and performance. Consequently, one way to enhance an employee's performance is to alter his/her thought patterns. First, an examination of the worker's current thought patterns must occur. If the person tends to excessively focus on the negative aspects (the obstacles), rather than the positive aspects (the opportunities) involved in challenging situations with little thought devoted to potential opportunities, the employee stands to benefit from changing this pattern in future situations. If the employee succeeds in repeatedly reversing the tone of his/her cognitions over time, this new constructive way of thinking should become a habitual thought pattern and ultimately the potential for the employee's performance to improve could be established.

In addition, the employee could benefit from taking an inventory of the habitual behavioral sequence (scripts) that he/she performs. In order for employees to improve their performance, it may be necessary to develop new, more constructive scripts. According to Manz (1983), 'the development of new, more desirable scripts requires a greater awareness of our current script 'library' (the repertoire of scripts that we call upon and act out in different situations)' (p. 69). By paying attention to their current habitual behavioral performances in different situations, employees can obtain a better understanding of what caused their behavior. Additionally, employees' performance can be enhanced by identifying scripts that are more effective for specific situations and by rehearsing these new scripts until they become more automatic (habitual) replacing the old habitual sequence of actions.

### *Applicability of thought self-leadership*

Research suggests that self-managing the four interrelated components of self-talk, mental imagery, beliefs, and thought patterns, can provide employees with the means for improving their performance. In addition, these primary components of thought self-leadership may generalize to a wide range of applications. The Human Resources function is a notable example of an area of organizations in which the use of these cognitive strategies may be applicable. More specifically, the research in counseling psychology has shown that the cognitive strategies of self-talk and mental imagery can facilitate the performance of the therapist in the counseling

interview. This same relationship may generalize to the Human Resource manager in the terms of the interviewer role in the selection interview, to the manager during a performance appraisal, and to a whole host of other situations. Indeed, the interview and the performance appraisal functions in many ways require parallel behaviors to those exhibited in the counseling interview — that is, all three activities involve a dyadic relationship in which one person is assessing the other.

However, the application of thought self-leadership should be approached with caution. Notably, questions might be raised about the transferability of findings concerning the application of these cognitive methods in sports, clinical, and educational psychology to an organizational setting. Indeed, several arguments can be made against the successful utilization of these cognitive techniques in an organizational environment.

First, it could be argued that the unique nature of managerial tasks differs from that of the tasks employed in the previously reviewed studies; thus the results of these studies do not generalize to organizational arenas. More specifically, on the surface it may appear that the tasks involved in clinical work with individuals, with sports activities, and with personal learning are relatively self-contained activities; whereas managerial work is highly interdependent and often includes a significant amount of uncertainty. However, the nature of many of the tasks included in the reviewed studies parallel that of tasks employed in managerial activities. For example, the previously discussed mental imagery meta-analysis (Feltz and Landers, 1983) in sports psychology found no significant difference between closed-skill or self-paced tasks (consistent and predictable) and open-skill or reactive tasks (unpredictable). Thus, this supports the contention that the nature of the task, in terms of its degree of interdependency, does not moderate the relation between the execution of thought self-leadership strategies and enhanced performance.

Another related criticism of the applicability/transferability of thought self-leadership is that this may only apply to employees at specific levels in an organization involving only select types of tasks. Again, the research suggests differently. Components of thought self-leadership (e.g. mental imagery) have improved performance on lower order skills (basic attending and responding), higher order skills (decision-making and strategy formulation) (Baker *et al.* 1985), and tasks of a cognitive nature (Ryan and Simons, 1981).

Another argument against the applicability of thought self-leadership may be that individual differences, such as personality type of an individual may influence the applicability of our model to that person. Research previously cited (Turner *et al.* 1982), however, found no significant relationship between personality type and performance among subjects receiving mental imagery training.

Finally, while this manuscript has generally focused on the positive implications of thought self-leadership, it is important to highlight a potential drawback to the application of these cognitive strategies — that is, an individual's potential of becoming disconnected from external reality. The strong emphasis on internal cognitive and emotional states could possibly result in an employee losing touch with his/her external environment. For example, it has been argued that some of the recent performance problems of General Motors and NASA can be attributed to the managers' preoccupation with the 'self' and thus, their disconnection from external reality (Schwartz, 1990). However, in this manuscript we argue for the constructive application of thought management which assumes individuals become aware of and examine both their internal and external states; and, that thought self-leadership strategies can aid employees in overcoming difficulties that lie within their external reality.

Clearly, research is needed to assess the applicability of thought self-leadership in organizations but, the preliminary evidence suggests considerable promise. For example, one method of empiri-

cally examining the applicability of thought self-leadership in an organizational setting would be to examine our proposition 9 through a training intervention based field study. More specifically, a field study similar to that of Latham and Saari's (1979) modeling-based training design could be utilized. The design would include two training groups (one receiving thought self-leadership training, the other receiving a contingent reinforcement treatment) and a control group (not receiving any training). Therefore, the competing reinforcement theory and social learning theory based thought self-leadership perspectives would be compared (relative to a non-treatment control group) in terms of their impact on behavior and performance. The thought self-leadership (TSL) training would focus on each of the major components of TSL addressed in this paper (especially self-regulation of self-talk and mental imagery). Pre and post measures would be collected to assess the impact of the thought self-leadership training. The measures would be of multiple nature including supervisory ratings (performance), and a thought self-leadership questionnaire designed to measure the major components of thought self-leadership (e.g. self-dialogue, mental imagery, etc). In addition, other related variables including self-efficacy, job satisfaction, job commitment, perceived job stress, and negative affectivity could be studied. A final measure would focus on absenteeism and turnover drawing from company records to gain this information.

## Conclusion

Various bodies of literature including clinical psychology, counseling psychology, sports psychology, education, and communication, address the effect of self-talk and mental imagery on performance. This research provides consistent support for the relationship between constructive self-leadership of these cognitive processes and enhanced performance. The application of these and other cognitive strategies to the management literature, however, is sparse at best. We have proposed that the application of these principles to employees of organizations offers the potential to enhance individual and organizational performance.

A comprehensive model of thought self-leadership is proposed that expands on the process of Manz's (1983, 1986) self-leadership perspective. The basic premise of this perspective is that people can influence or lead themselves by controlling their own thoughts through the application of specific cognitive strategies which focus on self-verbalizations and mental imagery. Propositions derived from our comprehensive model have been proposed to serve as catalysts for empirically testing the applicability of thought self-leadership for improving performance in organizations. Overall, the challenge of better understanding the primary ingredients of effective self-leadership of thought appears to be a promising frontier for organizational research and practice.

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