
A Systems Model of Leadership

WICS

Robert J. Sternberg
Tufts University

This article reviews a systems model of leadership. According to the model, effective leadership is a synthesis of wisdom, creativity, and intelligence (WICS). It is in large part a decision about how to marshal and deploy these resources. One needs creativity to generate ideas, academic (analytical) intelligence to evaluate whether the ideas are good, practical intelligence to implement the ideas and persuade others of their worth, and wisdom to balance the interests of all stakeholders and to ensure that the actions of the leader seek a common good. The article relates the current model to other extant models of leadership.

Keywords: leadership, WICS, wisdom, intelligence, creativity

A systems model views leadership as a matter of how one formulates, makes, and acts on decisions (Sternberg, 2003a, 2003b, 2004, in press; Sternberg & Vroom, 2002). According to one such model, *WICS* (Sternberg, 2003a, 2003b), the three key components of leadership are *wisdom*, *intelligence*, and *creativity*, *synthesized*. The basic idea is that one needs these three components working together to be a highly effective leader.

One is not born a leader. In the framework of *WICS*, one can speak of traits of leadership (Bird, 1940; Mann, 1959; Stogdill, 1948; Zaccaro, 2007, this issue; Zaccaro, Kemp, & Bader, 2004), but, properly, they should be viewed as modifiable, flexible, and dynamic rather than as fixed, rigid, and static. Because the attributes discussed in this article with regard to *WICS* are viewed as modifiable, the term *trait*, which is generally associated only with nonmodifiable or weakly modifiable characteristics, is not used.

Wisdom, intelligence, and creativity are, to some extent, modifiable forms of developing expertise (Sternberg, 1998a, 1999b) that one can decide to use in leadership decisions. How one uses them depends in large part on the situations in which one finds oneself (see Vroom & Jago, 2007, this issue) and how these situations interact with one's own skills (Avolio, 2007, this issue; Vroom & Jago, 2007). The environment strongly influences the extent to which one is able to use and develop whatever genetic potentials one has (Grigorenko & Sternberg, 2001; Sternberg & Grigorenko, 1997, 2001).

Leadership involves both skills and dispositions (i.e., attitudes). The skills are developing expertise on the basis of how well one can execute certain functions of leadership. An example of a skill is one's knowing how to construct a decision tree listing possible options and their consequences. The dispositions are developing expertise on the basis of how one thinks about these functions. An example of a disposition is one's attitude that it is worthwhile to generate a decision tree in the first place. The dispositions are at least as important as the skills. One needs creative skills and dispositions to generate fresh and good ideas for leadership, intellectual skills and dispositions to decide whether they are good ideas as well as to implement the ideas and convince others of the value of the ideas, and wisdom-related skills and dispositions to assess the long- as well as short-term impacts of these ideas on other individuals and institutions as well as oneself. In the discussion that follows, I consider the elements of creativity, intelligence, and wisdom, in that order.

Creativity

Creativity refers to the skills and dispositions needed for generating ideas and products that are (a) relatively novel, (b) high in quality, and (c) appropriate for the task at hand (Sternberg & Lubart, 1995). Skills influence the quality of creative thought, dispositions, and the desire to engage in creativity in the first place. Creativity is important for leadership (Mumford & Connelly, 1991). It is the component whereby one generates the ideas that others will follow. A leader who lacks creativity may get along and get others to go along. But he or she may get others to go along with inferior or stale ideas.

WICS claims that creative skills and attitudes are related to leadership success. Experimental and correlational research projects show that an aspect of creative

Preparation of this article was supported by Contract MDA 903-92-K-0125 from the U.S. Army Research Institute and by Grant Award 31-1992-701 from the U.S. Department of Education, Institute for Educational Sciences, as administered by the Temple University Laboratory for Student Success. Grantees undertaking such projects are encouraged to express freely their professional judgment. This article, therefore, does not necessarily represent the position or policies of the U.S. government, and no official endorsement should be inferred.

Correspondence concerning this article should be addressed to Robert J. Sternberg, School of Arts and Sciences, Tufts University, Ballou Hall, 3rd Floor, Medford, MA 02155. E-mail: robert.sternberg@tufts.edu



Robert J. Sternberg

intelligence and of creativity, divergent thinking, is indeed positively correlated with leadership success (Baehr, 1992; Mumford & Connelly, 1991; Mumford, Scott, Gaddis, & Strange, 2002). Case study research also suggests close ties between creative thinking and leadership success (Csikszentmihalyi, 1996; Gardner, 1993, 1995; Gruber, 1981), as does historiometric research (Simonton, 1988, 1994) and organizational research (Amabile, 1999).

Types of Creative Leadership

Creative leadership can take different forms (Sternberg, 1999c; Sternberg, Kaufman, & Pretz, 2003). Some of these forms accept current ways of doing things, others do not; still another attempts to integrate different current practices. The forms of leadership apply not just to managerial leadership but rather to any kind of leadership at all. What are these forms of leadership?

Conceptual replication. This type of leadership is an attempt to show that a field or organization is in the right place at the right time. The leader therefore attempts to maintain it in that place. The leader keeps the organization where it is rather than moving it. The view of the leader is that the organization is where it needs to be. The leader's role is to keep it there. This is a limiting case of creative leadership, requiring the leader only to apply in new circumstances techniques that have been used before. For example, a scholar may build a career largely on replicating the work of others or even of him- or herself.

Redefinition. This type of leadership is an attempt to show that a field or organization is in the right place but not for the reason(s) that others, including previous leaders, think it is. The current status of the organization thus is seen from a different point of view. Redefiners often end up taking credit for ideas of others because they

find a better reason to implement others' ideas or say they do. An example of a redefinition was the discovery that aspirin not only is a pain reliever but also can decrease the probability of a repetition of a heart attack in coronary patients.

