

The Influence of Leader Behaviors on Follower Self-Leadership: An Application of Hierarchical Linear Modeling(HLM)*

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ABSTRACT

This study examined how leader behaviors influence follower self-leadership behavior. We used a relatively new technique in Organizational Behavior, Hierarchical Linear Modeling (HLM) which has been developed to analyze multi-level data. We found that empowering leader behaviors evoke individual self-leadership behavior, while directive leader behaviors hinder follower self-leadership.

Key words: Leadership, Self-Leadership, Hierarchical Linear Modeling (HLM)

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Traditionally, leadership theory has focused on the leader, not the followers. Followers are viewed as recipients of leadership influence, passively complying with direction from above, but not actively leading or influencing themselves. In this research, we focus on the follower, by investigating how followers influence themselves. This process of self-influence is called *Self-Leadership* (Manz, 1986, 1992; Manz & Sims, 1990, 1991; Sims & Manz, 1996). Moreover, we use Hierarchical Linear Modeling (e.g., Arnold, 1992; Bryk & Raudenbush, 1992; Cheung & Keeves, 1990; Paterson & Goldstein, 1991), to investigate how team leadership can influence subsequent follower self-leadership.

Both cognitive limits (March & Simon, 1958; Slovic, Fischhoff, & Lichtenstein, 1977) and environmental uncertainty (Dutton, Fahey, & Narayanan, 1983; Lyles & Mitroff, 1980) limit the leader's ability to handle organizational problems and opportunities. Perhaps leaders cannot recognize an opportunity or a problem, or their cognitive limits prevent them from making the best decision. Furthermore, followers often have first-hand information and/or solutions to issues associated with their jobs. Therefore, by empowering followers, leaders enlist the aid of many to cope with environment uncertainty beyond their own cognitive limits. In addition, followers are free to engage their own ability more fully to help the organization enhance competitiveness.

Beyond business benefits, empowering leadership is needed to meet the changing expectations of the work force (Sims & Manz, 1996). Today's employees increasingly view their jobs as a means of personal fulfillment, not just a paycheck. As a result, people increasingly expect control and influence over their own jobs and decision making. This expectation requires that leaders interact with followers in different ways and create different systems of follower motivation.

Recognizing these, Manz and Sims (1990, 1991; Manz, 1986, 1992; Sims

& Manz, 1996) have introduced the term *Self-Leadership* and have emphasized alternative empowering leader roles that evoke self-led followership. In this research, we investigate the effect of leader behaviors on the follower's self-leadership. For this study, leadership was classified into 15 behaviors and measured at the team or group level. Follower self-leadership behaviors were classified into 8 dimensions and measured at the individual level.

I. Leadership

Leadership has long been an important topic in both the academia and organizational world. It is so complex a concept in the study of organizations that there have been definitional problems. Stogdill (1974) even asserts that "there are almost as many definitions of leadership as there are persons who have attempted to define the concept" (p. 259). In his review of leadership research, Yukl (1989) suggests a definition of leadership as "influence processes involving determination of the group's or organization's objectives, and influencing group maintenance and culture" (p. 5). We define leadership broadly as a process of interpersonal influence. When a person influences another or when she influences her own behaviors, leadership takes place.

Leadership theory has tended to focus on *transactional* versus *transformational* views of leadership (Bass, 1985; Burns, 1978). More recently, Manz and Sims (1990, 1991; Sims & Manz, 1996) have introduced a new approach to leadership, *empowering leadership*. This new approach focuses mainly on followers, and how leaders can influence followers through empowerment. In addition, they propose an extended model of leadership archetypes that embraces and augments the more prominent

〈Table 1〉 Leadership Typology¹⁾

	Directive Leader	Transactor Leader	Transformational Leader	Empowering Leader
Leadership Focus	Commands	Rewards	Visions	Self-Leaders
Power Focus	Position/ Authority	Reward/ Exchange	Relational/ Inspirational	Responsible Autonomy
Source of Wisdom & Direction	Leader	Leader	Leader	Followers with fallback to leader
Follower Response	Fear/ conditional performance	Calculation/ conditional performance	Emotional commitment to leader vision	Emotional commitment based on self-led ownership
Major Leader Behaviors	<ul style="list-style-type: none"> * Aversive behavior * Assigned goals * Instruction and command 	<ul style="list-style-type: none"> * Contingent material reward * Contingent personal reward * Contingent reprimand 	<ul style="list-style-type: none"> * Creating vision * Idealism * Stimulation and inspiration * Challenge to the status quo * Challenge to the status quo 	<ul style="list-style-type: none"> * Encourages independent action * Interactive/self-goal setting * Encourages self-natural rewards * Encourages opportunity thought * Encourages teamwork

1) Adapted from Manz and Sims (1989).

transactional/transformational paradigm by adding two other leadership types, *directive leadership* and *empowering leadership* (Manz & Sims, 1991; Sims & Manz, 1996). These four archetypes are characterized by clusters of specific leader behaviors that are conceptually connected within each archetype. Table 1 provides an overview of the typology, including directive leadership, transactor leadership, transformational leadership, and empowering leadership archetypes. Table 2 shows representative theory and research underlying each leadership archetype.

<Table 2> Leadership Typology with Representative Theory and Research²⁾

Archetype	Related Historical Theory / Research
Directive Leader	Theory X Leadership (e.g., McGregor, 1960) Initiating Structure -- Ohio State Leadership Studies (e.g., Fleishman, 1973) Punishment Research (e.g., Arvey & Ivancevich, 1980)
Transactor Leader	Expectancy Theory (e.g., Vroom, 1964) Path-Goal Theory (e.g., House & Mitchell, 1974) Goal Setting Theory (e.g., Locke & Latham, 1990) Reinforcement Theory (e.g., Luthans & Kreitner, 1985) Punishment Research (e.g., Arvey & Ivancevich, 1980)
Transformational Leader	Charismatic Leadership Theory (e.g., House, 1977) Transformational Leadership Theory (e.g., Burns, 1978, Bass, et al. 1987)
Empowering Leader	Behavioral Self-Management (e.g., Luthans & Davis, 1979; Thoreson & Mahoney, 1974) Social Learning Theory (e.g., Bandura, 1977, 1997) Cognitive Behavior Modification (e.g., Meichenbaum, 1974) Participative Decision Making (Vroom & Yetton, 1973)

2) Adapted from Manz and Sims (1991).

Of course, real leaders are not limited to behaviors within a single archetype. For example, Pearce, Cox, and Sims (1997) have shown that specific leaders can use both transactor and transformational behaviors. Therefore, in this study leadership is conceptualized 15 specific behaviors that are derived from all four archetypes.

1.1 Directive leadership

The directive leader archetype refers to a prototypical "boss" who engages in highly directive and occasionally punitive and dictatorial leadership (e.g., Schriesheim, House, & Kerr, 1976). This type of leadership is the earliest dominant view of leadership, when "leadership was mainly a matter of how and when to give directions and orders to obedient subordinates. The strong directed the weak (Bass, 1985, p. 5)." The directive leader's power stems primarily from formal position power in the organization. With directive leadership, the main source of wisdom and direction is the leader herself who makes the key decisions virtually alone. The directive leader sizes up the situation, dictates and commands, and expects unquestioning compliance from the subordinates.

