INTEGRATING SKILL ACQUISITION AND PERSPECTIVE TAKING CAPACITY IN THE DEVELOPMENT OF LEADERS

Craig J. Russell*
Louisiana State University

Karl W. Kuhnert
University of Georgia

This essay integrates approaches from three literatures to develop a model of leader development. Kanfer and Ackerman’s (1989) episodic model of skill acquisition is combined with Kegan’s approach to adult development to encompass development of transactional and transformational leadership. Importantly, feedback mechanisms are added to explain changes in individuals’ intellectual capacities, values, and beliefs over time. This framework provides a summary of what is known about the processes underlying developmental change in how leaders understand and act on their environment and provides specific directions for future research.

Over the past decade, researchers have developed and applied a new model of leadership that far surpasses previous attempts to understand the role of individual differences in leadership (Bass & Avolio, 1990). This new model distinguishes between two types of leaders: transactional and transformational. Transactional leadership occurs when one person takes the initiative in making contact with others for the purpose of an exchange of something valued, usually for the purpose of self-interest and with short-term interests in mind. It is a quintessential bargaining situation, “if you do something for me, I will do something for you”.

Transformational leadership goes beyond interpreting leadership as an exchange process with followers, to “considering leadership that develops and transforms...
followers and organizations to achieve their highest levels of performance" (Bass & Avolio, p. 232). The development and transformation of followers occurs through the use of values other than those found in traditional economic exchanges that maximize individual utility. Simple examples might include a leader influencing followers to put the good of the group ahead of the good of the individual, to give the welfare of the environment greater weight in trade-offs with the economic goals of the unit, etc. Transformational leadership is perhaps easiest to recognize when it is revealed in times of crisis or externally induced change and internal innovation. The transformational leader may be an entrepreneur in small sole-proprietorship or the CEO of a Fortune 50 firm. The transformational leader may have a "vision" or "perspective" on a new good or service to be sold to the consuming public (e.g., Thomas Edison's efforts at transforming American households of DC electric current resulting in today's Consolidated Edison, Melosi, 1990), or, may have a vision or perspective on the best way to deal with some organizational crisis (e.g., Kurzman's, 1987, discussion of Johnson and Johnson's handling of the Tylenol poisoning scare vs. Union Carbide's handling of the Bohpal toxic chemical spill). Finally, Transformational leaders lead their organization successfully through the crisis and reemerge with the confidence of constituencies (the consuming public, the investment community, etc.), though subordinate employees tend to be the constituency of most interest. It is this combination of the particular "perspective" a leader brings to the situation and the specific array of skills used to negotiate a successful outcome that makes the leader transformational.

For Bass and others, transformational leaders differ from transactional leaders in the values they hold and how those values influence what they attend to and how they think, work, and interact with others. Simply put, transactional leaders constellation of influence protocols revolve around traditional dimensions of economic exchange, while transformational leaders efforts cover a broader range of values and, hence, influence protocols (Burns, 1978).

Research on the differences between transactional and transformational leaders has resulted in direct applications for individual, team, and organizational performance (Avolio & Bass, 1988; Bass 1985). Unfortunately, there has not been as much focus on how to train leaders to become transformational leaders or how conceptualizing the distinction between transactional and transformational leadership would help in the design of effective leadership development programs.

Acquiring leadership and management skills through organizational training programs has a long history in American industry. There is ample evidence that training is useful when mastery of a skill can be specifically defined and measured in the context of some learning environment (e.g., skill-specific learning objectives and a reward structure that motivates completion of learning activities, Bass, 1990). Classroom instructional methods to enhance transactional leadership skills such as communication, negotiation, and time management have shown to improve individual performance, at least over the short term (Bass, 1990; Cronin, 1984; MacDonald, Youngblood, & Blum, 1982). As important as skill development is for leadership development, it is also clear that transactional skills alone cannot guarantee leader success in all situations (Bartunek & Moch, 1987).

A more difficult question may be how to train and develop transformational leaders. It seems unlikely that most of what individuals must learn to be effective
transformational leaders can be acquired solely through traditional classroom pedagogical techniques. It simply seems very difficult to teach transformational leaders to influence others using non-exchange based values, focusing on "doing the right thing" in a classroom setting.

