

## The use of constructive-developmental theory to advance the understanding of leadership

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### Abstract

Constructive-developmental theory is a stage theory of adult development that focuses on the growth and elaboration of a person's ways of understanding the self and the world. In this article we review how the constructive-developmental frameworks of Kegan [Kegan, R. (1982). *The evolving self: Problem and process in human development*. Cambridge, MA: Harvard University Press], Torbert [Torbert, W. R. (1987). *Managing the corporate dream: Restructuring for long-term success*. Homewood, IL: Dow Jones-Irwin.], and Kohlberg [Kohlberg, L. (1969). Stage and sequence: The cognitive developmental approach to socialization. In D. Goslin (Ed.), *Handbook of socialization: Theory and research*. New York: Rand McNally] have been applied in the theoretical and empirical literature on leadership and management. Although the literature has produced a number of propositions, the notion that a leader's order of development should impact his or her leadership effectiveness or managerial performance has generated the most research. We found mixed support for this proposition as well as a number of limitations in the research in general. To have a greater impact on the leadership field, constructive-developmental theory needs to generate more robust research, to link more clearly with on-going streams of leadership research, and to explore the contribution of aspects of the theory beyond individual order of development.

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Over twenty years ago, Bartunek, Gordon, & Weathersby (1983) in the *Academy of Management Review* advocated for the use of developmental stage theories to inform the design of management education programs that increase “complicated” understanding in managers. This ability to see and understand organizations from multiple perspectives was (and is) seen as necessary for dealing with the complex nature of many of the problems managers face. The potential contribution of developmental theories is in their description of how adults develop more complex and comprehensive ways of making sense of themselves and their experience.

In the intervening years since the Bartunek et al. publication, a number of practitioners have used developmental stage theories in designing leadership development interventions that help managers deal with complex challenges (Laske, 1999; Palus & Drath, 1995; Torbert, 1991; Torbert & Associates, 2004; Van Velsor & Drath, 2004; Wagner et al., 2006). However, we have seen little in the mainstream management and leadership research literature that makes

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use of these theories. Perhaps this should not be surprising. Adult development has been the purview of schools of education and of counseling programs. Management and leadership belongs to business schools and to social and organizational psychology and political science departments.

Yet there has been some intermingling of the adult development literature and the management and leadership literature. In this article, we are particularly interested in the use of a specific stream of work from the adult development arena—constructive-developmental theory—to advance the understanding of management, leadership, and change in organizations. The purpose of the article is to examine the literature at this intersection, summarizing what it says about how people’s development as adults is related to various leadership phenomena. Our aim is to provide a comprehensive picture of the propositions that have been put forth about how adult development is related to leadership, the research that has examined these propositions, and the limitations of this body of research.

We focus on constructive-developmental theory because it is the developmental stage theory most frequently used in the management and leadership literature. We define the constructive-developmental domain narrowly, focusing only on the stream of work related to the group of theorists identified by Kegan (1980) when he first suggested the term. This group most directly built on Piaget’s work, extending the work into adulthood and beyond its cognitive focus. There are several developmental stage theories that have similarities to constructive-developmental theory (e.g., Beck & Cowan, 1996; Hall, 1995; Jaques, 1996) yet are not part of the neo-Piagetian paradigm. It is beyond the scope of this review to examine all developmental stage theories. For the interested reader, Commons & Richards (2003) and Wilber (2000a) have summarized and worked to integrate a wide variety of these stage theories.

We begin by providing an overview of constructive-developmental theory and then review the management and leadership literature that has made use of three specific developmental frameworks within the more general theory. We end by examining the current limitations of this literature and propose some promising future directions.

## 1. Constructive-developmental theory

The term “constructive-developmental” was first suggested by Kegan (1980) to refer to a stream of work in psychology that focuses on the development of meaning and meaning-making processes across the lifespan. The theory is “constructive” in the sense that it deals with a person’s construals, constructions, and interpretations of an experience, that is, the meaning a person makes of an experience. It is “developmental” in the sense that it is concerned with how those construals, constructions, and interpretations of an experience grow more complex over time. Constructive-developmental theory thus takes as its subject the growth and elaboration of a person’s ways of understanding the self and the world. It assumes an ongoing process of development in which qualitatively different meaning systems evolve over time, both as a natural unfolding as well as in response to the limitations of existing ways of making meaning. Each meaning system is more complex than the previous one in the sense that it is capable of including, differentiating among, and integrating a more diverse range of experience. Along with Kegan, other early theorists contributing to this stream were Fingarette (1963), Kohlberg (1969), Perry (1970), Selman (1974), and Loewinger (1976).

Constructive-developmental theory is built on the seminal work of Jean Piaget (1954), which he referred to as “genetic epistemology”—the genesis or successive unfolding of the capacity for rational thought in the developing child. For Piaget, development was not a gradual accumulation of new knowledge, but a process of moving through qualitatively distinct stages of growth, a process that transforms knowledge itself. As a constructivist, Piaget believed that categories of thought—such as number, space, time, and quantity—are not given a priori, but are actively constructed by the individual in response to the need to understand the world. When contradictions arise in individuals’ current ways of constructing the world (as, in a famous experiment, when a child learns that the volume of water in two differently shaped containers is actually the same in each), they reconstruct how they understand the world to eliminate the contradiction.

Constructive-developmental theory is part of a large and diverse literature on life-span development, which at its broadest is concerned with psychosocial growth and aging from birth to death (Baltes, Staudinger, & Lindenberger, 1999; Hoare, 2006). Although Piagetian and neo-Piagetian ideas have been contested in this literature over the years, and various limitations have been identified (e.g., Fischer & Bidell, 2006), recent reviews continue to show the usefulness and validity of the family of neo-Piagetian theories (Commons, Trudeau, Stein, Richards, & Krause, 1998; Demick & Andreoletti, 2003; Manners & Durkin, 2001). In particular, there is general support within the life-span development literature that there are important patterns in the ways adults mature such that earlier ways of meaning making are integrated into more comprehensive and complex later ways (Basseches, 1984; Berg & Sternberg, 2003; Moshman, 2003; Sinnott, 1996).

Constructive-developmental theory is referred to as neo-Piagetian theory because it extends Piaget's ideas in several important respects: (a) Constructive-developmental theory takes the view that the developmental growth Piaget studied affects more than the way a child constructs the physical world and includes the way adults construct and interpret their experiences; (b) the theory moves beyond Piaget's focus on cognition and includes the emotions; (c) although constructive-developmental theory recognizes qualitatively different "stages" of development, it also focuses on the processes of transformation—the challenges, achievements, and costs of moving from one way of making meaning to another; (d) the theory moves beyond Piaget's exclusive attention on the external manifestations of development to also include the inner experience of developing; and finally, (e) constructive-developmental theory broadens its focus beyond the individual to include a study of the social context and how it affects development (Kegan, 1980).

The basic propositions of constructive-developmental theory are the following:

1. People actively construct ways of understanding and making sense of themselves and the world (as opposed to "taking in" an objective world).
2. There are identifiable patterns of meaning making that people share in common with one another; these are variously referred to as stages, orders of consciousness, ways of knowing, levels of development, organizing principles, or (in this article) orders of development.
3. Orders of development unfold in a specific invariant sequence, with each successive order transcending and including the previous order.
4. In general, people do not regress; once an order of development has been constructed, the previous order loses its organizing function, but remains as a perspective that can now be reflected upon.
5. Because subsequent orders include all earlier orders as special cases, later orders are more complex (they support more comprehensive understanding) than earlier orders; later orders are not better in any absolute sense.
6. Developmental movement from one order to the next is driven by limitations in the current way of constructing meaning; this can happen when a person faces increased complexity in the environment that requires a more complex way of understanding themselves and the world.
7. People's order of development influences what they notice or can become aware of, and therefore, what they can describe, reflect on, and change (Cook-Greuter, 2004).