The punitive and directive aspects of directive leadership can be seen in the McGregor's (1960) conception of Theory X leadership, the Ohio State leadership studies (e.g., Fleishman, 1973) research on punishment (e.g., Arvey & Ivancevich, 1980), and goal setting theory (e.g., Locke & Latham, 1990). On the basis of these traditional literature and trait of directive leader, the behavior dimensions for this leader can be conceptualized as *aversive behavior*, *assigned goals*, and *instruction and command*.

1.2 Transactor leadership

The second archetype, transactor leaders, leads by constructing and clarifying reward contingencies for subordinates. This type of leader emphasizes rational exchange; that is, exchange of reward for work performed. Transactors engage in instrumental exchange relationships with subordinates by negotiating and strategically supplying rewards in return for achievement of goals. The power of transactional leaders is produced by their ability to provide rewards, which evoke calculating compliance from subordinates. The source of wisdom and direction rests with the leader. This leadership archetype is consistent with four theoretical perspectives, as shown in table 2. These theoretical perspectives inspired the transactor behavior dimensions of *contingent material reward*, *contingent personal reward*, and *contingent reprimand*.

1.3 Transformational leadership

The next, the *transformational* leader, inspires followers, by creating "highly absorbing and motivating visions (Manz & Sims, 1991, p. 21)." This leader represents a kind of heroic figure who is able to create an almost larger-than-life vision for followers. This leadership style captures the spirit of charismatic and transformational leadership theories (e.g., Bass, Walsman, Avolio, & Bebb, 1987; Burns, 1978; Conger, 1989). Yukl (1989) notes that these two views overlap considerably but that transformational leadership tends to be defined more broadly than charismatic leadership.

The focus of transformational leadership is the leader's ability to create vision. The leader's power is based on the follower's desire to relate to the vision and to the leader personally. Four dimensions represent the transformational leader's behaviors. The first two, *vision* and *idealism*,

correspond to House's (1977) and Conger's (1989) conceptions of the charismatic leader. The third, *stimulation and inspiration*, reflects House's (1977) and Bass's (1985) observations on the inspiring aspects of charismatic and transformational leadership. The last behavior, *challenge to the status quo*, corresponds to Conger's (1989) portrayal of the charismatic leader as one who pushes the system to change.

1.4 Empowering leadership

Recently Manz and Sims (1990, 1991; Sims & Manz, 1996) have proposed the notion of *empowering leadership*, that is more follower-central than other research traditions. The empowering leader emphasizes follower self-influence, or self-leadership, rather than external, top-down influence.

An empowering leader is one who leads others to lead themselves to achieve high performance, not one who leaves others doing whatever they want to do. That is, empowering leaders believe that followers themselves are an influential source of wisdom and direction, and strive to develop followers who are effective self-leaders. Theoretical perspectives related to empowering leadership are behavioral self-management (e.g., Mahoney & Arnkoff, 1978; Thoreson & Mahoney, 1974), social learning theory (e.g., Bandura, 1977, 1997), cognitive behavior modification (e.g., Meichenbaum, 1977), and the participative aspects of goal setting theory (e.g., Locke & Latham, 1990). Based on these historical, theoretical views, empowering leader behavior dimensions can be categorized into five dimensions which are: *encouraging independent action*, *encouraging interactive/self-goal setting*, *encouraging self-natural reward*, *encouraging opportunity thought*, and *encouraging teamwork*.

II. Self-leadership

Self-leadership has been conceptualized by Manz and Sims (1990; Manz, 1986, 1992; Sims & Manz, 1996) to describe the influence that people exert over themselves and the intention to control their own behaviors. Self-leadership is one of several terms that represents self-influence, but it indicates an expanded view of self-control that includes both behavioral and cognitive perspectives of how individuals influence themselves (Sims & Manz, 1996). That is, self-leadership is defined as both thoughts and actions that people use to lead themselves, and implies that people look within themselves for sources of motivation and control.

The concept of self-leadership is deeply rooted in the psychology literature. It has emerged primarily from social learning literature (Bandura, 1977, 1997), self-control literature (e.g., Thoresen & Mahoney, 1974), and intrinsic motivation literature (e.g., Deci, 1975). Social learning theory postulates triadic reciprocal causation in which behavior, cognition, and the environment all influence one another in dynamic fashion. Bandura (1977, 1997) suggests that a person can mobilize the motivation, cognitive resources, and actions needed to meet a given situation. In other words, we can influence our own cognition and motivation as well as our behavior. In a similar vein, cognitive evaluation theory posits that an individual's feelings of self-determination and competence are central to intrinsic motivation which causes behavior.

Manz and Sims (1996) have proposed 8 dimensions of follower self-leadership. These include *independent action*, *self-goal setting*, *self-efficacy*, *teamwork*, *self-observation*, *self-reward*, *finding natural rewards*, and *opportunity thought*.

2.1 Independent action

This dimension captures the subordinates' behavior to solve problems and take initiative without leader intervention. This is a comprehensive indicator of the level of self-leadership and includes two sub-dimensions: *self-problem solving* and *self-initiative*.

Self-problem solving refers to spontaneous problem resolution by followers without supervisory intervention. Since people who perform a specific job typically become "expert" in that job, they should be involved in dealing with the problems related to that job. By doing so, better solutions may be found. Moreover, when they spontaneously solve job-related problems, they reduce the cognitive load on the leader, frees the leader to focus on his/her own job, speeds decision making, and makes the organization more responsive to environmental demands and changes. Self-initiative refers to subordinates' spontaneously initiating change, assuming greater responsibility for autonomous task completion.

2.2 Self-goal setting

Self-goal setting is an extremely important self-leadership strategy (Sims & Manz, 1996), because self-set goals enhance individual self-motivations, and also serve as standards for behavior or performance (e.g., Bandura 1977, 1989, 1997; Mahoney & Arnkoff, 1978). Moreover, according to goal setting literature (e.g., Locke & Latham, 1990), people with specific goals perform at higher levels than do people without goals. Although goal setting theory has generally demonstrated that there is little difference between the effect of self-set goals and assigned goals on performance (Erez, Earley, & Hulin, 1985; Latham, Erez, & Locke, 1988), the difference has never really been investigated within an "empowered" organizational

culture. Moreover, self-set goals can stimulate other self-leadership strategies including self-reward and self-observation. Sims and Manz (1996) assert that "to be truly effective, goal setting should be a self-oriented interpersonal process to help an individual lead himself or herself" (p. 79).

2.3 Self-efficacy

Self-efficacy is a key concept in social cognitive theory (Bandura, 1977, 1989, 1997). It refers to one's belief in one's ability to mobilize the motivation, cognitive resources, and actions needed to meet situational demands (Bandura, 1977, 1997; Bandura and Wood, 1989; Gist and Mitchell, 1992). People with high efficacy have the confidence to confront challenges head on with realistic confidence, undistracted by self-doubt. Particularly, in the face of difficulties or setbacks, efficacy enhances self-leadership through resilience. In contrast, people who have low self-efficacy may avoid challenges rather than cope. Therefore, self-efficacy, as a source of self-motivation, is a very important self-leadership dimension.

2.4 Teamwork

Teamwork is another important self-leadership role. Superficially, self-leadership, which emphasizes independence, conflicts with teamwork, which emphasizes interdependence. However, individuals who lead themselves also need to work with and through others to accomplish important tasks. By doing so, they can enhance synergy, and thus achieving high performance. In addition, they become pillars of strength for the organization and reduce the vulnerability that stems from overdependence on a single strong leader (Sims & Manz, 1996).