Historically, attempts to develop leaders' integrative thinking (e.g., executive development programs) has met with limited, if not disappointing results largely because of the difficulty in making fundamental changes in the behavior of individuals in a structured training environment (Fisher, Merron, & Torbert, 1987; Tetrault, Schriesheim, & Neider, 1988). Interestingly, those actively involved in developing leadership talent in industry have recognized for some time the limits of developing leaders through structured activities alone. Over the past 10 years there has been increasing examples of firms whose primary way to develop executives is to expose them to a career path strewn with opportunities to face critical or "key" experiences (Lindsey, Homes, & McCall, 1987). It is through the handling of those experiences that causes incumbents to grow and develop the capacity to achieve organizational objectives (e.g., Lublin, 1992). Although exposing organizational leaders to key experiences (trial by fire) makes a great deal of intuitive sense, there is currently no research or model to guide and validate this approach to management development.

Thus, what we have in leadership development training today is represented by two complementary poles. One stresses qualities amenable to traditional instruction techniques that relate to transactional leadership (e.g., how to conduct a performance appraisal feedback session, how to develop work teams, etc.). The other emphasizes exposure to key experiences across a career path that is thought to broaden thinking and develop conceptual capacities. These two forms of knowledge acquisition have been identified by Wolze (1989) as "self development" and "being developed". "Self-development" is the knowledge gained from personal life experiences and "being developed" is learning from formal training and guidance. We believe that in order to maximize the internal pools of transactional and transformational skills, leader learning through "self development" and "being-developed" must be simultaneous. Further, we believe that to make progress in understanding how leaders develop is to integrate both kinds of learning into a model of leadership training.

Our framework is based on an integration of two complementary models of knowledge acquisition; Kanfer and Ackerman's (1989) model of skill acquisition and Kegan's (1982) constructive-developmental model of adult development. Specifically, we use Kegan's stage approach to adult development as a means of describing how sequences of Kanfer and Ackerman's skill acquisition episodes combine and interact to develop transactional and transformational leaders. We will first describe an episodic model of skill acquisition based on Kanfer and Ackerman's work, followed by a brief description of Kegan's model of adult development. We will then outline a research agenda needed to explore this most fundamental of all leadership questions, i.e., how leaders develop.

AN EPISODIC SKILL ACQUISITION MODEL

Maier (1955) and others have long-hypothesized that work performance was an interactive function of ability, motivation, and opportunity (Terborg, 1977). Based on
this premise, Kanfer and Ackerman (1989) proposed a model for skill acquisition that simultaneously integrates cognitive abilities, self-regulatory processes, and information processing demands. We have labeled their approach episodic in that it attempts to capture the structural components and processes occurring between 0 percent skill acquisition and 100 percent skill acquisition. Hence, we view each sequence of perceptions, cognitions, self-regulatory demands, and information processing requirements leading to skill acquisition as a set of skill acquisition episodes. We will briefly describe the Kanfer and Ackerman model before modifying it to accommodate acquisition of transactional and transformational leadership skills.

The Kanfer and Ackerman Model

Ackerman (1986, 1987) accepted the notions that (1) individuals are characterized by varying levels of limited cognitive resources (g), (2) attentional processes best describe how people allocate limited cognitive resources across tasks, and (3) tasks vary in their demand for cognitive resources. Note that these three notions coincide with Maier's (1955) focus on ability, motivation, and opportunity.

Citing findings reported by Schneider and Shiffrin (1977), Ackerman (1987) suggested that performance levels observed when subjects are first exposed to a task are moderated by how amenable the task is controlled vs. automatic cognitive processing. Cognitive ability tests that reflect the amount of cognitive resources available for an individual to "control" should predict initial performance on moderately demanding tasks, i.e., tasks that are at least initially very cognitively taxing. As skills are acquired over time, repetition of a moderately difficult task permits many of the cognitive processes that initially had to be "controlled" to become automated. Hence, initial performance differences between high and low cognitive ability individuals decrease, and correlations between cognitive skills tests and task performance attenuate over time (Ackerman, 1987; Hulin, Henry, & Noon, 1990).

Kanfer and Ackerman (1989) hypothesized three steps by which tasks become more automated and demand for cognitive resources decreases. Specifically, they used Anderson's (1982, 1983) three phase approach to skill acquisition to describe how repetition or experience decreases initial cognitive requirements. They distinguish between declarative knowledge (raw knowledge acquisition - Phase I), knowledge compilation (acquisition of rules and procedures that reduce the "controlled" cognitive requirements - Phase II), and procedural knowledge (an end state where previously controlled cognitive processes are maximally automated - Phase III). Phase I was thought to require more controlled cognitive processing, while gradual learning of task rules and procedures (i.e., movement through Phases II & III) would permit more automatic cognitive processing to be used.