Constructive-developmental theory concerns itself with two primary aspects of development: (a) the organizing principles that regulate how people make sense of themselves and the world (*orders of development*) and (b) how these regulative principles are constructed and re-constructed over time (*developmental movement*). An organizing principle itself is subjective, because the person is subject to its capacity to make meaning; it cannot be reflected on itself, since it is the regulative means by which the person engages in reflection. Developmental movement involves the person's gradually increasing awareness of his or her current subjective organizing principle until the person is able to reflect on the organizing principle itself, at which point what was subjective becomes objective. Of course, there will then be a new organizing principle to which the person is subject. When operating from this new principle, which takes the former principle as an object of reflection, a person is capable of differentiating and integrating more complex life experiences.

Developmental movement is driven by new challenges that reveal the limitations of the current organizing principle. An order of development is a complex interaction between the individual's meaning-making capability and the holding environment, which is the totality of the surrounding and embedding social and interpersonal world of love, family, work, and play. The holding environment may confirm and support a person's current order of development or disconfirm and challenge it. Developmental movement is thus conceived as an interaction between the achievement of stability and order through making meaning of the holding environment and the challenge of new environments with new relations and roles that reveal the limitations of that achievement.

Various constructive-developmental theorists have examined different yet overlapping aspects of human experience (e.g., cognitions, emotions, self-concepts, relations to others), resulting in somewhat different ways of describing orders of development. In the next section, we will describe in more detail three constructive-developmental theories and the particular orders of development each posits. However, there is some agreement that three broad successive orders of development are useful for describing the meaning-making capabilities of most adults. We will use these three broad orders of development as a heuristic for integrating across the theories and summarizing research. Table 1 shows how the more specific frameworks described in the next section are related to these orders.

Table 1  
Comparison of three constructive-developmental frameworks

Framework	Dependent		Independent		Inter-independent	
1) <i>Kegan's Orders of Consciousness</i>	<i>Interpersonal/Traditional</i>		<i>Institutional/Modern</i>		<i>Interindividual/Post-modern</i>	
What is object?	Enduring needs and dispositions		Interpersonal relationships		The autonomous self	
What is subject?	Interpersonal relationships		The autonomous self		The transforming self	
2) <i>Torbert's Stages</i>	<i>Diplomat</i>	<i>Expert</i>	<i>Achiever</i>	<i>Individualist</i>	<i>Strategist</i>	<i>Alchemist</i>
Action logic	Norms rule needs	Craft logic rules norms	System effectiveness rules craft logic	Relativism rules single system	Most valuable principles rule relativism	Deep processes and intersystemic evolution rule principles
Main focus	Socially expected behavior, approval	Expertise, procedure, and efficiency	Delivery of results, effectiveness, success within system	Self in relationship to system; interaction with system	Linking theory and principles with practice, dynamic systems interactions	Interplay of awareness, thought, action, and effects; transforming self and others
3) <i>Kohlberg's Stages of Cognitive Moral Development</i>	<i>Mutual expectations</i>	<i>Law and order</i>	<i>Social contracts</i>	<i>Universal principles</i>		
Motives for moral action	Anticipation of disapproval from others	Anticipation of failure of duty	Concern to maintain self-respect and respect of the community	Concern about self-condemnation for violating one's own principles		
Definition of "right"	Being concerned about other people and their feelings; Being motivated to follow rules and expectations	Upholding social order and maintaining the welfare of the society or group	Upholding the basic rights, values, and legal contracts of society	Guidance by universal ethical principles that all humanity should follow		

Adapted from Cook-Greuter (2004), Kegan (1994), and Snell (1996).

Individuals operating from the first adult order of development have a sense of self derived from their connections to others. They can reflect on their own needs and desires and have the capacity to override these needs and coordinate them with the needs of others. Other people and socialized expectations are the source of internal confirmation and orientation. Approval, mutual respect, and affiliation are central concerns. They may feel torn in situations of conflicting expectations from different valued others. Because of this dependence on others to construct reality, we call this the *Dependent order*. People usually transition to the Dependent order in adolescence and early adulthood.

Individuals operating from the second adult order of development, transcending and including the Dependent order, take the earlier organization of experience as an object of reflection. The role of others in life changes. No longer do others constitute the self; the self comes to be understood as an independent self-possessed identity. We thus call this

the *Independent order*. Individuals operating from this order rely on their own internally generated values and standards. These self-generated values and standards equip individuals with a perspective to examine the various opinions and ideologies of others and mediate among them. Competence and performance are central concerns of individuals at this order. Conflict is experienced as potentially useful if it leads to clarification and better solutions. Many (but not all) adults transition from the *Dependent order* to the *Independent order* during their middle to late years. Research has shown that most adults are in the developmental process between the *Dependent* and *Independent orders* (Kegan, 1994).

The third adult order of development transcends and includes the *Independent order*, which means that the individual takes his or her unique identity itself as an object of reflection. Individuals operating from this order experience multiple possibilities of the self as a product both of interaction with others and self-assertion; instead of being a unique pre-existing and pre-determined entity, the self is now understood as an ongoing revisable design capable of taking any number of forms in response to life's contingencies. We will therefore call this the *Inter-independent order* for the way it makes the self at once independent (capable of being created by the person) and dependent for its form on life's contingencies. Thus the self is experienced as a work in progress. Self-exploration and on-going development of self and others is a central concern. Conflict is experienced as inevitable and an opportunity to engage in mutual transformation with others. The world is viewed less in terms of dichotomies or polarities and more in terms of dynamic, mutually-transforming systems. Few people are assessed to have reached this rare order of development. Note that we have chosen to label this order "Inter-independent" rather than "Interdependent" to emphasize its view of self as mutually independent and to avoid the confusion of this concept with the common understanding of interdependent, which is mutual dependence.

We should emphasize that constructive-developmental theory focuses on the principles by which people construct their understanding of self. It is not a theory of the *content* of self-concepts (i.e., an individual's self-identity, social identity, self-efficacy, or self-esteem), but rather of the deep structures that regulate the meaning of self itself. This distinction is important since various self-concept constructs have been used in the leadership literature to explain leadership behavior and its effect on the followers (e.g., Goleman, 1995; Lord, Brown, & Freiberg, 1999; van Knippenberg, van Knippenberg, De Cremer, & Hogg, 2004).

## 2. Constructive-developmental theory in the leadership literature

We have organized our review of the literature by the theorists whose frameworks are most widely used in the management and leadership literature: Kegan, Loevinger/Torbert, and Kohlberg. Each of these theorists has a different way of labeling and describing the various orders of development. Table 1 shows the alignment of each theorist's framework with the general categories of *Dependent*, *Independent*, and *Inter-independent*. The research related to each theorist's framework also uses different methods for assessing an individual's developmental order—another reason for reviewing the literature separately by theorist.