Forward incrementation. This type of leadership is an attempt to lead a field or an organization forward in the direction it already is going. Most leadership is probably forward incrementation. In such leadership, one takes on the helm with the idea of advancing the leadership program of whomever one has succeeded. The promise is of progress through continuity. Creativity through forward incrementation is likely the kind that is most easily recognized and appreciated as creativity. Because it extends existing notions, it is seen as creative. Because it does not threaten the assumptions of such notions, it is not rejected as useless or even harmful. An example is a new leader of a technology company who embraces an existing product line and keeps upgrading without radically changing the products.

Advance forward incrementation. This type of leadership is an attempt to move an organization forward in the direction it is already going but by moving beyond where others are ready for it to go. The leader moves followers in an accelerated way beyond the expected rate of forward progression. Advance forward incrementations often are not successful at the time they are attempted. Followers in fields and organizations are not ready to go where the leader wants to lead, or significant portions of them may not wish to go to that point. In that case, they form an organized and sometimes successful source of resistance. An example was the invention of the Xerox Star system, which was in many ways the prototype for the Apple Macintosh but which was invented before users were ready for it and before Xerox managers were properly able to see the system's potential.

Redirection. This type of leadership is an attempt to redirect an organization, field, or product line from where it is headed toward a different direction. Redirection leaders need to match their style of leadership to their environmental circumstances to succeed (Sternberg & Vroom, 2002). If they do not have the luck to have matching environmental circumstances, their best intentions may go awry. An example is Lou Gerstner's redirection of IBM from a company that specializes in mainframe computers to a company that specializes in services.

Reconstruction and redirection. This type of creative leadership is an attempt to move a field, an organization, or a product line back to where it once was (a reconstruction of the past) so that it may move onward from that point but in a direction different from the one it took previously. An example is the recent renewed interest by some in psychoanalysis and their ensuing attempts to argue that this set of techniques was on the right track after all.

Reinitiation. This type of leadership is an attempt to move a field, an organization, or a product line to a different and as yet unreached starting point and then to move forward from that point. The leader takes followers

from a new starting point in a direction that is different from that the field, organization, or product line previously has pursued. An example is the transition from horse and buggy transportation in cities to transportation by taxi cabs. The goal is still locomotion, but the fundamental mechanism of the combustion engine is different from that of the horse.

Synthesis. In this type of creative leadership, the creator integrates two ideas that previously were seen as unrelated or even as opposed. What formerly were viewed as distinct ideas now are viewed as related and capable of being unified. Integration is a key means by which progress is attained in the sciences. It represents neither an acceptance nor a rejection of existing paradigms. Rather, it represents a merger of them. An example is the invention of the seaplane, which combines elements of both a boat and an airplane.

Extensive examples of these kinds of leadership and how they differ can be found in Sternberg, Kaufman, and Pretz, 2003.

Leadership as a Confluence of Skills and Dispositions

A confluence model of creativity (Amabile, 1996; Sternberg & Lubart, 1995, 1996) suggests that creative people show a variety of characteristics. These characteristics represent, in part, decisions and ways of making these decisions (Sternberg, 2000a). In other words, to a large extent, people decide to be creative. They exhibit a creative attitude toward leadership. For example, when they have a problem they cannot solve, they ask themselves whether there is some alternative way of defining the problem that is more conducive to solution. Of course, the creativity of the actual decisions depends not just on the disposition to be creative but also on the ability with which one formulates those decisions.

What are the elements of a creative attitude toward leadership? Research on creativity suggests a number of elements (see Sternberg, 1999a). These elements involve both skills in actually executing them and the dispositions to wish to execute them in the first place.

1. *Problem redefinition.* Creative leaders do not define a problem the way everyone else does, simply because everyone else defines the problem that way. They decide on the exact nature of the problem using their own judgment. Most important, they are willing to defy the crowd in defining a problem differently from the way others do (Getzels & Csikszentmihalyi, 1976; Sternberg, 2002a; Sternberg & Lubart, 1995).

2. *Problem and idea analysis.* They are willing to analyze whether their solution to the problem is the best one possible (Weisberg, 1993).

3. *Selling their solution.* They realize that creative ideas do not sell themselves. Rather, creators have to decide to persuade others of the value of their ideas. Then they need to decide to put an effort into doing so (Simonon, 1994).

4. *Recognizing how knowledge can both help and hinder creative thinking.* They realize that knowledge can

hinder as well as facilitate creative thinking (see also Adelson, 1984; Frensch & Sternberg, 1989; Sternberg, 1985). Sometimes leaders become entrenched and susceptible to tunnel vision, letting their expertise hinder rather than facilitate their exercise of leadership.

5. *Willingness to take sensible risks.* They recognize that they must decide to take sensible risks, which can lead them to success but also can lead them, from time to time, to fail (Barron, 1988; Lubart & Sternberg, 1995).

6. *Willingness to surmount obstacles.* They are willing to surmount the obstacles that confront anyone who decides to defy the crowd. Such obstacles result when those who accept paradigms confront those who do not (Kuhn, 1970; Sternberg & Lubart, 1995).

7. *Belief in one's ability to accomplish the task at hand.* This belief is sometimes referred to as self-efficacy (Bandura, 1996). The leader believes that he or she is able to do the job at hand. Without that belief, when the leader feels that he or she is not succeeding in a job, he or she is more susceptible to giving up.

8. *Willingness to tolerate ambiguity.* The leaders recognize that there may be long periods of uncertainty during which they cannot be certain that they are doing the right thing or that what they are doing will have the outcome they hope for (Barron, 1988).

9. *Willingness to find extrinsic rewards for the things one is intrinsically motivated to do.* Creative leaders almost always are intrinsically motivated for the work they do (Amabile, 1983, 1996). Creative leaders find environments in which they receive extrinsic rewards for the things they like to do anyway.

10. *Continuing to grow intellectually rather than stagnate.* Effective leaders do not get stuck in their patterns of leadership. Their leadership evolves as they accumulate experience and expertise. They learn from experience rather than simply letting its lessons pass them by (Mumford, Marks, Connelly, Zaccaro, & Reiter-Palmon, 2000; Sternberg & Lubart, 1995).

Three additional important skills in creativity are selective encoding, selective comparison, and selective combination (Sternberg, 1985; Sternberg & Davidson, 1983). Consider each in turn.