Kanfer and Ackerman (1989) built on this conceptualization of ability-performance relation by integrating the earlier work of Kahneman (1973) on distal and proximal motivational processes. Distal motivational processes are conceived in terms of traditional expectancy theory (VIE) terms (Vroom, 1964). These processes capture individuals' initial motivational processes in the allocation of scarce cognitive resources among tasks, i.e., how they decide to do one thing vs. another. Proximal motivational processes capture the ongoing motivational activities of self-regulation (e.g., self-
monitoring, self-evaluation, and self-reactions). Proximal processes might be thought of as self-discipline, i.e., the level of effort required to gather and evaluate information about one's own performance and take corrective action as needed.

Proximal motivation is most useful when it increases gradually as rules and procedures are learned in Phases II and III. However, implementation of self-regulation activities too soon in the learning process can consume scarce cognitive resources that are needed for successful Phase I knowledge acquisition. Taking time and effort away from knowledge acquisition to self-monitor, self-evaluation, and react is predicted to enhance performance only after some critical mass of knowledge has been acquired. In later phases of skill acquisition, when task related rules and procedures are being recognized and stored into long-term memory (i.e., the migration from controlled to automatic cognitive processing), self-regulatory activities are thought to greatly augment ongoing task performance.

Hence, a net gain in controlled cognitive resources is obtained when the vast amount of controlled cognitive functioning required in Phase I knowledge acquisition is gradually replaced with the reduced cognitive requirements of self-regulation in Phases II & III. The three phases of skill acquisition are thought to be differentially influenced by proximal, self-regulatory motivational processes (i.e., an abilities x proximal motivation interaction effect on task performance at different stages of skill acquisition).

Finally, Kanfer and Ackerman (1989) hypothesized that cognitive resource demands of a task moderate the relationship of ability (controlled cognitive resource capacity) and motivation (distal and proximal) to task performance. Specifically, tasks are defined as limited by information if additional cognitive resources have no impact on performance (e.g., no matter how many skills have been acquired, performance will be low if adequate "opportunity" or information is not accessible). Tasks are defined as limited by skills and abilities if additional cognitive resources increase levels of task performance. Consequently, the performance ceiling for some tasks is determined by the task itself and for other tasks by incumbents' skill profile. Assimilating notions of a task's demands on controlled cognitive resources adds the last "opportunity" component of Maier's (1955) original $P = f \{M,A,O\}$ model.

Hence, Kanfer and Ackerman (1989) have developed a model of learning or skill acquisition episodes that explicates how individuals' abilities and motivation interact through the initial phases of learning to yield a period of sustained task performance. The model further provides an understanding of the task in terms of volume of cognitive resources required (task difficulty) and ease with which cognitive requirements can be shifted into a "cognitive resource saver" automatic mode. Kanfer and Ackerman (1989) also report the results of several lab studies which provide strong initial support for this representation of the skill acquisition process.

**Leader Development**

The episodic model of skill acquisition is easily applied to the development of individual transactional leadership skills. For example, business schools, consulting firms, and organizations themselves routinely offer off-site training to managers in how to conduct performance appraisals and provide feedback to subordinates. Distal motivation (i.e., the decision to attend the class) usually comes from HR training
professionals within the manager's firm, feedback from the manager's own boss, an unpleasant experience in giving negative feedback to a subordinate, etc. Bulleted learning points denoting subtasks and behavioral requirements of "performance management" skills are typical of these training programs and serve to focus trainees' attention (cognitive resources). Lecture, case discussion, and various exercises are used to infuse new knowledge into the participants (Kanfer & Ackerman's Phase I: knowledge acquisition). Other techniques (typically involving role play, simulations, or trial efforts with real subordinates) are used to hone the application of this knowledge (Phase II: compilation of rules and procedures that permit a decrease in controlled cognitive processing requirements). Phase III of this transactional skill acquisition process occurs when incumbents become proficient at acquiring ongoing performance feedback on themselves (i.e., thorough self-regulation), evaluating the information, and making any corrective action: controlled cognitive processes are minimally required for continued job performance. Phase III learning in this example typically involves transfer of learning (Goldstein, 1986), and is where many training programs fail.