### 2.1. Kegan

Kegan's framework posits five orders of development after infancy (Kegan, 1982, 1994). His third, fourth, and fifth orders correspond to what we are calling the *Dependent*, *Independent*, and *Inter-independent orders* respectively. In his earlier work these orders are referred to as *Interpersonal*, *Institutional*, and *Interindividual*; and later work as *Traditional*, *Modern*, and *Post-modern*. Kegan describes the orders of development in terms of what is "subject" and what is "object" at each order. Subjective beliefs are those that a person is embedded in, that is, taken for granted as true and cannot be called into question, and objective beliefs are those that can be reflected on and questioned. The process of development involves moving beliefs from the subjective realm to the objective realm. At the *Dependent order*, individuals have an objective understanding of the self as a possessor of needs and dispositions and a subjective, taken-for-granted belief that the nature of the self depends on the views and judgments of important others. At the *Independent order*, the individual has a new objectivity about the realm of relationships, and this is combined with a new subjectivity—the taken-for-granted belief that the self is self-created and autonomous. At the *Inter-independent order*, this view of the self as an autonomous, self-creating entity becomes itself an object of reflection and conscious control. The new subjectivity is the belief that the independent self is created in relation to other unique identities.

Order of development in Kegan's framework is measured using the Subject–Object Interview (Lahey, Souvaine, Kegan, Goodman, & Felix, 1988). This is a semi-structured interview in which the subject is encouraged to talk about

important recent life events. The interviewer listens both for the content of the events and importantly for the way in which the subject constructs the meaning of those events. Probes are used to draw out the subject's meaning of the events, with the goal of revealing the most complex level at which the subject can make sense of the experiences. This then is taken to be the subject's order of development. Although there are five broad orders in Kegan's framework, the Subject–Object Interview can differentiate three distinct transitional phases between any two broad orders. The Subject–Object interview has been widely used, and Lahey et al. (1988) have reported adequate levels of test–retest reliability (.82) and interrater agreement (.75 to .90) as well as evidence of construct validity.

Kegan's work has emphasized developmental movement more than the orders of development themselves, particularly the ceaseless interaction between the demands placed on individuals by an ever more complex culture and the capacity of individuals to continue to refashion themselves to meet those challenges. He points to a human "immunity to change," a fear of losing meaning in seeking new forms of meaning, and posits that this immunity can be overcome in holding environments that both support and challenge current meaning-making systems. Kegan & Lahey (2001) describe how such holding environments would support the examination of deeply held assumptions and new ways of social interaction (e.g., ongoing regard and public agreements).

Kegan's framework has been primarily used to examine three propositions: (a) An individual's order of development is related to his or her effectiveness as a leader; (b) Followers' order of development impacts their evaluation of leaders; (c) Formal leader development interventions should create holding environments conducive to developmental movement.

*Order of development and leader effectiveness.* Bass' (1985) theory of transformational leadership is one of the most influential in the leadership field. Transformational leaders motivate their followers to achieve difficult goals by expressing a personal value system that includes such values as justice and integrity, thereby uniting followers and changing their attitudes and beliefs. In contrast, transactional leadership focuses on the exchange of valued outcomes including tangible rewards such as pay or vacation and intangible incentives such as respect and trust. There is strong evidence that although transactional leadership can be effective for motivating followers, transformational leadership is more strongly related to numerous leadership outcomes such as follower satisfaction and group productivity (Lowe, Kroeck, & Sivasubramaniam, 1996).

Kegan's framework has been offered as an approach to explaining why some leaders exhibit more transactional behaviors and others more transformational behaviors. Kuhnert & Lewis (1987) suggested that the differences between these two types of leaders are due to their different orders of development. Thus, transactional and transformational leaders are qualitatively different in the way they view the world and construct meaning from it. Transactional leaders rely on a relationship of mutual support, expectations, obligations, and rewards with their followers. This way of enacting leadership is most congruent with the Dependent order in which individuals define themselves through interpersonal relationships. Transformational leaders rely on a personal value system that they motivate followers to adopt. This way of enacting leadership is most congruent with the Independent order in which individuals define themselves through a self-determined sense of identity. Independent individuals can rise above personal needs and commitments to others in order to meet organizational goals.

Kuhnert (1994) further argued that transactional and transformational leaders approach the task of delegation differently. The difference in what is considered effective delegation by each leader is determined in part by their developmental order. Transactional leaders operating at the Dependent order understand effective delegation as a process that promotes group goals, shared knowledge, and loyalty. Although effective in some cases, this approach to delegation can often be unduly influenced by the views of others. Transformational leaders that function at the Independent order understand delegation in a much broader context in line with the long-term goals of the organization. These leaders are more likely to delegate important tasks and offer the follower an opportunity to become more autonomous.

These hypothesized differences in the developmental orders of transactional and transformational leaders have not been tested using Kegan's framework. Two studies reviewed later in the article—one using the Torbert measure of developmental order (Steeves, 1997) and one using the Kohlberg measure (Slaten, 1999) did not find strong relationships between order of development and transactional or transformational leadership.

Several studies, however, have compared how individuals operating at the Dependent order and those operating at the Independent order handle the demands of their leadership roles. In an in-depth study of five women leaders of college student groups, Spillett (1995) found that Dependent leaders were reluctant to delegate, tended to avoid holding others accountable, sought unanimous agreement in their groups, felt threatened by others' complaints, had difficulty expressing their disagreement, and saw college authorities exclusively as judges and experts. In contrast, Independent

leaders negotiated performance standards with group members and held them accountable, evaluated the complaints of others, expressed their disagreements with others, and saw college administrators as resources.

In studying nine teachers who were taking on peer leadership roles in their school system, Hasegawa (2004) found that individuals operating from a late stage Dependent order and those operating from an Independent order were both effective in the roles; however, the Dependent leaders experienced more challenge. For example, they felt torn by split loyalties when acting as a boundary-spanner, felt that conflict was riskier, and were more concerned with how they were seen by others.

In a study of 25 leaders, Van Velsor & Drath (2004) found that individuals operating from the Dependent order and those operating from the Independent order experienced different elements of leadership roles as challenging. Dependent individuals were challenged by being in a role that was ill-defined, becoming a member of a more senior group, needing to take a minority position in a group or with a superior, presenting oneself authentically in stressful situations, and facing competing demands from work and home lives. Independent individuals were challenged by respecting employees who operate from the Dependent order and by needing to bring one's self-authored viewpoints and priorities into alignment with others' viewpoints and priorities.

Several studies have also examined the relationship between order of development and leader performance. In a sample of 41 executives, Harris (2005) examined the relationship between the executives' order of development and the ratings they received on a 360-degree feedback instrument. Order of development predicted the average ratings (across all raters) executives received on seven of the eight dimensions assessed by the instrument. Order of development was also significantly correlated with the mean rating (across all dimensions) received from each subgroup of raters: subordinates, peers, and superiors. In a later study that added 17 executives to this sample, Strang (2006) investigated both personality and order of development as predictors of 360-degree ratings. She found that order of development added unique variance in predicting mean ratings only when examining ratings made by subordinates.

Lewis et al. (2005) examined the relationship between order of development and leader performance in a sample of West Point cadets. Subject–Object interviews were conducted twice—at the end of the cadets' sophomore and senior years. The study found that most of the cadets were transitioning to the Dependent order during this period although there were a small number beginning to transition toward the Independent order at the end of their senior year. The study also found that order of development (measured in the senior year) was significantly related to the cadets' overall performance as assessed by their Military Development (MD) grade, a standard measure of how effectively cadets carry out their leadership responsibilities.

Most of the theorizing and research using Kegan's framework to link order of development to leader effectiveness has focused on differences in the Dependent and Independent order. This is of primary interest because most adults are operating from, or in transition between, these two orders. However, there is a growing interest in the leadership capabilities of Inter-independent individuals. Kegan & Lahey (1984) theorize that Independent individuals are likely to be limited in their effectiveness in exercising authority because of their attachment to their current self identity and unwillingness to call that identity into question. They suggest that Inter-independent individuals are most effective in exercising authority because they are more likely to exercise authority on behalf of facilitating the development of others. Kegan (1994) later argues that leadership models that urge leaders to create the context in which all interested parties can together create a collective vision—in contrast to the leader directly providing a vision (see Heifetz, 1994) are calling for leaders who operate from the Inter-independent order. He also notes that this type of leadership practice would likely be frustrating to followers operating at earlier orders of development, who expect the leader to have a vision and plan. Berger & Fitzgerald (2002) also argue that the gap in understanding between followers who may be mostly Dependent and an Inter-independent leader can be so great that Inter-independent individuals may become dissatisfied with leadership roles.