2.5 Self-observation

Self-observation (Bandura, 1977; Mahoney & Arnkoff, 1978; Thoreson & Mahoney, 1974) involves self-generated feedback. Effective self-observation requires asking for and obtaining feedback based on self-set goals. Self-leaders observe themselves, compare and evaluate their progress on the basis of their goals. Then they can modify their strategies and lead themselves to achieve their goals or high performance. Therefore self-observation provides a solid foundation for effective behavior-oriented self-leadership.

2.6 Self-rewards

Once self-observation is made, a self-leader can use the information for creating self-motivation by making certain outcomes available to himself/herself. Self-rewards (Bandura, 1977; Mahoney & Arnkoff, 1978; Thoreson & Mahoney, 1974) involve self-administered reinforcers, either overt or covert. They are potentially useful for self-leaders to focus attention and sustain motivation.

2.7 Finding natural rewards

Normally rewards are considered as an outcome based on performance. However, there is another type of rewards: natural rewards which stem from task itself. Natural rewards are less recognized and less understood because they are so closely tied to a task or activity that the two cannot be separated. Natural rewards were especially central to Manz's (1986) idea of self-leadership because they promote motivational, not just behavioral, autonomy. Sims and Manz (1996) suggest that "over the long run, step by step, it is possible to build enjoyment [natural rewards] into

work by seeking out desirable work contexts and activities that provide a sense of competence, self-control, and purpose (p. 96)." These are reminiscent of task characteristics that promote intrinsic motivation (e.g., Deci, 1980; Hackman & Oldman, 1980; Hackman, Oldham, Janson, & Purdy, 1975; Sims, Szilagyi, & Keller, 1976). By redesigning their work, followers can maximize natural rewards according to their own needs and values, and these motivate themselves.

2.8 Opportunity thought

Opportunity thought is a cognitive strategy for approaching adversity that emphasizes opportunities for effective performance rather than obstacles to performance (Manz, 1992; Manz & Sims, 1990; Sims & Manz, 1996). In other words, effective self-leaders think in terms of a glass "half-full" rather than "half-empty." When they encounter inevitable obstacles or problems, opportunity thinkers focus on opportunities for the future. In contrast, "obstacle thinking" is likely to evoke anxiety and prohibit a person from fully using their own cognitive ability.

III. Hypotheses

The overall research question driving this research is:

How can team leadership influence subsequent follower's self-leadership?

The hypotheses also reflect our longitudinal design, where team leadership (group level) was collected at time 1, and individual self-leadership (individual level) was collected at time 2. Team leader behaviors have been, in general, classified into 15 categories based on the Manz and Sims's leadership archetypes. Also, follower self-leadership has been

conceptualized according to several specific dimensions that have been articulated by Manz and Sims. Thus, an abundance of specific hypotheses can be articulated to represent the research. We have chosen to develop the following selected hypotheses as representative of all the hypotheses that are a part of the study.

3.1 Directive Leadership

A directive leader is one who engages in highly directive and occasionally punitive and dictatorial leadership. This leader demands that the followers obey without question. Therefore, in order to avoid leader's aversive behavior, followers tend to reduce their own initiative and independent action, instead focus on compliance with the specific leader's direction. Moreover, leader assigned goal setting behavior prevents the followers from setting their own goals.

H1a: Leader aversive behavior is negatively related to subsequent follower independent action.

H1b: Leader assigned goal setting behavior is negatively related to subsequent follower self-goal setting behavior.

3.2 Transactor Leadership

A transactor's behaviors are generally considered a form of feedback. By giving contingent feedback on follower performance, the Transactor can strengthen the follower's expectancy of reward for performance and gain calculating compliance from subordinates for purposes of reward attainment. The power of the transactors stems from their ability to provide reward and thus followers are still heavily dependent on the leaders. Transactor

leadership behaviors may not suppress follower self-leadership (hygiene effect), because they do not directly instruct and/or command their followers. Also, these leader behaviors may not provoke follower self-leadership (motivating effect), because followers are still heavily dependent on leaders and are not a source of wisdom and leadership. We might expect some "carryover" so that leader contingent reward has some small positive relationships with follower self-leadership, but we do not expect prominent direct relationships between leader transactor behaviors and follower self-leadership. Therefore, we have declined to suggest hypotheses for transactor leader behaviors.

3.3 Transformational Leadership.

Two of the four Transformational leadership strategies are expected to relate to follower self-leadership. First, a transformational leader's behavior of creating vision is positively related to subsequent follower teamwork behavior. That is, the visions -larger than life visions- created by leader can play a role as the common goals to the followers. Thus, followers cooperate with each other to achieve their common goals.

H2a: Leader behavior of creating vision is positively related to subsequent follower teamwork behavior.

Transformational leaders also adopt unconventional perspectives and/or find novel ways of approaching problems (challenge to status quo). By doing so, they model creative problem solving for followers. This leader behavior can inspire followers to think of new ways for effective performance and for achieving the vision. Accordingly, we can expect that leader's challenging to status quo behavior provokes the follower's opportunity thought.

H2b: Leader behavior of challenging to status quo is positively related to subsequent follower opportunity thought.

3.4 Empowering Leadership

An empowering leader is one who leads the followers to lead themselves. We expect an empowering leader to produce the strongest positive effects on follower self-leadership. Although there are many possible relationships between empowering leadership and follower self-leadership, we suggest two representative hypotheses. One is the relationship between empowering leadership and independent action which is a comprehensive indicator of self-leadership. Logically, leader encouraging independent action dimension is expected to produce follower's subsequent independent action. The other is the relationship between empowering leadership and self-goal setting which is most common self-led strategy. We expect that leader interactive/self-goal setting behavior dimension leads to follower's self-goal setting behavior.

H3a: Leader encouragement of independent action is positively related to subsequent follower independent action.

H3b: Leader encouragement of interactive/self-goal setting is positively related to subsequent follower self-goal setting.

IV. Method

4.1 Subjects and Procedures

Data collected in this study were part of field research conducted at a

large defense firm located in the mid-Atlantic United States. The original sample consisted of 392 subordinates within 72 groups. After attrition and aggregation to the team level, 308 subordinates nested within 70 groups remained for statistical analyses. Subordinates averaged 40 years in age ($SD=10.8$) and had worked in the host organization for an average 14 years ($SD=9.51$), four of which were spent with their present team leader.

Data were collected by questionnaire in two waves, with a time lag of 10 weeks. Leader behavior was measured at time 1, and self-leadership was measured at time 2. As a result, these longitudinal data can facilitate the causal inference about the influence of leader behavior on the follower subsequent self-leadership. To develop the questionnaires, the Manz and Sims (1991) typology was used as inspiration, although many dimensions and items had been used in previous questionnaire.

4.2 Measures

4.2.1 Leader Behaviors

Perceptions of leader behavior were collected using the Leadership Strategies Questionnaire II (LSQII) (Cox & Sims, 1996). Examples of items on the LSQII used in this study are provided in table 3, along with brief descriptions of each leader behavior dimension.

The LSQII was an extended version of the Leadership Strategies Questionnaire (LSQ) used most recently by Scully, Sims, Olian, Schnell, and Smith (1994) and Ball, Trevino, and Sims (1994). The Scully et al. research team developed LSQ as a substantial extension of the Manz and Sims' (1987) earlier Self-Management Leadership Questionnaire (SMLQ). Both LSQ and SMLQ, however, are rooted in earlier leadership questionnaires. Besides drafting original questionnaire items for LSQ, Scully et al. adapted items for the LSQ directive leadership, transactor

leadership, and transformational leadership from questionnaires used in past leadership research (e.g., Bass, Waldman, Avolio, & Bebb, 1987; Manz & Sims, 1987; Podsakoff, MacKenzie, Moorman, & Fetter, 1990) including Multifactor Leadership Questionnaire (Bass, 1985).