Selective encoding involves distinguishing irrelevant from relevant information in one's field of experience. Everyone is barraged with much more information than can possibly be handled. An important task confronting everyone is to select the information that is important for one's purposes and to filter out the information that is not important. Selective encoding is the process by which this filtering is done. Consider, for example, a particularly significant example of selective encoding in science, the unusual means by which Sir Alexander Fleming discovered penicillin. Fleming was performing an experiment that involved growing bacteria in a petri dish, which is a little glass or plastic dish that contains a gelatin in which bacteria grow easily. Unfortunately, from some points of view, the culture was spoiled: A mold grew within the culture and killed the bacteria. A lesser scientist would have bemoaned the failure of the experiment and promised to do a better

job next time. Fleming, however, noticed that the mold had killed the bacteria and thereby provided the basis for his discovery of the important antibiotic penicillin.

Insights of *selective comparison* involve novel relating of new information to old information. Creative analogies fall into the domain of selective comparison. In important problems, people almost always need to bring old knowledge to bear on the solution of new problems and to relate new knowledge to old knowledge. Insights of selective comparison are the basis for this relating. A famous example of an insight of selective comparison is Kekulé's discovery of the structure of the benzene ring. Kekulé had been seeking this structure for some time but without success. One night, he dreamed that he was watching a snake dancing around and around. Finally, the snake bit its tail. When Kekulé awoke, he realized that the image of the snake biting its tail formed the geometric shape for the structure of the benzene ring.

Insights of *selective combination* involve taking selectively encoded information and combining it in a novel but productive way. Often it is not enough just to identify the important information for solving a problem: One must also figure out how to put it together. Consider a famous example of what might be called a selective-combination insight, the formulation of the theory of evolution. The information on which Darwin drew to formulate this theory had been available to him and others for a long time. What had eluded Darwin and his contemporaries was how this information could be combined so as to account for observed changes in species. Darwin finally saw how to combine the available information and thus was born his theory of natural selection.

The relative importance of each of the various skills and dispositions involved in creativity depends in part on the kind of creative leadership that is exhibited. For example, problem redefinition is more important in the more radical forms of creative leadership (such as redirection and reinitiation) than in the less radical forms (such as conceptual replication and forward incrementation). Once a problem is redefined, though, one needs to analyze whether the redefinition is a good one. Successful intelligence is a basis for such analysis.

(Successful) Intelligence

Is intelligence always a good thing for leadership? If the conventional intelligence of a leader is too much higher than that of the people he or she leads, the leader may not connect with those people and become ineffective (Simonson, 1984; Williams & Sternberg, 1988). Intelligence, as conceived of here, is not just intelligence in its conventional narrow sense—some kind of general factor (*g*; Demetriou, 2002; Jensen, 1998, 2002; Spearman, 1927; see essays in Sternberg, 2000b; Sternberg & Grigorenko, 2002) or as IQ (Binet & Simon, 1905; Kaufman, 2000; Wechsler, 1939). Rather, it is conceived more broadly in terms of *successful intelligence* (Sternberg, 1997, 1999d, 2002b). Successful intelligence is defined as the skills and dispositions needed to succeed in life, given one's own conception of success, within one's sociocultural environment (Stern-

berg, 1997). Two particular aspects of the theory are especially relevant: academic (analytical) and practical intelligence (see also Neisser, 1979; Sternberg et al., 2000).

It is clear how intelligence would have aspects of skill. But how would it have aspects of a disposition? The main way is through the decision to apply it. Many leaders know better but do things they should not do anyway. Their minds tell them what they should be doing, but their motives—for power, for fame, for money, for sex, or whatever—lead them in different directions. Leaders often fail not because they are not smart enough but because they choose not to use the intelligence they have.

Academic Intelligence

Academic or analytical intelligence refers to the memory and analytical skills and dispositions that in combination largely constitute the conventional notion of intelligence—the skills and dispositions needed to not only recall and recognize but also to analyze, evaluate, and judge information. Academic intelligence can be important outside the academy, in that analysis of various kinds is useful in many different kinds of job and family pursuits as well as in school.

These skills and dispositions matter for leadership. Leaders need to be able to retrieve information that is relevant to leadership decisions (memory) and to analyze and evaluate different courses of action, whether proposed by themselves or by others (analysis). But a good analyst is not necessarily a good leader.

WICS argues that there is a relation between intelligence as traditionally defined and leadership effectiveness. There does indeed seem to be a moderate correlation between intelligence and leadership effectiveness (Stogdill, 1948; see also Morrow & Stern, 1990; Riggio, Murphy, & Pirozzolo, 2002; Spreitzer, McCall, & Mahoney, 1997). This positive correlation appears in both laboratory and field studies and appears to be robust (Zaccaro et al., 2004). The correlation may be moderated by levels of stress and experience (Fiedler, 1978, 2002).

Practical Intelligence

The longtime primary emphasis on academic intelligence (IQ) in the literature relating intelligence to leadership perhaps has been unfortunate. Indeed, as mentioned above, recent theorists also have been emphasizing other aspects of intelligence, such as emotional intelligence (e.g., Caruso, Mayer, & Salovey, 2002; Goleman, 1998a, 1998b) or multiple intelligences (Gardner, 1995), in their theories.

In my work with my colleagues, we have emphasized practical intelligence (Hedlund et al., 2003; Sternberg et al., 2000; Sternberg & Hedlund, 2002), which has a somewhat different focus from that of emotional intelligence. Practical intelligence is a part of successful intelligence. Practical intelligence is the set of skills and dispositions used to solve everyday problems by applying knowledge gained from experience to purposefully adapt to, shape, and select environments. It thus involves changing oneself to suit the environment (adaptation), changing the environment to suit oneself (shaping), or finding a new environment within

which to work (selection). One uses these skills to (a) manage oneself, (b) manage others, and (c) manage tasks.

Research suggests a relationship between practical intelligence and leadership (Hedlund et al., 2003). One aspect of practical intelligence is emotional intelligence. This aspect deals in particular with emotionally laden practical interactions. Research also suggests that emotional intelligence is a positive predictor of leadership (Caruso et al., 2002; Goleman, Boyatzis, & McKee, 2002; Sosik & Megerian, 1999; see also Zaccaro et al., 2004).