Drath (1990) takes a somewhat different perspective, arguing that modern organizations are constructed to take advantage of the strengths of the Independent leader (e.g., willingness to assume responsibilities and be held accountable, comfort working in a hierarchical system of accountability, “head” over “heart” in decision making) and to work around their weaknesses (e.g., difficulty accepting criticism, difficulty relaxing, difficulty expressing emotion). Thus, developing beyond the Independent order may make them at risk for losing effectiveness. He argues that developing toward Inter-independence would require developmental movement on the part of individuals and the organization so that the Inter-independent individual's ways of leading make sense to others in the organization.

Only two studies using the Kegan framework have included a significant number of leaders who were transitioning beyond the Independent order. A study by Eigel (1998) found both Independent CEOs and CEOs transitioning to the

Inter-independent order operating competitive, well-established corporations. Compared to a sample of middle managers (similar in age to the CEOs) from the same organizations, the CEOs were operating at later orders of development. Lewis & Jacobs (1992) studied a sample of military officers who had successfully completed a battalion command. Ten percent of the officers were operating at the Dependent order, half were operating at the Independent order, and 40% were in transition to the Inter-independent order. Order of development was strongly related to a measure of cognitive work capacity—the capacity to make effective decisions at successively higher levels of management. These two studies suggest that both Independent and Inter-independent leaders can be effective in leadership positions; however, they also suggest that in examining the relationship between order of development and leadership effectiveness, organizational level could be a moderator. This hypothesis that higher orders of development are needed to be effective at higher organizational levels is more strongly articulated in the literature using the Loevinger and Torbert frameworks, which is reviewed in the next section.

*Followers' order of development and their evaluation of leaders.* Implicit leadership theory proposes that individuals develop theories about the traits and abilities that characterize the ideal leader based on past experiences with leaders and socialization (Lord, Foti, & De Vader, 1984). People use these theories—or cognitive schemas—in evaluating whether someone is an effective leader. The closer the person's traits and abilities are to those of their ideal leader, the more likely they are to see that person as a leader and be satisfied with his or her leadership effectiveness. From a constructive-developmental perspective, individuals' order of development should impact their implicit leadership theory and thus their evaluation of leaders.

Drath (2001) proposes three generalized ways of understanding and recognizing leadership, based on the Kegan's three adult orders of development. Hypotheses about differing implicit theories of leadership can be derived from his framework. Dependent individuals—because they look to important others to gain a sense of themselves—are more likely to expect a formal leader to personally create direction, inspire commitment, and deal with challenges the group encounters. Independent individuals—because they are self-governing and self-defining—expect a formal leader to interact with them as autonomous individuals, reasoning and negotiating with them to set direction and gain their commitment, and providing help when needed to deal with challenges the group encounters. Inter-independent individuals—because they see themselves as continuously recreating themselves in interaction with their environment—expect a formal leader to create conditions that allow groups of people to find a shared direction that they become jointly committed to and that encourage them to deal collectively with their challenges.

A study by Roth (1996) provides some support for these hypotheses. Studying 20 teachers in one elementary school, she found that teachers operating from the Dependent order appreciate a principal who can organize a structure and maintain it. They expect principals to have the answer and become frustrated when asked to reflect on school issues. Teachers transitioning from the Dependent to Independent order need the principal to be a listener who creates a safe environment in which teachers can express themselves. They will gladly take on roles such as team leader or committee chair as long as those roles do not alienate them from people they are close to. Teachers operating from the Independent order may not appear to need the advice or assistance of the principal or colleagues. However, in times of doubt or distress, they will come forward and ask for help and support.

Continued research on how people's order of development impact their implicit leadership theories could be a particularly fruitful application of constructive-developmental theory in the leadership field. Both areas focus on people's schemas or ways of understanding. Constructive-developmental theory would provide an additional perspective on sources of implicit leadership theories and how these theories can develop or become more complex over time. A developmental perspective on implicit theories would suggest that leaders themselves could play a role in shaping followers' expectations of what effective leadership looks like by supporting developmental movement in followers. This perspective raises a number of additional research questions: For example, are leaders more effective when they and their followers share the same implicit leadership theories? Are leaders more effective when their followers are at the same developmental order or in transition to that order?

*Creating holding environments for developmental movement.* Leader development programs are widely used to help individuals improve their functioning in organizations. Yet, given the long-term nature of developmental movement from one order to another, can such short-term interventions be of any value in supporting developmental movement? Palus & Drath (1995) apply Kegan's framework to suggest how a typical week-long program could support longer-term developmental processes. They distinguish between training programs, which focus on imparting new skills, and development programs, which focus on questioning and stretching existing ways of making sense of oneself and one's work. They argue that well-designed development programs provide individuals with significant experiential lessons

that cause a temporary disequilibrium in their meaning-making system. The individual's attempt to deal with such disequilibrium opens a window, however briefly, into new ways of making sense of their experiences. This glimpse of new possibilities creates the potential for development after (sometimes long after) the program is completed.

Executive coaches have been encouraged to incorporate Kegan's framework of individual development into their practice (Berger & Fitzgerald, 2002; Drath & Van Velsor, 2006; Laske, 1999). Coaches are encouraged to understand the current meaning-making principles their clients use, to help clients discover these principles for themselves, and to better understand the dynamics of immunity to change. Berger & Fitzgerald (2002) identify two primary objectives of coaching. First, to support an executive in discovering taken-for-granted assumptions (to which the executive is "subject") and making these available for reflection and conscious control (making them "object" for the executive.) Second, to help executives understand and address the different demands that each order of development presents. Laske (1999) also applies Kegan's framework to articulate a life span developmental perspective on executive coaching. He distinguishes two types of coaching, one that focuses on the executive's situation in his or her organization and on coaching toward the integration of various executive roles, and another that focuses on how the executive conceives of his or her organization and on coaching for the ability to take multiple perspectives on organizational matters. He shows how the Subject–Object interview combined with another interview technique from the adult development field (the dialectical-schema interview, Basseches, 1984) can equip the coach with a more precise understanding of the executive's developmental order, thus deepening the coaches ability to follow an often-cited principle of coaching: meeting the client where the client is (Laske, 2000). Drath & Van Velsor (2006) suggest that coaches can also benefit from an awareness of the challenging process of developmental movement from one order to the next. By understanding that what may appear to be a resistance to change is often an attachment to current ways of making meaning and a fear of losing those ways, coaches can support the individuals they coach in making important developmental transitions.

Finally, communities of practice have been described as a type of holding environment that facilitates developmental movement. Communities of practice are networks of people who share the same professional practice and who come together as a community to create shared knowledge, to develop individual members' capabilities, and to work together to solve problems of the practice (Wenger & Snyder, 2000). In examining strategies for improving schools, Wagner et al. (2006) argue that school district leaders need to engage with one another in communities of practice. In these communities, leaders are exposed to a variety of perspectives that stimulates reflection on their own guiding principals, and they can collectively experience the limitations of meaning-making systems that work to keep change from happening. Drath & Palus (1994) identify four processes by which leadership develops through communities of practice: individual members develop, which supports the creation of new forms of practice, from which emerge new ways of bringing people within the community into relationship with one another (including new organizational structures), which leads to the evolution of new ways of relating the community to the world at large.