All items were measured on a five point Likert scale: (1) definitely not true, (2) not true, (3) neither true nor untrue, (4) true, and (5) definitely true. Internal consistency was assessed for each dimension using Cronbach's α (e.g., Cronbach, 1951). Reliabilities of all measures were larger than .70.

For each dimension, James et al. coefficient was also utilized (e.g., James, Demaree, & Wolf, 1984) to assess team member consensus within a team and to confirm the within-unit aggregatability of the data. James et al. coefficients for all LSQII behavior dimensions were .70 or more which can be considered evidence of within group consensus (George, 1990). Thus, the behavior dimensions of each leader were aggregated from responses of team members reporting to each leader. The mean, standard deviation, and correlations among the leader behavior dimensions are shown in Appendix 1. While correlations among the leader behaviors are high, exploratory and confirmatory factor analysis by Cox (1994), Scully et al. (1994), and Pearce et al. (1997) have shown these dimensions to be factorially distinct.

4.2.2 Self-leadership behaviors.

The perceptions of self-leadership were measured by the Self-Leadership Questionnaire (SLQ). Examples of self-leadership dimensions with sample items, brief descriptions, and Cronbach's α coefficients are provided in table 4. All items were measured using a five point Likert scale: (1) definitely not true, (2) not true, (3) neither true nor untrue, (4) true, and (5) definitely true. All reliabilities were in the acceptable range. Appendix 2 shows the means, standard deviations, and correlations among the self-

〈Table 3〉 Leadership Strategies Questionnaire II With Dimension Definitions
and Sample Items

Directive Leader	
Aversive Behavior:	Reprimand by the supervisor that is largely or wholly unrelated to performance. ("He/she is often displeased with my work for no apparent reason.") .91, (.86)
Assigned Goals:	Direct assignment of goals or performance objectives by the supervisor with little or no direct input from the follower ("He/she establishes my performance goals.") .86, (.83)
Instruction and Command:	Direct instruction or command by the supervisor regarding task performance with little input or self-direction by the follower ("He/she gives me instructions about how to do my job.") .73 ³⁾ , (.84) ⁴⁾
Transactor Leader	
Contingent Material Reward:	Material reward by the supervisor that is related to follower performance. ("If I perform well, he/she will recommend more compensation.") .91, (.74)
Contingent Personal Reward:	Non-material reward by the supervisor such as praise and recognition that is related to follower performance. ("He/she gives me special recognition when my work performance is especially good.") .92, (.76)
Contingent Reprimand:	Reprimand by the supervisor that is related to follower performance. ("He/she lets me know about it when I perform poorly.") .81, (.85)
Transformational Leader	
Vision:	Communication by the supervisor to the follower of a guiding vision regarding organizational purpose, destiny, or overarching goals. ("He/she provides a clear vision of where we are going.") .88, (.80)
Idealism:	Expressed, inner-directed dedication by the supervisor to fundamental personal beliefs, ideals, or overarching goals. ("He/she is driven by higher purposes or ideals.") .90, (.92)
Stimulation and Inspiration:	Supervisor motivation of the follower towards higher levels of achievement or performance. ("He/she inspires me to strive for achievements I would not normally pursue.") .75, (.70)
Challenge to the Status Quo:	Supervisor behavior that challenges established ideas, routines, and conventions. ("He/she challenges established ways of doing things.") .91, (.84)
Empowering Leader	
Encourages Independent Action:	Supervisor encouragement of initiative and problem-solving by the follower without supervisory input, approval, or assistance. ("He/she advises me to solve problems when they pop up without always getting his/her stamp of approval.") .88, (.88)
Interactive/Self-Goal Setting:	Supervisor encouragement of self-setting of goals and performance objectives by the follower without direct supervisor input, or with input by follower. ("He/she urges me to define the goals myself.") .90, (.88)
Encourages Opportunity Thinking:	Supervisor encouragement of an opportunity-oriented rather than obstacle-oriented response to adversity by the follower. ("He/she advises me to look for the opportunities contained in problems I face.") .79, (.84)
Encourages Teamwork:	Supervisor encouragement of cooperation and coordinated action among followers. ("He/she encourages me to work together with other managers/supervisors who report to him/her.") .92, (.87)

3) Coefficient alpha based on follower reports (n = 389 to 392).

4) James et al. coefficient (2 or more reporting subordinates, n = 72 units, mean n = 6.23).

leadership dimensions. Again, while the correlations among the self-leadership dimensions were high, factor analysis by Cox (1994) has shown the dimensions to be factorially distinct.

〈Table 4〉 Self-Leadership Dimensions with Dimension Definitions and Sample Items

Self Independent Action:	Subordinate solves problems and takes initiative without leader intervention. ("I solve problems when they pop up without always getting my supervisor's stamp of approval.") .89 ⁵⁾
Self Goal Setting:	Subordinate sets his or her own goals for task accomplishment and work performance. ("I define goals for myself.") .85
Self-efficacy:	Subordinate is confident in his or her ability to perform tasks required on the job. (I expect that I will perform well.") .87
Teamwork:	Subordinate works together with his or her colleagues to provide support and coordinate activities. ("I work together with other managers/supervisors who report to my supervisor.") .92
Self-Observation:	Subordinate monitors and evaluates his or her performance on the job. ("I judge how well I am performing.") .76
Self-Rewards:	Subordinate rewards himself or herself for effective performance on the job. ("I give myself a pat on the back when I meet a new challenge.") .92
Finding Natural Rewards:	Subordinate finds ways to get work done in ways that are personally enjoyable or meaningful. ("I seek out activities in my work that I enjoy doing.") .83
Opportunity Thought:	Subordinate views problems at work as opportunities or challenges to be overcome rather than insurmountable obstacles. (I look for the opportunities contained in the problems I face.") .78

4.3 Analysis

Our research involves hierarchical data structures, because our research model is to predict the individual self-leadership of followers nested within

5) Coefficient α based on follower reports (n=313 to 316).

different teams. The dependent variables (follower's self-leadership) are individual level variables, whereas the independent variables (team leadership) are group level variables. Since the level of analysis was mixed, we cannot use the more typical least square regression analysis. Thus, to deal with the multi-level design, Hierarchical Linear Modeling (HLM) was used (e.g., Arnold, 1992; Bryk & Raudenbush, 1992; Cheung & Keesee, 1990; Paterson & Goldstein, 1991).

HLM addresses a problem that has existed for decades in the research on the relationship between the characteristics of a group and characteristics of individual group members. It can be used in any situations where one wishes to examine the effect of group-level phenomena (here, leader behaviors) on individual-level phenomena (in this research, follower self-description of their own self-leadership behavior). In addition, we could use HLM so as to find the effect of both group level characteristics (e.g., leadership) and individual level characteristics (e.g., follower's personality) on individual level phenomena (e.g., follower self-leadership, follower satisfaction). Moreover, we can test three level model which is composed of three level independent variables - organizational level variables (e.g., organizational culture, etc.), group level variables (e.g., leadership, conflict, etc.) and individual level variables (e.g., personality, etc.)- and individual level dependent variable (e.g., individual self-leadership, individual satisfaction, etc.).