Different combinations of intellectual skills engender different types of leadership. Leaders vary in their memory skills, analytical skills, and practical skills. A leader who is particularly strong in memory skills but not in the other kinds of skills may have vast amounts of knowledge at his or her disposal but be unable to use the knowledge effectively. A leader who is particularly strong in analytical skills as well as memory skills may be able to retrieve information and analyze it effectively but unable to convince others that his or her analysis is correct. A leader who is strong in memory, analytical, and practical skills is most likely to be effective in influencing others. But, of course, there exist leaders who are strong in practical skills but not in memory and analytical skills (Sternberg, 1997; Sternberg et al., 2000). In conventional terms, they are shrewd but not smart. They may be effective in getting others to go along with them, but they may end up leading these others down garden paths.

An important part of practical intelligence is *tacit knowledge*, or having the procedural knowledge to handle everyday life situations that typically is not formally taught in schools or other institutions. The acquisition and use of tacit knowledge require both dispositions and skills. The disposition is in heeding one's experience as a source of tacit knowledge. It involves the realization that what is important for leadership is not experience per se but what one learns from it. The skill involves how well one acquires and uses this knowledge. Much of this skill is in watching and listening to one's stakeholders and then using what one has learned from such observations. But tacit knowledge can be used for a common good or merely one's own good. Wisdom helps ensure that it is used for the former rather than the latter.

Wisdom

There is no lack of leaders who, however creative and intelligent they may be, are unwise. Stalin was no doubt creative and smart, but he was not wise according to the definition presented here. Wisdom is defined here as the use of successful intelligence, creativity, and knowledge as mediated by values to (a) seek to reach a common good (b) by balancing intrapersonal (one's own), interpersonal (others'), and extrapersonal (organizational, institutional, and/or spiritual) interests (c) over the short and long term to (d) adapt to, shape, and select environments (Sternberg, 1998b, 2003b). Wisdom is in large part a decision to use one's intelligence, creativity, and knowledge for a common good. Thus, wisdom involves not only skills in the use of

these elements but also the disposition to use them for the common good.

Leaders need wisdom. Staudinger, Smith, and Baltes (1992) showed that leading human services professionals outperformed a control group on wisdom-related tasks. Baltes, Staudinger, Maercker, and Smith (1995) found that older individuals nominated for their leading wisdom performed as well as did clinical psychologists on wisdom-related tasks and better than younger individuals. The characteristics that Baltes and his colleagues (e.g., Baltes & Staudinger, 2000) have described as characterizing wise individuals are very similar to those that have been identified in successful leaders. Wisdom is reflected in these five components: (a) rich factual knowledge (general and specific knowledge about the conditions of life and its variations), (b) rich procedural knowledge (general and specific knowledge about strategies of judgment and advice concerning matters of life), (c) life span contextualism (knowledge about the contexts of life and their temporal [developmental] relationships), (d) relativism (knowledge about differences in values, goals, and priorities), and (e) uncertainty (knowledge about the relative indeterminacy and unpredictability of life and ways to manage).

Wise leaders skillfully balance the interests of all stakeholders, including their own interests, those of their followers, and those of the organization for which they are responsible. They also recognize that they need to align the interests of their group or organization with those of others groups or organizations because no group operates within a vacuum. Wise leaders realize that what may appear to be a prudent course of action over the short term does not necessarily appear so over the long term.

Leaders who have been less than fully successful often have been so because they have ignored one or another set of interests. For example, Richard Nixon and Bill Clinton both engaged in notable cover-ups. As a result, they not only failed to fulfill the interests of the country they led but also failed to fulfill their own interests, in that both were impeached by the House of Representatives. Their cover-ups ended up bogging down their administrations in scandals. The positive accomplishments they had hoped to make were consequently reduced. As another example, Freud was a great leader in the fields of psychiatry and psychology. But his insistence that his followers (disciples) conform quite exactly to his own system of psychoanalysis led him to lose those disciples and the support they might have continued to lend to his efforts. He was an expert in interpersonal interests in the abstract but not as applied to his own life. Napoleon lost sight of the extrapersonal interests that would have been best for his own country. His disastrous invasion of Russia, which appears to have been motivated more by hubris than by France's need to have Russia in its empire, partially destroyed his reputation as a successful military leader and paved the way for his later downfall.

Intelligence and creativity do not guarantee wisdom. Those leaders who are notably wise—for example, Abraham Lincoln, Nelson Mandela, Martin Luther King, Jr., Mahatma Gandhi, Winston Churchill, Mother Teresa—

leave an indelible mark on the people they lead and, potentially, on history. Wise leaders are usually charismatic. But charismatic leaders are not necessarily wise, as Hitler, Stalin, and many other charismatic leaders have demonstrated.

Unsuccessful leaders often show certain stereotyped fallacies in their thinking that reveal a lack of wisdom and, in extreme cases, foolishness. That is, they may be smart but foolish. Consider six such flaws (Sternberg, 2002a, 2002b). The first, the *unrealistic-optimism fallacy*, occurs when they think they are so smart and effective that they can do whatever they want. The second, the *egocentrism fallacy*, occurs when successful leaders start to think that they are the only ones that matter, not the people who rely on them for leadership. The third, the *omniscience fallacy*, occurs when leaders think that they know everything and lose sight of the limitations of their own knowledge. The fourth, the *omnipotence fallacy*, occurs when leaders think that they are all-powerful and can do whatever they want. The fifth, the *invulnerability fallacy*, occurs when leaders think that they can get away with anything because they are too clever to be caught and, even if they are caught, that they can get away with what they have done because of who they imagine themselves to be. The sixth, the *moral disengagement fallacy*, occurs when a leader ceases to view his or her leadership in moral terms but rather only in terms of what is expedient (cf. Bandura, 1999). Had leaders of companies such as Enron, WorldCom, and Arthur Andersen not fallen prey to such fallacies, their companies and stakeholders might have been spared the tragedies to which they were subjected.