Despite the interest in using Kegan's constructive-developmental framework to better understand and design leadership development interventions, there has been no research that examines the features of these interventions that support development or whether using these designs lead to increased developmental movement.

## 2.2. *Loevinger and Torbert*

Loevinger's (1976) constructive-developmental framework of ego development is an important and original approach to understanding personality development (Cohn & Westenberg, 2004; Manners & Durkin, 2001). For Loevinger, the ego is a holistic construct representing the person's frame of reference that is imposed on intrapersonal and interpersonal experiences to create meaning. The basic model lays out six stages of ego development. The first two stages are prior to the Dependent order. The Conformist stage corresponds to the Dependent order, the Conscientious stage corresponds to the Independent order, and the last two stages—Autonomous and Integrated—are early and late Inter-independent order.

An extensive body of research has refined and validated the theory and its primary measurement tool, the Washington University Sentence Completion Test (WUSCT; Hauser, 1976; Loevinger, 1979; Manners & Durkin, 2001) and have shown the ego construct to be conceptually and empirically distinct from intelligence (Cohn & Westenberg, 2004; Newman, Tellegen, & Bouchard, 1998). Loevinger & Wessler (1970) created the WUSCT to assess an individual's developmental stage based on responses to a series of 36 sentence stems dealing with self-perceptions, social situations, and interpersonal relationships. The WUSCT has been revised several times (Cook-Greuter, 1999; Hy

& Loevinger, 1996) and is one of the most widely used measures in the field of personality assessment (Bartunek et al., 1983; Cook-Greuter, 1999). However, until Torbert and colleagues began using the WUSCT, it was rarely used in the study of leadership and organizations.

Torbert and associates' early work (Fisher, Merron, & Torbert, 1987; Torbert, 1987) applied Loevinger's framework and the WUSCT to the context of managerial work. However, as this work evolved, Torbert developed his own framework more applicable to organizational contexts. Cook-Greuter revised the WUSCT in ways consistent with the new framework, including more rigorous definition and measurement of later stages (Cook-Greuter, 2004; Torbert & Associates, 2004). The latest version of this customization of the WUSCT is now called the Leadership Development Profile (LDP).

Torbert's framework is a seven-stage model with each stage representing an "action logic," that is, an overall strategy that thoroughly informs an individual's reasoning and behavior (Torbert & Associates, 2004). The first stage, Opportunist, is prior to any orders we are describing here. The next six stages represent three pairs of stages which can be organized into the broad developmental orders of Dependent, Independent, and Inter-independent (see Table 1). The second stage in each pair is portrayed as a transitional stage in moving toward the next order. Individuals at different stages organize their experiences in terms of a particular logic (e.g., norms, craft logic, system effectiveness) with the logics becoming more complex as individuals develop. The logics shape a main focus of attention at each stage. An individual's focus broadens with each successive stage.

Torbert's framework has been used to understand various aspects of managerial behavior and organizational change. Four propositions have been central to this work: (a) An individual's order of development influences his or her approach to managerial tasks; (b) leaders at later orders of development are more effective at leading transformative change; (c) developmental movement is facilitated by action inquiry; and (d) organization development can be understood from a constructive-developmental theory perspective.

*Order of development and approach to managerial tasks.* Managerial work consists of a number of tasks (e.g., problem-solving, leading subordinates, delegating, and influencing others) that are often carried out in different ways by different people. Understanding managers' approaches, choice of tactics, or preferred styles and their impact on their managerial effectiveness has been a core interest in the leadership field (Vroom & Jago, 1988; Yukl & Tracey, 1992). Constructive-developmental theory offers a perspective on why managers might approach their tasks in different ways: their ways of understanding the world impact how they react to task demands. A number of studies have investigated the relationship between order of development and how managers carry out their responsibilities.

Smith (1980) found that developmental order was related to decision-making style and use of power in a sample of managers. Managers at earlier orders of development tended to enforce others' decisions rather than make decisions themselves. They used coercive power and relied on rules and procedures to deal with ambiguous problems. Managers at later orders made decisions on the basis of their own convictions and influenced others through rewards and their own expertise.

Weathersby (1993) also found that managers at earlier orders reported relying more on external authority while managers at later orders relied more on their own internal authority. Later-order managers in this study also demonstrated more self-knowledge and perceptiveness of recurring patterns in personal experience.

Merron, Fisher, & Torbert (1987) examined managers' approaches to solving problems. Using an in-basket test, they found that at earlier development orders, managers were more likely to treat a problem as an isolated event, accept the given definition of the problem, and neglect underlying causes of the problem. At later orders, managers were more likely to redefine the problem, question the underlying assumptions in the definition, and treat the problem as a symptom of a deeper underlying problem.

Through in-depth interviews with 17 managers about their on-the-job experiences Fisher & Torbert (1991) looked more specifically at differences between Independent order (Achievers) and Inter-independent order (Strategists) managers in how they led subordinates, related to superiors, and proposed and implemented ideas. Independent managers tended to cultivate and mold subordinates to their own understanding; Inter-independent managers worked with subordinates to synthesize their ways of thinking. Both Independent and Inter-independent managers indicated that they enlist peers, subordinates, and superiors primarily as equal team players in getting work accomplished; however, Independent managers often try to get superiors to accept the "correct" course of action while Inter-independent managers understand that they will need to negotiate to create a common frame. Both Independent and Inter-independent managers saw awareness of others' points of view as important. However, Independent managers felt that this awareness was important to design ways of gaining acceptance by others of

their own goals, and Inter-independent managers felt this awareness was important in order to question and revise their own goals.

Hirsch (1988) studied how Dependent, Independent, and Inter-independent entrepreneurs ran their businesses. Those at the Dependent order participated in a “hands-on” way in every phase of their operations. Those at the Independent order involved their staff and delegated responsibility to them. Those at the Inter-independent order focused on broader strategic issues (e.g., patient satisfaction, service gaps, partnerships with other professionals, and multi-site practices). Because of these differences in approaches, those at later developmental orders had practices that could see more patients at a time and thus generated more income.

Gammons (1994) and Steeves (1997) studied how others perceived the leadership behaviors of individuals at different orders of development. Gammons studied “master teachers” who were providing peer leadership to others in their schools. Colleagues of these teachers rated them on the Leader Behavior Description Questionnaire (Stodgill, 1970). No relationship was found between the teachers’ order of development and how others rated their effectiveness as leaders. Steeves studied bank managers, collecting subordinate ratings on the Multifactor Leadership Questionnaire (Bass & Avolio, 1990) and existing performance appraisal data from the company. Results indicated that Independent order managers (Achievers) were seen as more inspirational than Dependent order managers (Experts). None of the remaining scale scores from the MLQ or the performance appraisal data were significantly related to developmental order of the manager.

This group of studies does provide initial support that order of development influences an individual’s approach to managerial tasks. Consistent with their meaning-making frames, individuals operating at the Dependent order appear to rely more on external guidance in carrying out managerial tasks, whereas those operating at the Independent order are more likely to use their own judgment and authority. The studies also suggest that later stage managers may be more likely to empower and inspire subordinates, lending some support for Kuhnert & Lewis’ (1987) argument that leaders need to be at least at the Independent order to be effective transformational leaders.