Unfortunately, at least three problems with the episodic model of skill acquisition become evident when it is applied to the development of skills and perspective taking capacity of transformational leaders. First, the model does not specify under what circumstances distal motivational processes will be ignited. In our previous example of a transactional "manager" being trained in performance management skills, the "ignition" point could have been any one of a number of sources of information that (1) caught the manager's attention and (2) caused the manager to self-evaluate and identify a training need. Most training and development professionals have many techniques for getting "student" managers' attention focused on some skill deficit and then obtaining their commitment to do something about it.

This shortcoming of the Kanfer and Ackerman model applied to leadership skill acquisition becomes more evident when it is applied to the development of skills and perspective taking capacity of transformational leaders. First, the model does not specify under what circumstances distal motivational processes will be ignited. In our previous example of a transactional "manager" being trained in performance management skills, the "ignition" point could have been any one of a number of sources of information that (1) caught the manager's attention and (2) caused the manager to self-evaluate and identify a training need. Most training and development professionals have many techniques for getting "student" managers' attention focused on some skill deficit and then obtaining their commitment to do something about it.

This shortcoming of the Kanfer and Ackerman model applied to leadership skill acquisition becomes more pronounced when our focus shifts to the initial motivation to obtain transformational skills. In a sense, this distal motivational process that ignites development of transformational skills and values is the first step in "transforming" a transactional leader into a transformational leader, or what Lewin (1951) called "unfreezing". Here, the unfreezing or distal motivational "ignition" must go beyond the leader's recognition that there are better ways to influence the leader-follower exchange relationship. Kuhnert and Lewis (1987; Lewis & Jacobs, 1991) argue that transactional managers must somehow step back from the leader-follower exchange to obtain a perspective on the basic values underlying the exchange. However, neither Kuhnert and Lewis nor Kanfer and Ackerman describe the circumstances which encourage such "stepping back" or "perspective taking."

A second problem in applying the Kanfer and Ackerman model to leadership development stems from the fact that any boundaries placed to pinpoint the beginning and end of a sequence of skill acquisition episodes will be arbitrary - some leadership skills and underlying values will take longer to acquire than others and some individuals will take longer to acquire leadership skills and values (Ackerman, 1987). We speculate that this should be especially true with transformational leaders, for whom the acquisition of deep seated values and beliefs and the skills needed to infuse them into subordinates is unlikely to result from any single learning experience but from a number of episodes. Further, it seems likely that many of these episodes will result from specific
experiences encountered in work and nonwork related activities and will be influenced by generation and organization specific cohort groups (Howard & Bray, 1988; Schneider, 1983).

A third shortcoming of the Kanfer and Ackerman (1989) model applied to leadership skill acquisition reflects the fact that individuals are not passive in the face of their experiences on the job. Research has revealed individuals as active agents who influence their environment as much as the environment influences them (Terborg, 1981; Schneider, 1983; 1987; Sheridan, Slocum, Buda, & Thompson, 1990; Wood & Bandura, 1989). It is not enough to examine how job characteristics impact individual skill acquisition (e.g., average controlled cognitive requirements of the job) in any single instance. Further, it is not enough to explore the effect cognitive limitations have on skill acquisition in single learning episodes (Lerner, 1991). A complete model must show how individuals interact with their work environments over time (Hulin, Henry, & Noon, 1990; Wood & Bandura, 1989). Hence, in describing the development of managerial and leadership skills it is useful to view the individual and the environment as reciprocally influencing each other over time (Lerner, 1991; Mumford & Stokes, in press).

A fourth shortfall of the Kanfer and Ackerman model applied to leadership is the implicit assumption that job or task characteristics themselves are in fact “objective”. It has been shown that relationships between job characteristics, individual attitudinal or motivational responses, and individual attributes are more complex than the simple interaction effects predicted by current models (Breer & Locke, 1965; Adler & Weiss, 1988). Recent research has also shown that information in the social context affects the way jobs are perceived (O'Reilly & Caldwell, 1979; Salancik & Pfeffer, 1978; Wood & Bandura, 1989). “Objective” task information itself seems to be constructed, at least in part, by the observer and the context of observation. The exact process by which transactional and transformational knowledge, attitudes, and values are influenced by a single skill acquisition episode and its context must address this multifaceted construction.