Synthesis

Truly good leadership is relatively rare because it requires a synthesis of all of the elements described above. Leaders may have some of the elements but, lacking others, fail to fulfill their own aspirations and those of others. A leader who lacks adequate creativity may maintain an organization or be a presence in a field but is unlikely to be able to propel either into the future. Because of the rate at which the world is changing, an organization lacking creative leadership is unlikely to be prepared to face the challenges rapid change entails. It is possible that in the past, creativity was an optional feature of leadership. In today's world, with its staggering rate of change, it is no longer optional. Organizations that do not transform themselves risk stagnating and dying. A leader who lacks adequate analytical intelligence may come up with original ideas but then may be as likely to follow up on one of his or her bad ideas as on one of the good ones. No one, no matter how creative, always has good ideas. Analytical intelligence is essential to distinguish the wheat from the chaff. A leader may be creative and analytically intelligent but, in the absence of adequate practical intelligence, may fail in executing his or her ideas or in persuading others of their value. This type of leader is frustrated and frustrating, because either things do not get done or they get done but without the leader's followers, who could not be persuaded to get on the bandwagon. Finally, a leader may be creative and intelligent

both analytically and practically, but, in the absence of wisdom, he or she may do things that benefit only him- or herself or the leader's preferred in-group.

Consider an example of the synthesis of the components of WICS. In the 1950s, the main way in which students were admitted to prestigious colleges was through their family wealth and social connections. Religious quotas were a fixture of some of the colleges, and women were not eligible for admission to many of them. A young dean of admissions at Yale University (during the years 1965–1969) recognized that times had changed and that the university was in a crisis, adhering to old ways in the face of a new world. R. Inslee Clark, Jr., in his brief tenure as dean, transformed the main basis for admissions from social connections to academic excellence, oversaw the removal of religious quotas from the admissions process, and fought to introduce coeducation to a university that had until then been a bastion of male dominance. Women were first admitted in 1969. Given the prevailing sentiments at the time against all of these moves, Clark demonstrated creativity in seeing a new vision of Yale that defied the old one; academic intelligence in recognizing that his ideas were good, whatever many alumni and others might have said; practical intelligence in actually implementing the ideas and persuading many (although certainly not all) others of the worth of his ideas; and wisdom in doing what eventually would be almost universally recognized as having been for the common good.

Many leaders will not have developed sufficient levels of all of these aspects of leadership to lead in the most effective manner possible. That is why teams are so important to leaders. They enable leaders to compensate for weaknesses. Others on such teams may have the skills and dispositions the leader does not have in sufficient amounts. By capitalizing on their strengths, the leader can compensate for his or her own weaknesses.

Relation of Systems Models to Other Models

The idea of a systems model is that it incorporates some aspects of other models. Thus, it is not surprising that other validated models of leadership overlap with the various aspects of WICS. WICS is not fully integrative of all these models but, rather, draws on some of their elements. Consider several different kinds of models in turn.

For example, Zaccaro et al. (2004) have proposed a model of attributes of leaders. The model comprises three distal attributes: personality, cognitive abilities, and motives and values, all three of which are viewed as overlapping with each other. The model also involves three proximal attributes: social-appraisal skills, problem-solving skills, and expertise or tacit knowledge. Cognitive abilities overlap highly with what I have referred to as successful intelligence, particularly the academic intellectual skills. Personality and motivation, as noted above, are part of creativity. And values are essential to wisdom. Social-appraisal skills and tacit knowledge are integral parts of practical intelligence in WICS. Problem-solving skills are

part of intelligence. So WICS includes all of the elements of the Zaccaro et al. (2004) model and also has some other elements. It parses the elements in a somewhat different way from that of Zaccaro and his colleagues, however.

Behavioral theories are associated with mid-20th-century approaches developed at the University of Michigan and Ohio State University (e.g., Likert, 1961; Shartle, 1951). A typical view was that leadership involved two kinds of behaviors, those that were mission oriented and that led to productivity and those that were person oriented and that were sensitive to people's feelings. Leaders could initiate structure changes and show consideration to a greater or lesser degree (see, e.g., Blake & Mouton, 1964; Hersey & Blanchard, 1969; Stogdill & Coons, 1957). In WICS, both of these kinds of behaviors are aspects of practical intelligence—in particular, managing tasks and managing others. WICS also adds a third kind of behavior, namely, managing oneself. WICS emphasizes not just the behaviors but also the cognitions underlying and producing the behaviors. This kind of self-modification has been considered by researchers with a cognitive-behavioral orientation, such as Bandura (1969, 1996) and Taylor, Pham, Rivkin, and Armor (1998).

Contingency models of leadership assume that there is an interaction between a leader's traits and the situation in which he or she finds him- or herself (e.g., Fiedler, 1978, 2002; Fiedler & Link, 1994; House, 1971, 1996; Vroom & Jago, 1988; Vroom & Yetton, 1973; Yukl, 1998). There is some evidence that when a leader's cognitive skills are substantially greater than those of his or her followers, those higher levels of cognitive skills may actually work against the leader's effectiveness (Simonton, 1994; Williams & Sternberg, 1988).

WICS is contingency based in the sense that the optimality of actions depends on the situation in which the leader finds him- or herself. What is intelligent in one situation is not necessarily intelligent in another situation. Moreover, creativity is largely situationally determined. A course of action that was creative some years ago (e.g., an advance forward incrementation) might be at a later time only mildly creative (e.g., a small forward incrementation). Similarly, a wise course of action depends on who the stakeholders are, what their needs are, the environmental pressure under which they are operating, the state of the organization at the time, and so on.

Transformational approaches to leadership can be seen as originating in the work of Burns (1978), although they have been greatly developed since then (Avolio & Bass, 1995; Bass, 1985, 1998, 2002; Bass & Avolio, 1994; Bass, Avolio, & Atwater, 1996; Sashkin, 2004). Burns suggested that there are essentially two ways of performing leadership functions, transactional and transformational. In WICS, transactional leaders emphasize the adaptive function of practical intelligence. They modify their behavior to adapt to the environment. Transformational leaders emphasize the shaping function of practical intelligence. They modify the environment to suit their image of what it should be.