HLM has several advantages. First, it can explain individual variables as a function of group level characteristics as well as individual level characteristics. Second, it can model both the between- and within group variance at the same time, and thus produce more accurate estimates of individual variables. Third, it can produce better estimates of the predictors of individual variables within groups, by "borrowing" information about these relationships from other groups (Bryk, Raudenbush, Seltzer, &

Congdon, 1988, cited in Arnold, 1992).

For this study, two kinds of statistical models were run. First, the analyses of conditional models⁶⁾ with only one independent variable (i.e., one leader behavior dimension) were conducted. By looking at these results, we can investigate the relationships between one leader behavior dimension and one self-leadership dimension (bivariate analysis). This analysis produces a statistic that is akin to β in simple regression, except that the predictor variable is at the group level, and the dependent variable is at the individual level. This statistic is called a gamma coefficient. In this case, the gamma coefficient can be interpreted in a manner similar to β in simple regression. Since leader behavior dimensions were 15 and self-leadership dimensions consisted of 8 dimensions, 120 bivariate analyses were conducted. Table 5 contains the gamma coefficients between leader behavior and self-leadership behavior obtained in these bivariate analyses.

Second, we conducted a series of analyses on each dependent variable to investigate the multivariate model where all the leader behavior dimensions served as potential predictors (stepwise analyses). This is a stepwise procedure, similar to stepwise regression analysis, in that predictor variables are entered into the equation according to their contribution to the variance in the dependent variable. Again, note the difference with typical stepwise

6) For example, the conditional model for independent action with leader's aversive behavior is:

$$(\text{Independent Action})_{ij} = \beta_{0j} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{leader's aversive behavior}) + u_{0j}$$

ij represents i^{th} member in j^{th} team

β_{0j} is the mean independent action for members within team j .

r_{ij} is error in the i^{th} member.

γ_{00} is the mean independent action for teams.

γ_{01} is the effect of leader's aversive behavior on member's independent action.

u_{0j} is error in the j^{th} team.

regression; that is, in this case the set of predictor variables are at the group level, while the dependent variable is at the individual level. Thus, the most significant leader behavior enters with each step. In essence, it provides the set of variables which best predict dependent variable.

The first variable which entered the model was chosen based on the results of the bivariate analyses mentioned above. The criterion was p-value of gamma coefficient. In other words, the independent variable which has the smallest p-value is chosen. We stopped this procedure⁷⁾ when the next step could not produce a predictor variable that explains between-variance at a selected level of significance ($\alpha = .05$). Table 6 shows the results of these analyses. Again, note the gamma coefficient, which can be interpreted in a manner similar to a β in multiple regression, the standardized regression coefficient.

It is also important to note that the multicollinearity among the leader behavior predictor variables is likely to have an effect on the stepwise procedure. That is, multicollinearity will likely bring the dominant leader behavior variables to the foreground, and less dominant variables may become statistically non-significant.

7) For example, the conditional model for independent action with leader's aversive behavior is:

$$\text{Step 1: (Independent Action)}_{ij} = \beta_{0j} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Enc. Independent Action}) + u_{0j}$$

$$\text{Step 2: (Independent Action)}_{ij} = \beta_{0j} + r_{ij}$$

$$\beta_{0j} = \gamma_{00} + \gamma_{01} (\text{Enc. Independent Action}) + \gamma_{02} (\text{Instruction and Command}) + u_{0j}$$

ij represents i^{th} member in j^{th} team

β_{0j} is the mean independent action for members within team j .

R_{ij} is error in the i^{th} member.

γ_{00} is the mean independent action for teams.

γ_{01} is the effect of leader's Enc. Independent Action Behavior on member's independent action.

γ_{02} is the effect of leader's Instruction and Command Behavior on member's independent action.

u_{0j} is error in the j^{th} team.

V. Results

5.1 Bivariate Analyses

To verify hypotheses, we looked at the gamma coefficients attained by bivariate analyses. These are shown in table 5. Most hypotheses were supported.

Both hypothesis 1a and 1b were supported. The results indicated that leader aversive behavior and leader assigned goal setting behavior were negatively related to follower independent action ($\gamma = -.25, p \leq .01$; $\gamma = -.16, p \leq .05$, respectively), and self-goal setting ($\gamma = -.28, p \leq .00$; $\gamma = -.27, p \leq .01$, respectively). Furthermore, leader behavior to provide instruction and command prevented the follower from developing independent action ($\gamma = -.15, p \leq .05$) and from setting their own goal ($\gamma = -.20, p \leq .05$). In sum, directive leadership suppressed both the follower independent action, which can be considered comprehensive indicator of self-leadership behavior. In addition, directive behavior prevented followers from setting their self-goals, which are standards for behavior and performance and thus play a role of starting point for other two self-leadership dimensions (self-reward and self-observation). Considering the importance of these two self-leadership behavior dimensions, these results were noteworthy.

Leader's contingent material reward, the core of transactor leader's behavior, was shown to have a positive effect on independent action ($\gamma = .13, p \leq .05$). In addition, contingent personal reward behavior did marginally affect follower independent action ($\gamma = .12, p \leq .10$). Interestingly, leader contingent personal reward behavior also influenced follower self-rewards ($\gamma = .22, p \leq .05$) and natural rewards ($\gamma = .15, p \leq .05$). However, contingent reprimand was not significantly related to the independent action ($\gamma = .00, p \leq .10$). Together, these results implied that contingent

<Table 5> The Results of bivariate analysis between Team Leader Behavior and Subsequent Follower's Self-Leadership behavior

	Independent Action	Self Goal Setting	Self Efficacy	Teamwork	Self-Reward	Natural Reward	Self Observation	Opportunity Thought
Aversive Behavior	-.25 (.06)***	-.28 (.07)***	.02 (.06)	-.04 (.07)	-.05 (.10)	-.13 (.07)*	-.02 (.07)	-.02 (.06)
Assigned Goal Setting	-.16 (.08)**	-.27 (.09)***	-.01 (.08)	-.01 (.09)	.06 (.12)	.02 (.09)	-.04 (.08)	-.13 (.08)*
Instruction and Command	-.15 (.08)**	-.20 (.09)**	.09 (.08)	.05 (.08)	-.03 (.12)	-.05 (.08)	.10 (.08)	.02 (.08)
Contingent Material Reward	.13 (.07)**	.14 (.08)*	-.01 (.06)	.06 (.07)	.02 (.10)	.06 (.07)	-.03 (.07)	.00 (.06)
Contingent Personal Reward	.12 (.07)*	.10 (.08)	.11 (.07)	.10 (.08)	.22 (.10)**	.15 (.07)**	.06 (.07)	.08 (.07)
Contingent Reprimand	.00 (.08)	-.23 (.09)**	.20 (.07)***	.22 (.09)***	.04 (.12)	-.06 (.09)	.14 (.08)*	.19 (.08)**
Vision	.13 (.07)*	-.02 (.08)	.09 (.07)	.15 (.08)**	.04 (.11)	-.01 (.08)	.09 (.07)	.11 (.07)
Idealism	.10 (.07)	.05 (.08)	.09 (.07)	.14 (.08)*	.03 (.11)	.00 (.08)	.07 (.07)	.14 (.07)**
Stimulation and Inspiration	.06 (.07)	-.05 (.08)	.06 (.06)	.04 (.07)	.11 (.10)	.03 (.07)	.13 (.07)*	.08 (.07)
Challenge to Status Quo	.07 (.05)	-.02 (.06)	.09 (.05)*	.10 (.06)*	.01 (.08)	-.02 (.06)	.03 (.05)	.13 (.05)***
Enc. Independent Action	.38 (.08)***	.18 (.11)*	.13 (.09)	.05 (.10)	.03 (.14)	.06 (.10)	.17 (.10)*	.12 (.09)
Interactive/Self-Goal Setting	.24 (.08)***	.12 (.10)	.13 (.08)	.12 (.09)	-.17 (.12)	.04 (.09)	.05 (.08)	.09 (.08)
Encourage Self-natural Reward	.22 (.10)**	.25 (.11)**	.10 (.10)	-.03 (.12)	.32 (.14)**	.22 (.11)**	.12 (.10)	.07 (.10)
Enc. Opportunity Thought	.19 (.08)**	.06 (.09)	.12 (.08)	.14 (.09)*	.06 (.12)	.10 (.09)	.12 (.08)	.16 (.08)**
Encourage Teamwork	.18 (.10)*	.01 (.11)	.06 (.09)	.26 (.10)**	.12 (.14)	-.11 (.10)	.12 (.10)	.08 (.09)