Hence, an elaboration of the Kanfer and Ackerman model must necessarily be a more molar or holistic approach to viewing the development of managers and leaders. It suggests the need to explore ways in which individuals broaden their perceptual, cognitive, and behavioral capacities in Adams' (1987) definition of “skill” to obtain new capacities in the leader-follower interactions. Importantly, it suggests the need to explore how events impact basic values, attitudes, and beliefs and hence the “meaning” people draw from their skill acquisition episodes that subsequently impact unfreezing and/or distal motivation (e.g., a direct impact on valence perceptions) and proximal motivation (e.g., self-perceptions and appraisals). The “meaning” drawn from these leadership skill acquisition episodes may take the form of new controlled and/or automatic cognitive capacity (e.g., basic managerial performance appraisal and feedback skills) or new values, attitudes, and beliefs (e.g., a new vision and/or new skills at “instilling” that vision in followers).

This elaboration suggests that results of early skill acquisition episodes impact leader performance and later skill acquisition episodes in a nonadditive, or configural, manner. We cannot and should not neglect the pattern or content of individuals’ episodic skill acquisition history. Thus, we are using the Kanfer and Ackerman model as one
component of a strategy for tracing how leaders develop capacities through series of skill acquisition episodes over a career.

LEADERSHIP, CONSTRUCTIVE/DEVELOPMENTAL THEORY AND KNOWLEDGE ACQUISITION

The constructive/developmental (CD) theory of development supplies an integrated approach to understanding sequences of leadership skill acquisition episodes (Kuhnert & Lewis, 1987; Lewis & Jacobs, 1991). To summarize briefly, CD theory stresses (1) the interaction between individuals and their social context and (2) an individual difference variable that captures regularities in how people "make meaning" out of their patterns of social interaction. Constructive/developmental theory adds to our understanding of situation-person relationships by providing a framework for understanding how individuals construct meaning from their experiences. This "meaning making" process is considered the foundation of transformational leaders' values, beliefs, and/or perspective taking capacity (Kuhnert & Lewis, 1987; Lewis & Jacobs, 1991). The goal of such a theory in the context of skill acquisition is to understand how persons respond to the job, task, and social context. The theory hypothesizes a range of life events (skill acquisition episodes) that condition readiness for growth and stimulate change (i.e., the development of either transactional skills or transformational skills and values).

The theory reveals the steps by which individuals develop increasingly broader perspectives of themselves in relation to the world (Kegan, 1982). Kegan and Lahey (1984) demonstrated there is a consistent pattern of thinking and actions associated with different developmental levels. At each stage, information is selected and organized consistently within the existing cognitive framework. Each cognitive structure, or stage, forms a coherent understanding of reality and represents a new and unique way in which individuals organize experiences (or prior skill acquisition episodes). Development from one level to another is a function of the experience itself and how that experience is understood.

The emphasis in Kegan's (1982) approach is on the form of information processing rather than on the specifics or content of the information provided. Like Kanfer and Ackerman's model of skill acquisition, specific hypotheses regarding events and/or individual difference variables that cause development are not specified. Regardless, it is not the skill acquisition episode or its feedback that are important, but how that experience is interpreted by and subsequently impacts the leader. The interpretation of any single skill acquisition episode is conditioned by the array of prior episodes a person has been exposed to.

Kuhnert and Lewis (1987) used Kegan's (1982) theory to explain how leaders' transactional skills and perspective-taking capacities/transformational leadership skills develop. Kuhnert and Lewis (1987) used three of Kegan's developmental stages to suggest that transformational and transactional leaders are at different levels of development. However, like the Kanfer and Ackerman model of skill acquisition, CD theory does not provide specific predictions regarding what life experiences induce how the meaning making process changes or the process underlying this change. CD theory simply suggests that patterns of skill acquisition episodes will
distinguish between individuals who emerge as transactional vs. transformational leaders.

Hence, the developmental evolution of transactional and transformational leadership can be viewed in terms of different stages on a journey through various episodes of task and/or life experiences. Each stage is characterized by a different array of (1) basic underlying values and beliefs (directly reflected in distal and proximal motivational processes) and (2) specific transactional and transformational leadership skills. However, critical gaps remain in our understanding of how the meaning making and skill acquisition processes take place.

**TOWARD A DEVELOPMENTAL FRAMEWORK OF TRANSACTIONAL AND TRANSFORMATIONAL LEADERSHIP**

**A Model**

We have adopted the view of managerial and leadership development as a dynamic sequence of task-related experiences or skill acquisition episodes. Each task-related experience takes place in some “constructed” social context (especially if it is managerial or leadership oriented) that impacts aspects of leadership. Thus, each skill acquisition episode has the potential to leave its mark (directly or mediated by the social context) on (1) the general or specific components of individuals' cognitive resource pool (i.e., skills and abilities) and/or (2) basic values, attitude, beliefs, or “perspective taking” capacity reflected in both distal and proximal motivational processes. Mumford and Stokes (in press) described this as the “ecology” of an individual's prior life experiences.