Situational approaches to leadership similarly emphasize the importance of situations in leadership (Ayman, 2004). Research has given some support to the situational view (Howells & Becker, 1962; Leavitt, 1951; Shartle, 1951). Situations clearly matter for leaders. Situational variables are incorporated into WICS in three different ways. First, recall that the contextual subtheory of WICS is wholly situationally determined. What is considered to be intelligent in one culture may not be considered to be intelligent in another (Sternberg, 2004). Second, one of the six facets of the investment model of creativity (Sternberg & Lubart, 1995) is the situation: People can be creative only to the extent that the situation allows them to be. A person might have all the internal attributes for creativity, but in the absence of a supportive environment, these attributes might never manifest themselves. Or they might manifest themselves in a way that results in the person's imprisonment or worse. Third, wisdom is always implemented in context, because the course of action that balances intrapersonal, interpersonal, and extrapersonal interests so as to achieve a common good can only be understood in the context in which the action takes place.

In sum, a systems view can provide a way of understanding leadership as a set of decision processes embodying wisdom, intelligence, and creativity, as well as other higher cognitive processes. One uses creativity to generate ideas, intelligence to analyze and implement the ideas, and wisdom to ensure that they represent a good common good.

Conclusion

WICS incorporates elements of many previous models of leadership. An effective leader needs creative skills and dispositions to come up with ideas, academic skills and dispositions to decide whether they are good ideas, practical skills and dispositions to make the ideas work and convince others of the value of the ideas, and wisdom-based skills and dispositions to ensure that the ideas are in the service of the common good rather than just the good of the leader or perhaps some clique of family members or followers. A leader lacking in creativity will be unable to deal with novel and difficult situations, such as a new and unexpected source of hostility. A leader lacking in academic intelligence will not be able to decide whether his or her ideas are viable, and a leader lacking in practical intelligence will be unable to implement his or her ideas effectively. An unwise leader may succeed in implementing ideas but end up implementing ideas that are contrary to the best interests of the people he or she leads.

REFERENCES

- Adelson, B. (1984). When novices surpass experts: The difficulty of a task may increase with expertise. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 10, 483–495.
- Amabile, T. M. (1983). *The social psychology of creativity*. New York: Springer.
- Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview Press.
- Amabile, T. M. (1999). *How to kill creativity*. In *Harvard Business Review on breakthrough thinking* (pp. 1–28). Boston, MA: Harvard Business School Press.