*: p ≤ .10. **: p ≤ .05. ***: p ≤ .01; numbers in parentheses are standard errors.

positive feedback (material rewards and personal rewards) for performance could provoke follower independent action, but contingent negative feedback (contingent reprimand) did not.

Hypothesis 2a was supported. The result indicated that leader vision preceded follower teamwork behavior ($r = .15, p \leq .05$). The vision created and provided by leader was a common mission which followers could pursue. Thus, followers cooperated with each other to achieve this common mission. In addition, a leader who challenged the status quo was shown to positively influence follower opportunity thought ($r = .13, p \leq .01$). Accordingly, hypothesis 2b was supported as well.

Leaders who encouraged independent action positively affected the follower independent action (hypothesis 3a: $r = .38, p \leq .01$). Also, leaders who encouraged interactive/self-goal setting behavior evoked subsequent follower independent action ($r = .24, p \leq .01$). In addition, encouraging self-natural rewards ($r = .22, p \leq .05$) and encouraging opportunity thought ($r = .19, p \leq .05$), were shown to provoke the follower independent action. However, interestingly, leaders who encouraged teamwork only marginally influenced follower independent action ($r = .18, p \leq .10$). This last finding might be explained by two different effects of this leader behavior on follower independent action. Teamwork might encourage the followers to act independently from the leader. On the other hand, by working together, the interdependence among followers might increase. Because of this trade-off, leader behavior to encourage the follower teamwork might have only marginal effect on follower independent action.

We were surprised to find that a leader interactive/self-goal setting was not significantly related to the follower self-goal setting behavior ($r = .12, p > .10$). Therefore, hypothesis 3b was not supported. One possible explanation might be that this leader behavior had two different characteristics. On the one hand, this leader behavior emphasized the follower self-goal setting.

On the other hand, the leader may give followers directions to set their own goal on the interactive process, which might hinder the follower's self-goal setting behavior.

5.2 Stepwise Analyses

Stepwise analyses were performed to compare the relative effects of the set of leader behaviors on follower self-leadership behavior. The results are shown in table 6.

<Table 6> Stepwise Analysis Results

Self-Leadership Behavior	Leader Behavior	Step	Gamma ⁸⁾
Independent Action	Enc. Independent Action	1	.40 (.08)***
	Instruction and Command	2	-.17 (.07)**
Self-Goal Setting	Aversive Behavior	1	-.24 (.07)***
	Assigned Goal Setting	2	-.20 (.09)**
Self-Efficacy	Contingent Reprimand	1	.20 (.07)***
Teamwork	Contingent Reprimand	1	.22 (.09)***
Self-Rewards	Enc. Self-natural Rewards	1	.58 (.17)***
	Interactive/Self-goal Setting	2	-.40 (.13)***
Natural Rewards	Enc. Self-natural Rewards	1	.22 (.10)**
Self-Observation			
Opportunity Thought	Challenge to Status Quo	1	.13 (.05)***

** : $p \leq .05$, *** : $p \leq .01$; numbers in parentheses are standard errors.

Two leader behaviors were shown to be most significantly related to follower independent action. Not surprisingly, the empowering leader behavior called "encouraging follower's independent action" entered in the first step. The leader's instruction and command behavior suppressed

8) Gamma coefficients and standard errors in the final conditional model.

follower independent action, after controlling for the leader's behavior of encouraging independent action. No other variables were found to provoke or suppress follower's independent action.

Stepwise analyses on self-goal setting behavior showed that self-goal setting behavior could be explained by two directive leader behaviors. First of all, aversive behavior significantly influenced follower self-goal setting behavior, followed by assigned goal setting behavior. Note that both of these relationships were negative. After controlling for these two variables, no other leader behavior significantly explained follower self-goal setting behavior.

Two leader behaviors explained follower self-reward behavior. Leader behavior of encouraging self-natural reward entered the model in the first step, followed by interactive/self-goal setting. The self-leadership behavior of natural rewards was also influenced by leader through encouraging natural rewards.

Finally, opportunity thought was influenced by leader challenge to status quo, and self-observation was not related to any of the leader behaviors. The most puzzling relationships were with self-efficacy and teamwork, which were both influenced by leader contingent reprimand.

VI. Discussion

6.1 Leadership and Follower Independent Action

This research documents connections between two types of leader behavior and independent action by followers. From a self-leadership perspective, this finding is significant because independent action can be viewed as useful shorthand -a kind of behavioral summary- for self-

leadership as a construct.

Follower independent action was found to be evoked by direct leader encouragement of independent action (an empowering leadership behavior), and suppressed by leader instruction and command (a directive leadership behavior). These results tell us that leaders can promote independent action among followers by directly encouraging responsible autonomy and by making employee initiative a standing expectation in the workplace. Leaders can also enhance the likelihood that followers will express independent action by avoiding explicit instructions and frequent direct commands.

Interpreting these results is fairly straightforward. Leaders who directly encourage independent action by followers set clear expectations that responsible initiative is a desirable work behavior. Leaders who value follower independence are also likely to implicitly support it by providing "air cover" when inevitable mistakes occur, and by emphasizing collateral empowerment processes like coaching, mentoring, training, and the like. Just as important, leader expectations of follower independence can provide powerful models that cue and guide followers towards increasing independence.

Conversely, leaders who engage in instruction and command evoke follower passivity and compliance. When leaders send the message that following instructions is expected, followers who act independently in ways that contradict the wishes of the leader risk the perception that they are incompetent or insubordinate. But at a more basic level, leaders who expect compliance and provide detailed instructions for every contingency—classic "micro-managers"—leave little latitude for followers to use their own initiative and exercise their own judgment. These findings perhaps illustrate the ultimate leader-follower dependency relationship, a relationship in which the follower's default behavior is inaction until instructed otherwise.

6.2 Leadership and Follower Self-Goal Setting

We also found connections between two types of leader behavior and self-goal setting by followers. This, too, is broadly significant: self-goal setting is a foundation of self-leadership skill with almost universal applicability. Follower self-goal setting was found to be suppressed by leader aversive behavior and assigned goal setting (both directive leadership behaviors). These results tell us that leaders can enhance the likelihood that followers will engage in self-goal setting by avoiding aversive behavior (e.g., mistreatment or capriciousness in interaction with followers, non-contingent punishment, etc.) and by avoiding unilaterally setting (i.e., dictating) goals with no follower input, negotiation, or ownership.