*Order of development and leading change.* Torbert and colleagues (Fisher & Torbert, 1991; Rooke & Torbert, 1998; Torbert & Associates, 2004) argue that the logic of the Inter-independent order (Strategist) is especially relevant for leading transformative organizational change—changes that focus on whole-system improvement and that require fundamentally changing the culture, practices, and underlying assumptions of the organization. Only when leaders reach the Inter-independent order are they open to the possibility of rethinking and altering their assumptions and purposes (i.e., can engage in double-loop learning, Argyris & Schön, 1978). This is in contrast to the Independent order with its emphasis on executing rationally related steps from presenting problem to solution. They also argue that Inter-independent leaders believe that change requires new shared understandings discovered through mutual exploration of differences among organizational members, whereas Independent leaders believe that change requires single-framed hierarchical guidance. They conclude that it is only power exercised in a mutuality-enhancing, empowering manner that can generate wholehearted transformation rather than conformity or compliance; and that this type of power is most often exercised by the Inter-independent leader. Weathersby (1993) found some support for this argument. She examined essays written by managers about their leadership models. Managers at later stages put more emphasis on the leader’s role as an agent of cultural change.

A more direct test of this hypothesis was undertaken by Rooke & Torbert (1998). They examined ten longitudinal organization change efforts. Seven of these efforts resulted in transformative change and three did not. Of the seven successful efforts, five were led by CEOs measured at the Inter-independent order and two were led by CEOs measured at the Independent order. All three unsuccessful efforts were led by CEOs measured at the Independent or Dependent order. The correlation between CEO development order and degree of transformative organizational change was significant.

Other studies have examined whether a person’s order of development is related to others’ perceptions of the person’s ability to effect change—with mixed results. In a sample of 24 managers from one organization engaged in transformative change, Mehlretter (1995) did not find a significant relationship between manager’s developmental order and co-workers’ perceptions of whether the manager contributed to the organization’s transformation in an exemplary way. Bushe & Gibbs (1990) studied how developmental order was related to change-oriented consulting competence in a sample of OD consultants. Although not leaders with formal authority, OD consultants often play leadership roles in organizational change initiatives. The vast majority (80%) of the consultants in the sample were measured at the Independent order; however, order of development was significantly related to peer and expert ratings of change-oriented consulting competence.

Although the evidence is mixed in this small set of studies, this line of research seems worthwhile to pursue. Developmental order has conceptual similarities to other “complexity of mind” constructs being used in the leadership field, for example, complexity of mental processing (Jaques & Clement, 1991), behavioral complexity (Hooijberg & Quinn, 1992), and social complexity (Zaccaro, 1999). These constructs have been utilized to better understand leadership effectiveness in senior executive positions—positions responsible for strategic change in organizations. The emerging stream of research on developmental order and effectiveness in leading change would benefit from stronger connections to this broader work. The Mehlretter (1995) study described above did include a measure of complexity of mental processing (Jaques & Clement, 1991). Scores on this measure predicted contribution to organizational transformation and were not significantly correlated with WUSCT scores. Day & Lance (2004) have proposed a leadership complexity model that links constructs from constructive-developmental theory with recent work on cognitive, behavioral, and social complexity.

*Developmental movement and action inquiry.* Rooke & Torbert (2005) posit several types of experiences that can trigger and support a leader’s transformation from one developmental order to another: (a) personal changes that spark the search for new perspectives; (b) external events, for example, a promotion that provides the opportunity to expand capabilities; (c) changes in the leader’s work practices and environment; and (d) planned and structured developmental interventions. All of these can be understood as consistent with constructive-developmental theory’s tenet that developmental movement happens in response to new challenges that impose limits on the usefulness of a person’s current meaning structure.

However, Torbert & Associates (2004) also advocate for an additional developmental practice: action inquiry. Action inquiry is a disciplined practice of integrating action and inquiry in the present moment that helps individuals, groups, and organizations become more capable of self-development. In a given situation, a person engaged in action inquiry is doing several things at once, including paying attention to the developing situation, accomplishing tasks as they are prioritized, and revising the tasks or actions as needed. Action inquiry requires people to carefully attend to three types of data: internal subjective data (first-person data), data generated in interaction with others (second-person data), and external objective data (third-person data) in an effort to learn from experiences. Action inquiry is expected to increase the likelihood that individuals will notice and come to understand the limits of their current meaning structure.

Torbert has written in detail (Torbert, 1987, 1991, 1994) about the restructuring of the MBA program at the Wallace E. Carroll School of Management to a design which encourages action inquiry and promotes the development of self-management skills. For example, all students join an action-project group with each student playing a leadership role within that group. The group develops practices for reflecting on their action as individuals and as a group and using what they learn to adjust their behaviors and actions.

Prior to restructuring the program, 2.5% of the students scored beyond the Independent order at graduation. After restructuring, 25% scored beyond this order at program entry. Clearly the program began attracting a higher portion of students at later stages of development. Once in the program, 10% of the students changed a full stage during its 20-month duration. Among the rest of the students, half-stage progressions and regressions balanced one another, resulting in an average movement of .1 stage. However, 94% of the students who participated in a voluntary consulting role in their second year—an experience with additional encouragement and opportunity to practice action inquiry—showed a full stage change. In terms of impact on the program itself, in the decade after the design was originally implemented, the school has moved from being unranked to being ranked in the top 25 schools of management. This application of principles of developmental movement into a formal educational program is rare in its scope and its efforts to study its impact.

*Organization development from a constructive-developmental perspective.* Torbert & Associates (2004) posit a sequence of action logics that describe stages of organization development—the sequence is analogous to the action logics in individual development. For example, an organization at the System Productivity stage of development focuses its attention on systematic accomplishment of the goals of the organization, analogous to the Achiever’s focus on delivering result and effectiveness within the system.

These organization development stages were originally derived by comparing numerous theories of interpersonal, group, and organization development to an analysis of five organizing cycles in one organization. Further case studies extended and refined the framework. The framework has been used extensively in consulting interventions by a number of action inquiry practitioners; however, the model has not yet been widely tested in the organizational development field. Two studies (Leigh, 2002; Rooke & Torbert, 1998) have demonstrated that organizations can be reliably categorized by observers as operating primarily at one of Torbert’s stages of development. Leigh found strong

correlations between the degree to which organizations combine financial and social responsibility and their rated stage of development. Although these first steps in validating this model of organization development are positive, much continued work is needed.

### 2.3. Kohlberg

Extensive research by Kohlberg (1969, 1981) into moral reasoning among children and adults is among the best known in the social sciences (Snell, 1996). In contrast to the broad interest in the development of the self reflected in the frameworks of Kegan, Loewinger, and Torbert; Kohlberg was more narrowly interested in the development of a person's cognitive ability to reason about moral dilemmas. Because he too built on Piaget's constructive-developmental concepts and because his work has been applied to issues of leadership, we include his framework in this review.

Kohlberg (1969) posited six stages of cognitive moral development. The first two stages deal with the moral cognitions of the very young and are prior to the orders we are considering here. The next two stages (Mutual Expectations and Law and Order) both correspond to the Dependent order. The fifth stage (Social Contracts) correspond to the Independent order. The final stage (Universal Principles) also corresponds primarily to the Independent order although this stage may also involve some transition from Independence toward Inter-independence. Table 1 describes the motives for moral action and how "right" is understood in each stage. Kohlberg's framework has received both empirical support and criticism (Modgil & Modgil, 1986). Snarey (1985) reviewed 45 studies across diverse cultures, finding support for the invariant stage sequence posited by the theory and the cross-cultural universality of the first four stages; however, culturally unique moral judgments have been found that do not fit with the Kohlberg stages.