- Avolio, B. J. (2007). Promoting more integrative strategies for leadership theory building. *American Psychologist*, 62, 25–33.
- Avolio, B. J., & Bass, B. M. (1995). Individual consideration viewed at multiple levels of analysis: A multi-level framework for examining the diffusion of transformational leadership. *The Leadership Quarterly*, 6, 199–218.
- Ayman, R. (2004). Situational and contingency approaches to leadership. In J. Antonakis, A. Cianciolo, & R. J. Sternberg (Eds.), *The nature of leadership* (pp. 148–170). Thousand Oaks, CA: Sage.
- Baehr, M. E. (1992). *Predicting success in higher level positions: A guide to the system for testing and evaluation of potential*. New York: Quorum.
- Baltes, P. B., & Staudinger, U. M. (2000). Wisdom: A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence. *American Psychologist*, 55, 122–135.
- Baltes, P. B., Staudinger, U. M., Maercker, A., & Smith, J. (1995). People nominated as wise: A comparative study of wisdom-related knowledge. *Psychology and Aging*, 10, 155–166.
- Bandura, A. (1969). *Principles of behavior modification*. Oxford, England: Holt, Rinehart & Winston.
- Bandura, A. (1996). *Self-efficacy: The exercise of control*. New York: Freeman.
- Bandura, A. (1999). Moral disengagement in the perpetration of inhumanities. *Personality and Social Psychology Review*, 3, 193–209.
- Barron, F. (1988). Putting creativity to work. In R. J. Sternberg (Ed.), *The nature of creativity* (pp. 76–98). New York: Cambridge University Press.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M. (1998). *Transformational leadership: Industrial, military, and educational impact*. Mahwah, NJ: Erlbaum.
- Bass, B. M. (2002). Cognitive, social, and emotional intelligence of transformational leaders. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 105–118). Mahwah, NJ: Erlbaum.
- Bass, B. M., & Avolio, B. J. (Eds.). (1994). *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage.
- Bass, B. M., Avolio, B. J., & Atwater, L. (1996). The transformational and transactional leadership of men and women. *International Review of Applied Psychology*, 45, 5–34.
- Binet, A., & Simon, T. (1905). Méthodes nouvelles pour le diagnostic du niveau intellectuel des anormaux [New methods for the diagnosis of the intellectual level of abnormal persons]. *L'année psychologique*, 11, 191–336.
- Bird, C. (1940). *Social psychology*. New York: Appleton-Century.
- Blake, R. R., & Mouton, J. S. (1964). *The managerial grid*. Houston, TX: Gulf.
- Burns, J. M. (1978). *Leadership*. New York: Harper & Row.
- Caruso, D. R., Mayer, J. D., & Salovey, P. (2002). Emotional intelligence and emotional leadership. In R. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 55–74). Mahwah, NJ: Erlbaum.
- Csikszentmihalyi, M. (1996). *Creativity: Flow and the psychology of discovery and invention*. New York: HarperCollins.
- Demetriou, A. (2002). Tracing psychology's invisible g_{iant} and its visible guards. In R. J. Sternberg & E. L. Grigorenko (Eds.), *The general factor of intelligence: How general is it?* (pp. 3–18). Mahwah, NJ: Erlbaum.
- Fiedler, F. E. (1978). The contingency model and the dynamics of the leadership process. In L. Bekowitz (Ed.), *Advances in experimental social psychology* (Vol. 11, pp. 59–112). New York: Academic Press.
- Fiedler, F. E. (2002). The curious role of cognitive resources in leadership. In R. E. Riggio, S. E. Murphy, & F. J. Pirozzolo (Eds.), *Multiple intelligences and leadership* (pp. 91–104). Mahwah, NJ: Erlbaum.
- Fiedler, F. E., & Link, T. G. (1994). Leader intelligence, interpersonal stress, and task performance. In R. J. Sternberg & R. K. Wagner (Eds.), *Mind in context: Interactionist perspectives on human intelligence* (pp. 152–167). New York: Cambridge University Press.
- Frensch, P. A., & Sternberg, R. J. (1989). Expertise and intelligent thinking: When is it worse to know better? In R. J. Sternberg (Ed.), *Advances in the psychology of human intelligence* (Vol. 5, pp. 157–188). Hillsdale, NJ: Erlbaum.
- Gardner, H. (1993). *Creating minds*. New York: Basic Books.
- Gardner, H. (1995). *Leading minds*. New York: Basic Books.
- Getzels, J., & Csikszentmihalyi, M. (1976). *The creative vision: A longitudinal study of problem finding in art*. New York: Wiley.
- Goleman, D. (1998a, November–December). What makes a good leader? *Harvard Business Review*, 76, 93–102.
- Goleman, D. (1998b). *Working with emotional intelligence*. New York: Bantam.
- Goleman, D., Boyatzis, R., & McKee, A. (2002). *Primal leadership: Realizing the power of emotional intelligence*. Boston, MA: Harvard Business School Press.
- Grigorenko, E. L., & Sternberg, R. J. (Eds.). (2001). *Family environment and intellectual functioning: A life-span perspective*. Mahwah, NJ: Erlbaum.
- Gruber, H. E. (1981). *Darwin on man: A psychological study of scientific creativity* (2nd ed.). Chicago: University of Chicago Press. (Original work published 1974)
- Hedlund, J., Forsythe, G. B., Horvath, J. A., Williams, W. M., Snook, S., & Sternberg, R. J. (2003). Identifying and assessing tacit knowledge: Understanding the practical intelligence of military leaders. *The Leadership Quarterly*, 14, 117–140.
- Hersey, P., & Blanchard, K. H. (1969). *Management of organizational behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- House, R. J. (1971). A path-goal theory of leader effectiveness. *Administrative Science Quarterly*, 16, 321–339.
- House, R. J. (1996). Path-goal theory of leadership: Lessons, legacy, and a reformed theory. *The Leadership Quarterly*, 7, 323–352.
- Howells, L. T., & Becker, S. W. (1962). Seating arrangement and leadership emergence. *Journal of Abnormal and Social Psychology*, 64, 148–150.
- Jensen, A. R. (1998). *The g factor: The science of mental ability*. Westport, CT: Praeger.
- Jensen, A. R. (2002). Psychometric g : Definition and substantiation. In R. J. Sternberg & E. L. Grigorenko (Eds.), *General factor of intelligence: How general is it?* (pp. 39–54). Mahwah, NJ: Erlbaum.
- Kaufman, A. S. (2000). Tests of intelligence. In R. J. Sternberg (Ed.), *Handbook of intelligence* (pp. 445–476). New York: Cambridge University Press.
- Kuhn, T. S. (1970). *The structure of scientific revolutions* (2nd ed.). Chicago: University of Chicago Press.
- Leavitt, H. J. (1951). Some effects of certain communication patterns on group performance. *Journal of Abnormal and Social Psychology*, 46, 38–50.
- Likert, R. (1961). *New patterns of management*. New York: McGraw-Hill.
- Lubart, T. I., & Sternberg, R. J. (1995). An investment approach to creativity: Theory and data. In S. M. Smith, T. B. Ward, & R. A. Finke (Eds.), *The creative cognition approach* (pp. 269–302). Cambridge, MA: MIT Press.
- Mann, R. D. (1959). A review of the relationship between personality and performance in small groups. *Psychological Bulletin*, 56, 241–270.
- Morrow, I. J., & Stern, M. (1990). Stars, adversaries, producers, and phantoms at work: A new leadership typology. In K. E. Clark & M. B. Clark (Eds.), *Measures of leadership* (pp. 419–440). Greensboro, NC: Center for Creative Leadership.
- Mumford, M. D., & Connelly, M. S. (1991). Leaders as creators: Leader performance and problem solving in ill-defined domains. *The Leadership Quarterly*, 2, 289–316.
- Mumford, M. D., Marks, M. A., Connelly, M. S., Zaccaro, S. J., & Reiter-Palmon, R. (2000). Development of leadership skills: Experience and timing. *The Leadership Quarterly*, 11, 87–114.
- Mumford, M. D., Scott, G. M., Gaddis, B., & Strange, J. M. (2002). Leading creative people: Orchestrating expertise and relationships. *The Leadership Quarterly*, 13, 705–750.
- Neisser, U. (1979). The concept of intelligence. *Intelligence*, 3, 217–227.
- Riggio, R. E., Murphy, S. E., & Pirozzolo, F. J. (2002). *Multiple intelligences and leadership*. Mahwah, NJ: Erlbaum.
- Sashkin, M. (2004). Transformational leadership approaches: A review and synthesis. In J. Antonakis, A. Cianciolo, & R. J. Sternberg (Eds.), *The nature of leadership* (pp. 171–196). Thousand Oaks, CA: Sage.
- Shartle, C. L. (1951). Studies of naval leadership, Part I. In H. Guetzkow (Ed.), *Groups, leadership and men: Research in human relations* (pp. 119–133). Pittsburgh, PA: Carnegie Press.