Most who have experienced it will probably agree that aversive behavior is an unsettling leadership pattern. One reason for this may be that its very arbitrariness weakens the familiar connection between cause and effect in interpersonal relationships. At their extreme, aversive leaders -prototypical tyrants- have the potential to send followers into survival mode. The mood of the leader essentially sets the performance mandate for the moment. The logic of goal-setting -planning acting in anticipation of longer-term consequences- breaks down under the punitive arbitrariness of aversive behavior. Put another way, the future view implied by goal-setting becomes irrelevant under leadership that elevates the consequences of the moment over the future. Again, goal-setting is illogical or irrelevant in the face of short term aversiveness.

6.3 Leadership and Self-Efficacy

We also found that leader contingent reprimand (a transactor leadership behavior) was positively related to follower self-efficacy. Self-efficacy, the

follower's belief that s/he can manage (though not necessarily master) situational challenges, is a construct that summarizes the realistic self-confidence that is so beneficial for effective, self-led independent action.

This finding is puzzling, and interpreting it is difficult. For interpretation, first note that a key to self-efficacy is environmental uncertainty and the individual's perception of her/his own potency in navigating this uncertainty. Leader reprimand, when perceived by followers as a legitimate, measured, and contingent response to follower performance or conduct, should not introduce any additional uncertainty into the work context. Reprimand, when truly contingent on follower behavior, should therefore have no negative effect on follower's self-perceived ability to manage challenges in the workplace.

This somewhat speculative logic perhaps explains why contingent reprimand is not *negatively* related to self-efficacy. However, the obtained positive relationship requires more conjecture, this time centering on follower perceptions of what constitutes *contingent* reprimand. Consider the following line of reasoning. If a leader reprimands followers for no apparent reason or reprimands in ways that seem disproportionate to the circumstances, it is likely that this behavior is perceived by followers as aversive (a directive leader characteristic). Truly contingent reprimand, on the other hand, may well be perceived by followers as welcome leader intervention that structures the work context. In other words, followers may receive contingent reprimand as a remedy for misconduct or inexcusable performance that would otherwise complicate their work lives (increase environmental uncertainty), and thus they can correct misconduct and take action to improve performance on the basis of this feedback. In this process, followers may gain confidence in their ability to negotiate the challenges at work when leadership intervenes in appropriate circumstances to keep things on track.

6.4 Leadership and Teamwork

Our research also found a positive relationship between contingent reprimand and teamwork among followers. Teamwork has long been considered a key ingredient of follower self-leadership because of the collegial support and close coordination it implies. When organization members work together closely as a team, each team members gains multiple sources of information, consultation, and support from their peers. Strong peer relationships provide a network of support for grass-roots initiative. It also frees followers from excessive reliance on leaders by supplying alternative sources of wisdom, information, and inspiration.

As with the finding about self-efficacy, the positive relationship between contingent reprimand and teamwork is difficult. However, much of same logic pertaining to self-efficacy can also be applied to the finding about teamwork. In our conversations with members of the host organization, some members expressed frustration with co-workers who were perceived as not contributing effectively on group projects. Furthermore, research and practical experience with teams show that team members are usually hesitant to discipline each other (their peers).

In team situations with extensive follower interdependence and close peer relationships, contingent reprimand may well respond to widely-perceived needs for corrective action in performance or conduct situations that team members are otherwise hesitant to undertake themselves. Far from aversive, truly contingent reprimand can be viewed as reassuring under these circumstances: among interdependent followers, leaders who intervene appropriately may be perceived as supplying welcome discipline and assuring accountability.

Beyond discipline and accountability, enforcing fair contribution is another way to view contingent reprimand in interdependent team context.

Leaders perceived as intervening appropriately (contingently) against poor performance or misconduct may well be seen as enforcing fair treatment and equitable exchange among interdependent followers. Put another way, the willingness of a leader to engage in contingent reprimand can be viewed as signaling intolerance toward those who fail to meet performance obligations to their peers. Although this interpretation may seem circuitous, the central connection between performance expectations, accountability, and mutual interdependence is intuitively appealing. Certainly, this connection bears future research.

Organ (1988, 1990) suggested that organizational justice may increase organizational citizenship behavior (OCB). Recent research (e.g., Ball et al., 1994; Moorman, 1991; Niehoff & Moorman, 1993; Skarlicki & Latham, 1996) has found that perceptions of fair treatment in the workplace may well be a predictor of OCB. The OCB construct refers to a range of behaviors that benefit organizations but which are voluntary in the sense that they do not have direct benefits for the individual who performs them. OCB includes a range of supportive and conscientious behaviors that cannot be purchased or coerced, but must be offered freely. Research indicates that organization members are more likely to freely put extra effort into their jobs and working relationships when they feel fairly treated.

Voluntary OCBs like altruism and conscientiousness are very similar to behaviors expected under conditions of effective teamwork. Emerging findings about good citizenship and fairness perceptions dovetail nicely with the accountability provided by leaders who are willing to engage in contingent reprimand. Following this logic, these leaders encourage teamwork by safeguarding fairness in peer working relationships. They do this by setting the expectation that under-performance or misconduct-behaviors that could reasonably be viewed as opportunistic and unfair by other team members- will not be tolerated.

VII. Summary and Conclusion

This research had two purposes, one empirical, and one methodological. Empirically, this research used data that permitted causal inference to document causal relationships between leader and follower behavior. Our particular interest was leader behaviors that fostered a type of follower autonomy called self-leadership.

Methodologically, this research took advantages of the power of hierarchical linear modeling -a technique for analyzing mixed-level data- that has not commonly been used in organizational research. This research provided an illustrative example of the general applicability of HLM to any research situation in which the researcher wishes to correlate variables when some are group-level variables, and others are individual-level variables.

Employee perspectives about work have been changing. Employees expect more autonomy in doing their jobs, and more participation in making decision. They value quality of working life as well as compensation. These changes demand that leaders play a different role than a few decades ago. In addition, both cognitive limits (March & Simon, 1958; Slovic, Fischhoff, & Lichtenstein, 1977) and environment uncertainty (Dutton, Fahey, & Narayanan, 1983; Lyles & Mitroff, 1980) serve to limit a leader's ability to handle organizational problems and opportunities. To cope with environmental uncertainty beyond their cognitive limits, leaders can leverage their own capability by empowering their followers. Considering these changes and requirements, the concepts of empowering leadership and employee self-leadership have become more widely recognized and accepted. However, relationships between leader behavior and follower self-leadership are not well understood, nor have been empirically tested. Recognizing this, our research set out to examine the influence of team leader behavior on subsequent follower self-leadership.

Overall the results showed us that directive leader behaviors suppressed the follower's self-leadership. Especially, assigned goals from leader were negatively related to follower independent action, which can be considered a summary and shorthand for self-leadership, and self-goal setting, which is perhaps the most important self-leadership strategy. Indirectly, these findings suggest a reexamination of goal setting theory, which has generally concluded that assigned goals motivate individuals. Most of the previous research on assigned goals has been carried out in traditional hierarchical systems. If, instead, the purpose of the leader is to develop individual self-leadership -in essence, an empowered system- then these results suggest a reexamination of the role of assigned goals. Perhaps assigned goals should be de-emphasized in a work system intended to empower individual employees. Certainly, future research along these lines is necessary.

In contrast, empowering leader behaviors are the main vehicle to provoke and enhance follower's self-leadership. Transactor leader behaviors and transformational leader behaviors have limited positive effects on follower self-leadership. Therefore, if a leader wishes to empower his/her followers, it seems clear that the leader should generally avoid directive behaviors. Instead, leaders need to use behaviors that lead followers to lead themselves.