Two measures have been primarily used to assess order of moral development. The first is Kohlberg's method, which is referred to as standard issue scoring. A set of standard hypothetical moral dilemmas are used to elicit a subject's reasoning; it is not the subject's solution to the dilemma that is important, but the reasoning given for the solution. The scoring specifies criteria for each level and defines the moral concepts used at each level (Colby & Kohlberg, 1987). The other primary measure is the Defining Issues Test (Rest, 1979) which presents the subject with ethical dilemmas and a list of possible considerations for use in solving the dilemma. Subjects rank order the four most important considerations for each dilemma, which produces a *P*-score—the degree to which the subject reasons in a principled (more developed) way. According to Trevino (1992) adequate test-retest and internal consistency reliabilities have been established for the Defining Issues Test. The test also provides checks for internal reliability and social desirability. It is the most widely used measure of moral reasoning.

Of primary interest to the leadership field is research investigating the relationship between cognitive moral development and ethical decision making in organizations. The main proposition is that leaders with higher orders of moral development are more likely to make ethical decisions and influence others to do the same. Although ethical leadership has always been of interest to leadership scholars, the topic has become particularly salient in recent years in light of highly-publicized organizational scandals and declining public trust in business and political leaders (Yukl, 2002).

Trevino (1986) developed a model of ethical decision making in organizations that posited a direct connection between order of cognitive moral development and ethical or unethical decisions. Because Kohlberg's scheme deals only with how a person thinks about moral dilemmas—not with what a person will actually do in such situations—Trevino added other variables, proposing that ego strength, locus of control, field dependence, job characteristics, and organizational culture will moderate the role of moral development in decision making.

In an empirical investigation of this model, Trevino & Youngblood (1990) used the Defining Issues Test to assess the order of moral development of 94 MBA students. An in-basket exercise was used to generate decisions, some of which involved ethical considerations. Later orders of moral development were significantly related to ethical decision making. However, a measure of locus of control showed an even higher correlation to ethical decisions.

In a subsequent review article, Trevino (1992) concluded that cognitive moral development may be too limited to account for ethical actions in organizations. Too many other factors are at play, including the nature of the work, training and education, and the role of group dynamics. Furthermore, she concludes that managerial work may not be conducive to moral reasoning at the later orders—that is, even managers capable of reasoning at the Independent order may be limited by their context to reasoning at the Dependent order.

Snell (1996) looked at the issue of moral reasoning versus moral action. He interviewed ten Hong Kong Chinese managers to elicit both their espoused ethical theories and their theories-in-use (Argyris & Schön, 1978). He found that the Chinese managers' ethical theories-in-use could be matched in a general way to the Kohlberg orders. However, he also found that the ethical theories-in-use were highly "volatile," that is, in actual practice, the managers used a very wide range of moral reasoning, and did not always use the most developed order of which they were capable. He concluded that actual ethical dilemmas requiring action call for the use of multiple orders of cognitive moral development.

Researchers have also examined ethical reasoning at the group level. Candee (1975) studied transcripts of the Watergate hearings and concluded that nearly all the members of the Nixon team exhibited moral reasoning at the Dependent order. The mix of this order of moral reasoning with the win-at-all-costs climate in the Nixon administration combined to produce both the wrong-doing and the mentality of the cover-up.

Dukerich and colleagues (Dukerich, Nichols, Elm, & Vollrath, 1990) conducted a study of how the order of moral development of a group leader influences the moral reasoning of the whole group. Pre-tests using the Defining Issues Test were used to sort subjects into groups comprising a wide range of order of moral reasoning. The groups were given the same moral dilemmas used in the DIT and were told to come up with a consensus solution. The study revealed that when a person with a high score on the DIT took a task leadership role in the group, the group as a whole produced solutions at a later order of moral development than the average order of the individual members.

Finally, studies of the relationship between order of moral development and various aspects of leader style have not yielded significant results. Slaten (1999) in a study of 246 Texas school superintendents found no significant relationship between order of moral development and leadership style as measured by the MLQ (Bass & Avolio, 1990). Likewise, Bales (2005) in a study of the relationship between order of moral development and conflict management style with 104 senior pastors, found only that the higher the score on the Defining Issues Test, the less likely a pastor was to use an accommodating conflict management style.

It is hard to draw firm conclusions from such a small set of disparate studies. There is some evidence that order of cognitive moral development is related to ethical decision making in organizations, but there has been little research examining order of development along with the numerous variables Trevino (1992) noted as potentially impacting ethical decision making and behavior. Further research in this stream would be best served if guided by more integrative models of ethical leadership now being proposed and tested in the leadership field (see Brown, Trevino, & Harrison, 2005).

#### 2.4. Summary

Most of the leadership literature making use of constructive-developmental theory has focused on the relationship between a leader's order of development and his or her leadership effectiveness or performance as a manager. There is a growing body of research evidence that supports the view that leaders operating at the Independent order are more likely than those operating at the Dependent order to enact leadership in ways deemed effective in most modern organizations. For example, Independent leaders have been found to be more likely to delegate, hold people accountable, influence through rewards and expertise (rather than coercive power), look for underlying causes of problems, act as change agents, and be more comfortable with conflict. Although the arguments for the added effectiveness of leaders operating at the Inter-independent order are compelling, there is mixed support for this assertion. There is some support that leaders at later developmental orders are rated as more competent or effective by others who work with them, but there were also studies that found no relationship between order of development and leadership effectiveness. Finally, there is almost no research that examines how training, development, or coaching programs impact participants' order of development. Studies of development movement in West Point cadets and in students in the Carroll School of Management are the notable exceptions.

#### 2.5. Limitations

Although some leadership researchers have begun to use constructive-developmental theory in their work, there are serious limitations in the body of research we reviewed, including restricted samples and research designs. There is also little evidence of cumulative programs of research, integration with existing leadership research, or research that looks at the relationships between the three major frameworks. These issues no doubt have reduced the potential impact of constructive-developmental theory on the leadership field.

The studies which are based on the Kegan or Loevinger/Torbert frameworks have, for the most part, utilized small samples; only a few have sample sizes greater than thirty. The small sample sizes are likely driven by the complexity of the measures of developmental order. The Subject–Object Interview and the WUSCT or LDP require training to achieve acceptable levels of reliability and are labor intensive to use. Many of the studies were also dissertations conducted by students, who typically have limited resources and time to devote to data collection. On the other hand, the Defining Issues Test (used in the Kohlberg framework) is more easily administered, resulting in larger sample sizes in studies employing this measure.

Many of the study samples also cover a restricted range of developmental orders. For example, all the teacher leaders in Hasegawa's (2004) study were measured at either the Independent order or transitioning to that order; similarly, 84% of the managers in Mehlretter's (1995) study were measured at the Independent order or transitioning to that order. Although a useful resource for describing individuals at particular orders, these studies are not particularly useful for examining the relationships between developmental order and other variables.

There are also very few studies that include individuals measured at the Inter-independent order or transitioning to that order. This is disappointing given the numerous claims made in the literature for the efficacy of the Inter-independent order. Because Inter-independent individuals are rare in the population, intentional sampling strategies have to be used to obtain an adequate sample (for example, see Fisher & Torbert, 1991). Another problem in identifying Inter-independent leaders is a lack of evidence that existing measurement tools are adequate for assessing the Inter-independent meaning-making structure. This order is not assessed as part of the Defining Issues Test. Only in the development of the LDP has special attention been paid to developing reliable assessment of later orders of development.

Finally, the other noticeable characteristic of the samples in the studies we reviewed is their cultural homogeneity. Only two studies focused on leaders outside the United States. Given the increased interest in cultural differences in leadership dynamics and on leading across cultures, this is a critical short-coming of the existing body of research. Although Kohlberg's framework has been examined across cultures (Snarey, 1985), constructive-developmental theory developed out of a Western perspective and does not have a strong base of cross-cultural research.