“Task-related” experience is defined as a mix of (1) task characteristics, (2) the social context, and (3) relevant individual difference variables, with each episode presenting an opportunity to increase individuals' leadership skills and perspective taking capacity. Figure 1a contains a revised version of the Kanfer and Ackerman (1989) model, reflecting specific skills and an enhanced feedback loop reflecting the dynamic, iterative nature of skill acquisition in a social context over time. Figure 1b captures the sequential nature of these skill acquisition episodes in a “life process” approach to the development of leader skills and perspective taking capacity.

A complete theory of how people develop as leaders needs to describe how individuals respond to characteristics of the task and the social work context. Hence, we are suggesting use of Kuhnert and Lewis' applications of Kegan's (1982) C/D model as a multi-episodic “developmental overlay” to Kanfer and Ackerman's skill acquisition model, moving a step closer to a more complete theory of leader development. The immediate implication of the C/D model is that each stage of leader development should be distinguished by some shared “meaning making process” across individuals derived from a set of skill acquisition episodes specific to that stage. It is not the skill acquisition episode itself that is important, but how that event is understood by individuals as a function of their stage of development (see Figure 1c). Thus, it is the pattern of reciprocal influence between the individual and the social context that is critical to understanding skill acquisition at any particular stage.

For example, we would expect transactional and transformational leaders to view their own critical development episodes differently, i.e., in ways consistent with the
Figure 1. Episodic and Life Process Models of Skill Acquisition
b. Life Process Model of Skill Acquisition

Figure 1 continued
Episode 1
Episode 2
...
Episode k

Episode k + 1
Episode k + 2
...
Episode j

Episode j + 1
Episode j + 2
...
Episode i

Episode i + 1
Episode i + 2
...
Episode N

Stage I
Stage II (Transactional Leadership)
Stage III (Transformational Leadership)
Stage IV

c. Adapted from Kegan's (1982) C/D Theory and Adult Development

Figure 1 continued
meaning making process at their respective stages of development as described by CD theory. Interestingly, we would also expect a transactional leader and transformational leader who are exposed to the same developmental experiences to view those experiences very differently. We might also expect those individuals at similar developmental levels to describe consistent patterns of meaning across different sequences and/or configurations of episodes. Key information that is missing from this framework is whether some critical tier or profile of episodes must be reached before transactional leaders can comprehend and acquire transformational leadership skills. To date, the only systematic evidence bearing on this “critical tier of episodes” indicates that challenges or “negative life events” play a crucial role in the initiation of new perspective taking capacity and/or distal-proximal motivational processes (Howard & Bray, 1988; Lindsey, Homes, & McCall, 1987; Russell, Mattson, Devlin, & Atwater, 1990).

Implications for Future Research

Initial implications of the framework are very straightforward. The following constructs are addressed:

1. General and specific cognitive skills.
2. Distal motivational processes (VIE), reflecting basic values, attitudes, and beliefs (i.e., perspective taking capacity).
3. Proximal motivational processes (self monitoring, evaluation, and reaction), again reflecting basic values, attitudes, and beliefs (i.e., ongoing application of perspective taking capacity).
4. Three phases of skill acquisition (knowledge acquisition, knowledge compilation, and procedural knowledge).
5. Cognitive requirements of the task.
6. The social work context.
7. Feedback delivered in an iterative, longitudinal fashion that has a reciprocal causal impact on general/specific cognitive skills and distal/proximal motivational processes (perspective taking capacity).
8. Systematic changes or phases of development that reflect differences in how individuals make meaning from their experiences, i.e., perspective taking (CD theory).

The most interesting implications of this development approach to leadership skill and perspective taking become evident when attentional and motivational processes are viewed as a process of growth through different stages of leadership. Feedback from task performance and/or other environmental influences constitute the independent variables of interest (variables 5-8 in the list above). Changes in skill profile and perspective taking capacity (reflected in distal/proximal motivational processes) are the dependent variables of interest.