- Simonton, D. K. (1984). *Genius, creativity, and leadership*. Cambridge, MA: Harvard University Press.
- Simonton, D. K. (1988). Creativity, leadership, and chance. In R. J. Sternberg (Ed.), *The nature of creativity: Contemporary psychological perspectives* (pp. 386–426). New York: Cambridge University Press.
- Simonton, D. K. (1994). *Greatness: Who makes history and why?* New York: Guilford Press.
- Sosik, J. J., & Megerian, L. E. (1999). Understanding leader emotional intelligence and performance: The role of self–other agreement on transformational leadership perceptions. *Group & Organization Management, 24*, 367–390.
- Spearman, C. (1927). *The abilities of man*. London: Macmillan.
- Spreitzer, G. M., McCall, M. W., Jr., & Mahoney, J. D. (1997). Early identification of international executive potential. *Journal of Applied Psychology, 82*, 6–29.
- Staudinger, U. M., Smith, J., & Baltes, P. B. (1992). Wisdom-related knowledge in a life review task: Age differences and the role of professional specialization. *Psychology and Aging, 7*, 271–281.
- Sternberg, R. J. (1985). *Beyond IQ: A triarchic theory of human intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (1997). *Successful intelligence*. New York: Plume.
- Sternberg, R. J. (1998a). Abilities are forms of developing expertise. *Educational Researcher, 27*, 11–20.
- Sternberg, R. J. (1998b). A balance theory of wisdom. *Review of General Psychology, 2*, 347–365.
- Sternberg, R. J. (Ed.). (1999a). *Handbook of creativity*. New York: Cambridge University Press.
- Sternberg, R. J. (1999b). Intelligence as developing expertise. *Contemporary Educational Psychology, 24*, 359–375.
- Sternberg, R. J. (1999c). A propulsion model of types of creative contributions. *Review of General Psychology, 3*, 83–100.
- Sternberg, R. J. (1999d). The theory of successful intelligence. *Review of General Psychology, 3*, 292–316.
- Sternberg, R. J. (2000a). Creativity is a decision. In A. L. Costa (Ed.), *Teaching for intelligence II* (pp. 85–106). Arlington Heights, IL: Sky-light Training.
- Sternberg, R. J. (Ed.). (2000b). *Handbook of intelligence*. New York: Cambridge University Press.
- Sternberg, R. J. (2002a). Creativity as a decision. *American Psychologist, 57*, 376.
- Sternberg, R. J. (2002b). Smart people are not stupid, but they sure can be foolish: The imbalance theory of foolishness. In R. J. Sternberg (Ed.), *Why smart people can be so stupid* (pp. 232–242). New Haven: Yale University Press.
- Sternberg, R. J. (2003a). WICS: A model of leadership in organizations. *Academy of Management Learning & Education, 2*, 386–401.
- Sternberg, R. J. (2003b). *Wisdom, intelligence, and creativity synthesized*. New York: Cambridge University Press.
- Sternberg, R. J. (2004). WICS: A model of educational leadership. *The Educational Forum, 68*, 108–114.
- Sternberg, R. J. (in press) The WICS approach to leadership: Stories of leadership and the structures and processes that support them. *The Leadership Quarterly*.
- Sternberg, R. J., & Davidson, J. E. (1983). Insight in the gifted. *Educational Psychologist, 18*, 51–57.
- Sternberg, R. J., Forsythe, G. B., Hedlund, J., Horvath, J., Snook, S., Williams, W. M., et al. (2000). *Practical intelligence in everyday life*. New York: Cambridge University Press.
- Sternberg, R. J., & Grigorenko, E. L. (Eds.). (1997). *Intelligence, heredity, and environment*. New York: Cambridge University Press.
- Sternberg, R. J., & Grigorenko, E. L. (Eds.). (2001). *Environmental effects on cognitive abilities*. Mahwah, NJ: Erlbaum.
- Sternberg, R. J., & Grigorenko, E. L. (Eds.). (2002). *The general factor of intelligence: How general is it?* Mahwah, NJ: Erlbaum.
- Sternberg, R. J., & Hedlund, J. (2002). Practical intelligence, g, and work psychology. *Human Performance, 15*, 143–160.
- Sternberg, R. J., Kaufman, J. C., & Pretz, J. E. (2003). A propulsion model of creative leadership. *The Leadership Quarterly, 14*, 455–473.
- Sternberg, R. J., & Lubart, T. I. (1995). *Defying the crowd: Cultivating creativity in a culture of conformity*. New York: Free Press.
- Sternberg, R. J., & Lubart, T. I. (1996). Investing in creativity. *American Psychologist, 51*, 677–688.
- Sternberg, R. J., & Vroom, V. H. (2002). The person versus the situation in leadership. *The Leadership Quarterly, 13*, 301–323.
- Stogdill, R. M. (1948). Personal factors associated with leadership: A survey of the literature. *Journal of Psychology, 25*, 35–71.
- Stodgill, R. M., & Coons, A. E. (1957). *Leader behavior: Its description and measurement*. Columbus, OH: Ohio State University, Bureau of Business Research.
- Taylor, S. E., Pham, L. B., Rivkin, I. D., & Armor, D. A. (1998). Harnessing the imagination: Mental stimulation, self-regulation, and coping. *American Psychologist, 53*, 429–439.
- Vroom, V. H., & Jago, A. G. (1988). *The new leadership: Managing participation in organizations*. Englewood Cliffs, NJ: Prentice Hall.
- Vroom, V. H., & Jago, A. G. (2007). The role of the situation in leadership. *American Psychologist, 62*, 17–24.
- Vroom, V. H., & Yetton, P. W. (1973). *Leadership and decision making*. Pittsburgh, PA: University of Pittsburgh Press.
- Wechsler, D. (1939). *The measurement of adult intelligence*. Baltimore: Williams & Wilkins.
- Weisberg, R. W. (1993). *Creativity: Beyond the myth of genius*. New York: Freeman.
- Williams, W. M., & Sternberg, R. J. (1988). Group intelligence: Why some groups are better than others. *Intelligence, 12*, 351–377.
- Yukl, G. (1998). *Leadership in organizations* (4th ed.). Upper Saddle River, NJ: Prentice-Hall.
- Zaccaro, S. J. (2007). Trait-based perspectives of leadership. *American Psychologist, 62*, 6–16.
- Zaccaro, S. J., Kemp, C., & Bader, P. (2004). Leader traits and attributes. In J. Antonakis, A. T. Cianciolo, & R. J. Sternberg (Eds.), *The nature of leadership* (pp. 101–124). Thousand Oaks, CA: Sage.