In addition to their samples, the studies are also limited in terms of their research designs. Like most leadership research, these studies are overwhelming cross-sectional designs. However, longitudinal designs are particularly important for supporting a theory whose central focus is on developmental change. We should note that constructive-developmental theory in general has been criticized for underutilization of longitudinal research designs, so this is not just an issue in using the theory in leadership research. Since leadership development practitioners have been at the forefront in applying constructive-developmental theory to leadership phenomena, it is disappointing that there has been little research that examines the dynamics of developmental movement in leaders.

Another research design issue is the lack of inclusion of other individual difference or contextual variables in studying the role of developmental order in leadership phenomena. The role of leaders' personal styles and preferences, skills and abilities, and experiences on leader effectiveness has been studied extensively. Contextual variables have also been featured strongly in leadership research. Only a few of the studies we reviewed included any of these variables. Without such research, it is difficult to assess how developmental order fits into the larger network of variables that explain how leadership works in groups and organizations.

A final criticism of the body of research we reviewed is its piecemeal nature. Except for research by Torbert, there is little evidence of programs of research that cumulatively develop, test, and refine the use of constructive-developmental theory to explain leadership phenomena. And any cumulative research that does exist is within a single framework; there have been no attempts to empirically link the various constructive-developmental frameworks. Thus, the way we have aligned the stages across the various frameworks in Table 1 remains speculative.

### 3. Future directions

We see three important avenues for advancing the understanding of the role adult development plays in the practice of leadership. First, the shortcomings of the body of research we reviewed need to be addressed. Second, researchers using constructive-developmental theory should more explicitly link their work to relevant traditional and emerging streams of leadership research. Finally, the focus of the research needs to move beyond a predominant focus on developmental order to include the general dynamics of developmental movement and to move beyond an interest primarily in individual leaders to include the development of leadership processes in groups, teams, and organizations.

### 3.1. Overcoming limitations

An increased attention to measurement and to more systematic programs of research will help address many of the limitations noted in the previous section. First, existing measures of developmental order need to be more extensively validated in leader populations. Some of the research we reviewed raised questions of validity. For example, Hirsch (1988) used two methods for determining developmental stage (content analysis of interviews and the WUSCT) and found that the results from the two methods were not consistent. Measures with well-documented evidence of reliability and validity will be more widely utilized in research by leadership scholars. Second, measures that differentiate individuals in a more fine-grained manner are also potentially more useful than those that make only gross distinctions. For example, Laske (2000) has developed the Developmental Structure/Process Tool (DSPT) that uses data from the Subject–Object Interview and from another interview protocol that examines the degree to which individuals use dialectical schema in their reasoning (Basseches, 1984); this tool provides additional data (beyond the stage designation in the Kegan framework) about the developmental maturity of individuals' meaning-making structures.

Bringing together the existing measures from constructive-developmental theory (which rely heavily on collecting and analyzing qualitative data) with the typical leadership researcher (who relies heavily on quantitative survey measures) could stretch both in positive ways. Leadership research has been frequently criticized for over-reliance on survey research. And measures of developmental order have been criticized for being too complex, requiring highly specialized expertise and being relatively difficult to administer and score. *Efforts to refine and create new measures of developmental order appropriate for leaders should be a priority at the intersection of these two fields.*

Mastering existing measurement tools, improving these tools, and creating new ones are more likely to occur within communities of researchers who are working together and building upon one another's research. To date, it appears that those interested in applying constructive-developmental theory to leadership research have relied primarily on student's dissertations, action research projects, and insights gained from developmental coaching. Although these are all valuable knowledge-generation strategies, for constructive-developmental theory to have an increased impact in the leadership field, we see *the need for more active programs of research that are intentionally learning from one another.* Such programs of research are also more likely to generate the resources needed for longitudinal research, cross-cultural research, and research that incorporates multiple individual difference and contextual variables.

### 3.2. Links to leadership literature

Throughout this review, we have noted streams in the leadership literature where constructive-developmental theory could add value and where implications of the theory for leadership could be more thoroughly explored: implicit leadership theories, senior executives as complex leaders, and ethical leadership. Proponents of the theory should *explore how constructive-developmental theory adds to the understanding of other leadership phenomena in which the leader's or followers' meaning-making structure is hypothesized to play an important role.* For example, Weick's (1979) depiction of organizations as collective systems of meaning creation has led to theories about the roles leaders play in collective sensemaking processes, including their role as "sense-givers" or influencers of the sensemaking of others toward a preferred organizational reality (Gioia & Chittipeddi, 1991; Matlis, 2005). Another example is Lord and Hall's (2005) depiction of the development of leadership skills from the novice leader to the expert leader. In their model, the leader's self-identity plays a central role as an organizing structure for relevant knowledge and as a source of motivation for pursuing developmental situations. A final example is emerging work on shared or distributed leadership (Pearce & Conger, 2003) in which leadership is conceptualized as a collective achievement embedded in social interaction. Understanding and enacting leadership in this way may require changes in all participants' meaning-making structures (Drath, 2001).

### 3.3. Beyond individual orders of development

The strong interest in leadership development among practitioners points to the need for *more research on developmental movement.* Constructive-developmental theory posits that certain features of the context create positive conditions for developmental movement regardless of individuals' developmental order. And in their application of constructive-developmental theory, the theorists themselves have focused increasingly on tools that support

developmental movement (e.g., Torbert's action inquiry, Kegan and Lahey's new languages). However, applications are rarely accompanied by studies that measure features of the holding environment and assess the extent to which these features stimulate developmental movement for individuals at different developmental orders. For example, does regular use of these developmental tools help people more quickly discover the limitations of the current meaning-making structures? What features of common leader development methods (e.g., feedback, mentoring, rotational assignments) have the greatest impact on developmental movement? How do group expectations of a leader help or hinder developmental movement? Applications designed to support developmental movement (e.g., coaching, development programs) would be ideal settings for studying these types of research questions.

Finally, it is important to note that developmental theory is evolving toward a more holistic, integrative perspective that views individual development as one facet of a developing system. Wilber's (2000b) notion of "integral theory" is one of the most well-developed models reflecting this perspective. Integral theory is not a single theory; rather it is a comprehensive model attempting to coordinate numerous theories that describe development. The model looks at four domains of reality: the internal self, the external self, the internal collective, and the external collective. In the model, developmental movement through similar developmental orders characterize each domain, and this movement is interconnected across domains. In the integral model, development cannot be understood from the perspective of one domain; instead, an all-domain, multiple-order perspective needs to be invoked.

This perspective fits well with recent applications of constructive-developmental theory to leadership in which the development of individuals and of the collective are seen as interrelated (Drath & Palus, 1994; Torbert & Associates, 2004; Wagner et al., 2006). Integral theory points to a potential new domain of leadership research: *research on the development of social systems that produce leadership* (not just on the development of individuals who are part of these systems), addressing such questions as: Do the shared meaning-making structures of groups, teams, and whole organizations move through developmental orders similar to those observed in individuals (as Torbert suggests)? What do leadership processes look like at different orders of collective development? What stimulates the developmental movement of leadership processes in a collective? How does the mix of individual developmental orders within a collective impact the leadership processes of the collective?

Leadership is a complex social phenomenon. The effort to understand leadership and how it develops has accordingly called forth a wide array of concepts and theoretical approaches. Because it deals with an aspect of leadership that may be taken as basic—the generation and development of meaning for individuals and social systems—constructive-developmental theory has the potential to act as an integrative framework in the field. This potential can only be realized to the extent that theorists, researchers, and practitioners work in more interconnected ways to test and refine the propositions generated by applying this theory to leadership.

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