One could generate any number of implications and research questions by simply invoking the time honored training and development call for quasi-experimental designs in field settings (Goldstein, 1986). Any one of the challenging “career experiences” that “fast-trackers” are exposed to as a means of increasing managerial performance could be examined for effects on all eight of these constructs using a simple pre-post control
group design. For example, Kanfer and Ackerman (1989) suggested that simple training in goal setting may serve to either (1) redirect cognitive resource allocation by changing initial decisions to engage in a task (distal motivational processes) or (2) reactivating or amplifying self-regulation activities (proximal motivational processes).

Regardless, almost any experience presumed to contribute to managers' career development could be evaluated in such a manner (e.g., Lubin's, 1992, description of job assignments that are thought to lead to "global" management skills). In developing a selection system for top level general managers in a Fortune 50 firm, Russell (1990) discovered the following beliefs regarding career development:

1. Operating managers really do not understand the corporate accounting system until they are given profit and loss responsibility (regardless of how they might claim to know it). Further, training in the accounting system has little impact unless they have been in a top management position for a while (1 to 2 years) with profit and loss responsibility so they can learn what they don't know.

2. Overseas assignments are highly developmental experiences as long as one did not spend more than 2 or 3 years in the position. Spending too long in the assignment puts one at risk of being "out of sight, out of mind" and passed over for other, more valuable, developmental experiences.

3. "Firefighting" experiences, where one was thrown into a highly sensitive problem situation (e.g., a PCB clean-up, dealing with an explosion in a radioactive manufacturing facility, etc.) and had to deal with it, were viewed as highly developmental. However, they put you at risk of being labeled as a "firefighter" and spending your career jumping from one problem to another. Hence, most middle level managers purposefully sought a first firefighting assignment, and equally purposefully avoided subsequent assignments.

The same firm operated what was called an "executive forum." This involved an off site meeting of the top corporate officers of the firm with a select group of 40 high performing middle managers to share their vision of the firm's future and have small group discussions about the strategic planning process that contributed to that vision. While not an "on-the-job" skill acquisition event, it was also thought to contribute to the development of top level managers.

It quickly becomes clear that development of arrays of skills and perspective taking found in transactional and transformational leaders cannot be explored in the same way as "acquisition of typing skill." Our approach conceives transactional and transformational capacity as complex patterns of (1) value development/perspective taking and (2) cognitive capacity or skills. As noted by Lerner (1991), this molar view of "leader knowledge acquisition" requires very different research venues and designs (e.g., Howard & Bray, 1988; Sheridan et al., 1990).

These are but a few of the career experiences encountered in various organizational settings that are thought to contribute to top level managerial development. Unfortunately, the number of anecdotal views regarding what task-related episodes contribute to the development of managerial and leadership skills is immense. A few longitudinal panel designs and ethnographic efforts offer some interesting directions for research needed to uncover the fundamental processes of leader development left unspecified in the framework.
Specifically, Lindsey, Homes, and McCall (1987) interviewed over 190 top level executives to obtain insight into the key events that impacted their career paths. One interesting finding was that a large number of managers described a situation where they had to work for a difficult, demanding, obnoxious boss. Recent biodata results reported by Russell, Mattson, Devlin, and Atwater (1990) and Russell and Domm (1990) suggest that negative life experiences from a dominant factor underlying predictive biographical information items.

However, early work by Chaney and Owens (1964) suggested that it may not be the negative experience that is developmental. Instead, their results suggest that creative individuals tend to describe prior life experiences in more negative tones because they are more sensitive and introspective, and hence are more affected by life events than less creative individuals. This conforms with CD theory’s contention that the presence of certain specific skills or level of perspective taking capacity moderate the impact of developmental episodes.

Many research efforts suggest other characteristics of skill acquisition episodes that contribute to managerial and leadership capacity. Howard and Bray (1988) report results from AT&T’s 30-year managerial progress study indicating that early job challenge is correlated with subsequent career success. Sheridan et al. (1990) reported results from a 10-year longitudinal study suggesting that the power of the department a trainee is initially assigned to is correlated with subsequent career and salary progression. However, as with the “demanding boss” example provided above, we still do not understand the process underlying these effects and hence cannot offer prescriptions aimed at efficiently and effectively managing early career experiences (Beatty, Schneier, & McEvoy, 1987). Obviously, everyone cannot be placed in the “powerful” departments, all early job challenges are not equal, and all negative life experiences do not have the same effect.