We found that leader behavior may have little or no influence on some self-leader behaviors, including self-efficacy, rewarding him/herself, finding natural reward, and observing him/herself. One possible explanation is that those dimensions are deeply rooted in the prior experience and the individual self-psychology and are thus not easily changed by external forces. Thus leadership seems to have little effect on some self-leadership dimensions.

Finally, this research has demonstrated the usefulness of Hierarchical Linear Modeling (HLM) as an analytical method in organizational analysis.

This method can handle hierarchical data structure, which consists of data at two or three different levels. Despite the prevalence of hierarchical structures in real social systems, most studies fail to deal with the issue of level in the data analysis. Of course, this neglect stems from limitations in conventional statistical methods, which typically fail to address the "unit of analysis" problem. HLM enables us to deal with multi-level data structures. Therefore this technique enables us to pose and test hypothesis about cross-level effects. In fact, the analysis shown here is relative rudimentary, with only two levels at two different time periods. A richer analysis might include two or more levels at each time period. We expect to see more complex models along these lines in the next few years.

7.1 Practical Implications

Today's leaders confront many challenges from the environment and their followers. Environment has changed rapidly and followers expect control and influence over their own jobs and decision making. By empowering followers, leaders can more efficiently cope with rapidly changing environment beyond their cognitive limits and more closely meet follower's demands. Thus, the concepts of empowering leadership and follower self-leadership have become more widely recognized and accepted. Recognizing these, our research was driven by the question "How can leader influence subsequent follower self-leadership?"

The results clearly show what leaders should do and avoid in order to enhance follower self-leadership. Overall directive leader behaviors suppress follower self-leadership. On the contrary, empowering leadership behaviors provoke and enhance follower self-leadership. Transactor leader behaviors and transformational leader behaviors have limited influence on self-leadership. Based on the results of this research, we can suggest

"behavioral profile" for empowering leadership. Specifically, in order to empower followers and enhance self-leadership, leader may as well encourage follower independent action, challenge to status quo, create a context in which reasonable performance is expected, and avoid aversive behavior, assigned goal setting, and instruction and command. This profile can be a guide for leaders who wish to evoke follower self-leadership and for organizations who wish to develop training programs and thus an empowered culture.

7.2 Future Research

There are remaining issues and questions. First, this study does not include some possible individual characteristics (e.g., preference for autonomy, growth needs, self-actualization needs), that might be associated with self-leadership behaviors. In the future research, the effects of such variables on self-leadership should be examined to more completely explain self-leadership. HLM seems potentially suited as an analytic technique to address these issues.

Future research should also examine the relationship between individual self-leadership and overall team effectiveness. By doing so, we can conclude whether encouraging self-leadership may increase effectiveness. Moreover, the effect of self-leadership on various outcomes may depend on context and job characteristics. For example, self-leadership is more likely to influence the various outcomes in high velocity environments. However, the effect of self-leadership may be very limited in stable environment. Therefore, future study should be conducted in a variety of organizational environments.

In addition, research on the antecedents of the empowering leadership is needed. One possible antecedent is the leader's own self-leadership behaviors. We can expect that the leaders high on self-initiative are more

able to encourage followers to lead themselves. This is, of course, a modeling effect, where a leader who can lead themselves can empower others by showing and indirectly teaching others how to lead themselves.

In conclusion, this research has investigated a longitudinal model of how leader behavior can influence subsequent follower self-leadership. The overall results showed that directive leader behavior served to suppress self-leadership, while empowering leader behavior enhanced self-leadership. Both of these findings have clear practical implications for organizations who wish to develop an empowered work force. Most of all, this research has demonstrated the value of Hierarchical Linear Modeling to investigate organizational phenomenon at different levels of analysis.

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(Appendix A) Means, Standard Deviations, and Intercorrelations among Leader Behavior Dimensions

	Means	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1 Aversive Behavior	1.90	.53														
2 Assigned Goal Setting	3.04	.42	.24*													
3 Instruction and Command	2.84	.45	.25*	.48**												
4 Contingent Material Reward	3.27	.52	-.44**	.02	.09											
5 Contingent Personal Reward	3.46	.46	-.38**	.13	.22	.62**										
6 Contingent Reprimand	2.93	.44	.47**	.28*	.35**	.07	.16									
7 Vision	3.09	.51	-.24*	.15	.29*	.55**	.50**	.31**								
8 Idealism	3.36	.47	-.12	.13	.24*	.46**	.50**	.31**	.64**							
9 Challenge to Status Quo	3.05	.63	.01	-.12	.05	.21	.23	.34**	.54**	.66**						
10 Stimulation and Inspiration	2.76	.53	-.15	.21	.44**	.46**	.55**	.43**	.66**	.62**	.42**					
11 Enc. Independent. Action	3.49	.43	-.43**	-.06	.03	.37**	.40**	.20	.54**	.43**	.46**	.59**				
12 Interactive/ Self-goal setting	3.54	.43	-.47**	.07	.13	.49**	.59**	.07	.55**	.46**	.32*	.54**	.61**			
13 Self-Natural Reward	2.65	.35	-.39**	.05	.21	.53**	.53**	.07	.56**	.41**	.32*	.61**	.64**	.58**		
14 Enc. Opportunity Thought	3.17	.46	-.30*	.00	.30**	.34**	.49**	.24*	.53**	.48**	.42**	.54**	.66**	.58**	.63**	
15 Enc. Teamwork	3.75	.39	-.32**	.08	.08	.37**	.45**	.35**	.61**	.48**	.44**	.53**	.66**	.48**	.44**	.58**

*: $p \leq .05$. **: $p \leq .01$

⟨Appendix B⟩ Means, Standard Deviations, and Intercorrelations among the Self-Leadership Dimensions

	Means	SD	1	2	3	4	5	6	7
1 Independent Action	4.06	.50							
2 Self-Goal Setting	3.70	.60	.47**						
3 Self-Efficacy	4.12	.51	.56**	.31**					
4 Teamwork	3.97	.59	.35**	.21**	.45**				
5 Self-Rewards	3.10	.79	.03	.28**	.09	.11*			
6 Natural rewards	3.60	.58	.29**	.39**	.37**	.23**	.47**		
7 Self Observation	3.82	.56	.35**	.37**	.42**	.39**	.29**	.34**	
8 Opportunity Thought	3.74	.53	.41**	.26**	.56**	.41**	.20**	.41**	.45**

*: $p \leq .05$, **: $p \leq .01$

The Influence of Leader Behaviors on Follower Self-Leadership: An Application of Hierarchical Linear Modeling(HLM)

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요 약

본 연구는 리더의 행동이 부하의 자기리더십 (self-leadership)에 미치는 영향에 관해 살펴보았다. 이를 위하여 설문을 이용하여 데이터를 수집하였다. 특히 리더십과 부하의 자기리더십 사이의 인과관계를 검증하기 위하여, 리더십 측정 10주 후에 부하의 자기리더십을 측정하였다. 또한, 리더십을 집단수준의 개념으로, 부하직원의 자기리더십을 개인수준의 개념으로 정의하였고, 데이터분석을 위하여 HLM기법을 사용하였다. 본 연구는 참여적 리더십 (empowering leadership)이 자기리더십에 긍정적인 영향을 미치고, 지시적 리더십은 부정적인 영향을 미침을 발견하였다.

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