For example, it would be grossly premature to advise firms to erect some “negative life experience” hurdle to enhance the development of younger managers. The framework developed herein suggests future efforts use longitudinal panel designs to track the relationship of negative life events (e.g., a demanding boss) to changes in specific skills (e.g., social sensitivity skills) and basic attitudes, values, and beliefs. Working for a demanding boss may develop transactional skills by:

1) challenging incumbents to make efforts they otherwise would not have attempted, simultaneously enhancing the incumbents’ cognitive capacity and expectancies; or

2) sensitizing the incumbent to rude and obnoxious managerial behavior (changing the valence and instrumentality perceptions associated with that behavior) while simultaneously developing the specific interpersonal interaction skills needed to overcome the boss’ behavior; or

3. developing incumbents’ cognitive perspective taking capacity to recognize the circumstances in which extreme supervisory demands are effective and ineffective.

Unfortunately, it would be just as easy to describe equally undesirable outcomes (e.g., incumbent develops harsh interpersonal skills and no sensitivity to the circumstances in which they are appropriate).
The integrative framework developed herein suggests future research focus on how variations in such "developmental experiences" impact changes in (1) distal/proximal motivation (attitudes, values, beliefs, perspective taking capacity) and (2) specific skills combined with attitudes, values, beliefs, and perspective taking capacity (i.e., transactional and transformational leadership). Results from efforts of this sort would permit a richer theory of leader development and stronger statements about which developmental experiences are more desirable in practice.

**Development of Transformational Leadership.** Most of the examples provided above are placed in the context of developing transactional leadership skills. Developing an appreciation of industrial accounting, managing in a foreign country, and/or "firefighting" promote images of transactional, not transformational leadership (Zaleznik, 1977). Managing transactions under conditions of profit and loss responsibilities, time management, foreign cultures, and high-stress problem situations does not require the use of vision, perspective, strength of character to guide your own and others behaviors. What on-the-job experiences does the firm control that would help develop perspective taking capacity? Are there different experiences that develop leaders' perspective taking and capacity to inspire others with these beliefs? What preliminary pattern of cognitive skills, perspectives is(are) necessary before an individual is ready to move to stage or pattern characteristic of transformational leaders?

Numerous literatures lend themselves to the development of hypotheses about how such events might operate. Using principles derived from Levinson, (1983), the field of organizational development frequently points to the effect a crisis has on the re-evaluation and/or reawakening of deep-seated values and beliefs (Burke, 1982). We used Lewin's (1951) term "unfreezing" in describing processes behind crisis episodes at Johnson and Johnson vs. Union Carbide. Do individuals have to go through (or be exposed to) some crisis situation in order for their attentional processes to become focused on the required change in values, attitudes, beliefs, or perspective taking capacity? Does the individual have to have developed certain transactional leadership skills (e.g., interpersonal communications skills, social sensitivity, and others related to the management of exchange relationships) before transformational skills and perspective can be used to impact others? What is the most efficient way to develop these capacities, i.e., can individuals develop them by observing others go through an experience, or does the person have to live the experience? Finally, is transformational leadership amenable to "automatic" cognitive processing, or does perspective taking capacity require a constant application of "controlled" cognitive processing?

**CONCLUSION**

Obviously, answers to these questions await future research. Our purpose has been to develop a framework to guide this future research, integrating findings from literatures on skill acquisition, adult development, and leadership. The field is beyond the point of exploratory efforts in individual disciplines (i.e., learning theory applications to training programs, theories of individual differences and performance prediction, etc.). The question of how transactional and transformational leaders develop requires coordinated efforts that encompass diverse findings found in the skill
acquisition, human development, and personnel selection literatures. Systematic efforts to answer these questions will provide strong direction for an issue basic to our field—what experiences contribute to the development of leaders?

NOTE
1. There have been numerous attempts to define cognitive capacity (see Streufert & Streufert, 1978; Witkin, Goodenough, & Oltman, 1979). Previous definitions of capacity have emphasized the structure of one’s thinking without considering its flexibility. While conceptual complexity is important to leadership, we believe flexibility in thinking, or the leader’s ability to understand and move among multiple perspectives as more critical, especially in learning from one’s mistakes (changing cognitive “mistakes” back after they have reached the automatic level). One critical aspect of leadership is, in our way of thinking, the ability to comprehend and transcend others’ frame of reference. It should be noted that our use of perspective taking is identical with Kegan (1982) and consistent with similar terms, such as frames of reference (Jacobs & Jaques, 1987), social perspective taking (Seleman, 1980), and schemata (deMay, 1982; Neisser, 1976; Taylor & Crockett, 1981).

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