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**THE WICS MODEL OF ORGANIZATIONAL LEADERSHIP**

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Leadership is essential to the successful functioning of virtually any organization. Scholars of leadership attempt to understand what leads to success in leadership.

Successful leaders need to do two things, among others. First, they need to have a story that followers can understand, accept, and, hopefully, support (see also Gardner, 1995). Second, they need to engage in complex processing that results in the creation, implementation, and monitoring of the story (see also Sternberg, 2003). The WICS model of leadership addresses both aspects of the leadership process. This model synthesizes many aspects of previous models. Thus it draws on much that is old, including trait, situational, behavioral, contingency, and transformational models. What do these models have to say about leadership? First, I present WICS. Then I relate it to past theories. Finally, I draw conclusions.

## THE NATURE OF WICS

WICS is an acronym that stands for wisdom, intelligence and creativity, synthesized. The model attempts to show how successful leadership involves the synthesis of the three qualities.

In the center of the model is intelligence, traditionally defined as the ability to adapt to the environment (Cianciolo & Sternberg, 2004). According to the model used here, successful intelligence is one's ability to attain one's goals in life, given one's sociocultural context, by adapting to, shaping, and selecting environments, through a balance of analytical, creative, and practical skills (Sternberg, 1997). Underlying this ability are fundamental executive processes, or "metacomponents" (Sternberg, 1985): recognizing the existence of a problem, defining and redefining the problem, allocating resources to the solution of the problem, representing the problem mentally, formulating a strategy for solving the problem, monitoring the solution of the problem while problem solving is ongoing, and evaluating the solution to the problem after it has been solved. Analytical intelligence is involved when one applies these processes to fairly abstract problems that nevertheless take a relatively familiar form (e.g., intelligence-test items). Creative intelligence is involved when one applies the processes to relatively novel tasks and situations. Practical intelligence is involved when one applies the processes to everyday problems for purposes of adaptation to, shaping, and selection of environments.

The theory of successful intelligence actually involves three subtheories (Sternberg, 1985). The first, componential subtheory, specifies kinds of components—metacomponents (mentioned above), which are used to plan, monitor, and evaluate problem solutions; performance components, used to execute problem solutions; and knowledge-acquisition components, used to learn how to solve the problems in the first place. The components of intelligence, such as the metacomponents described above, are asserted to be universal. They apply anywhere. For example, leaders anywhere have to recognize the existence of problems, define what the problems are, allocate resources to the solution of the problems, and so forth. Analytical intelligence, as noted above, is the application of these components to familiar kinds of abstract problems. The second subtheory, the experiential subtheory, applies to the levels of experience at which the components are executed. Creative intelligence is involved when one applies the components to relatively novel tasks and situations. The third, contextual subtheory, specifies that intelligence can only be fully understood in terms of the contexts in which it is applied. These contexts differ across cultures and subcultures, and hence are not universal, but rather, specific to environments of various kinds. Practical intelligence involves applying the components to experience in diverse contexts. Evidence supports such specificity. We have found, for example, that what is considered intelligent in one culture may not be considered to be intelligent in another (Sternberg, 2004a). Evidence supporting the theory can be found in Sternberg (1985, 1997) and Sternberg, et al. (2000).

Creativity is the ability to formulate and solve problems so as to produce solutions that are relatively novel and high in quality (Sternberg & Lubart, 1995). Creativity involves creative intelligence in the generation of ideas, but it also involves more, in particular, knowledge; a desire to think in novel ways; personality attributes such as tolerance of ambiguity, propensity to sensible risk taking, and willingness to surmount obstacles; intrinsic, task-focused motivation; and an environment that supports creativity (Sternberg & Lubart, 1995). At the base of creativity, again, are the metacomponents. Crucial to creativity are one's creative-intellectual skills in recognizing and finding good problems to solve, and then defining and redefining the problems until they are understood in a way that allows a novel solution. Creative individuals are good problem finders who devote their resources to solving problems that are worth solving in the first place. Intelligent individuals are good problem solvers, but they do not necessarily devote their resources to solving problems that are important to solve. Analytical and practical intelligence, and not just creative intelligence, are important to creativity. Analytical intelligence is used to determine whether one's creative solutions to a problem are good solutions, and practical intelligence is used to implement the solutions and to convince others that one's solutions are, indeed, good ones that they should heed.

Wisdom is the ability to use one's successful intelligence, creativity, and knowledge toward a common good by balancing one's own (intrapersonal) interests, other people's (interpersonal) interests, and larger (extrapersonal) interests, over the short and long terms, through the infusion of values, in order to adapt to, shape, and select environments (Sternberg, 1998b). Thus, wisdom involves both intelligence and creativity, but as they are applied not just to serve one's own ends, but also, the ends of other people and of larger interests as well. At the base of wisdom, as of intelligence and creativity, are the metacomponents. One needs to recognize when problems, such as injustice exist, and to define them in a way that is respectful of multiple points of view (dialogical thinking). One then needs to solve them in ways that take into account the needs of all stakeholders as well as the resources at hand.

Intelligence, wisdom, and creativity build on each other. One can be intelligent without being creative or wise. To be creative, one must be intelligent at some level, using one's creative intelligence to formulate good problems, one's analytical intelligence to ensure that the solutions to the problems are good, and one's practical intelligence to persuade other people of the value of one's creative ideas; but one need not be wise. To be wise, one must be both intelligent and creative, because wisdom draws upon intelligence and creativity in the formulation of solutions to problems that take into account all stakeholder interests over the short and long terms.

WICS holds that the best leaders exhibit all three qualities of intelligence, creativity, and wisdom. It also holds that these skills can be developed. Now consider each of creativity, successful intelligence, and wisdom in more detail. They are presented in this order because usually, generation of ideas comes first, then analysis of whether they are good ideas, and then, ideally, application of the ideas in a way to achieve a common good.

## **WICS: WISDOM, INTELLIGENCE AND CREATIVITY, SYNTHESIZED**

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

One is not born a leader. In the framework of WICS, one can speak of traits of leadership (Zaccaro, Kemp & Bader, 2004), but properly, they should be viewed as flexible and dynamic rather than as rigid and static. Wisdom, intelligence and creativity are, to some extent, modifiable forms of developing expertise (Sternberg, 1998a, 1999a) that one can decide to use or not in leadership decisions. The environment strongly influences the extent to which we are able to use and develop whatever genetic potentials we have (Grigorenko & Sternberg, 2001; Sternberg & Grigorenko, 1997, 2001). But poor leadership depends less on failed genetic potentials than on poor decisions. People with substantial innate potential may fail to take much advantage of this potential. Others with lesser potential may decide to take advantage of it.

**“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.”**

Leadership involves both skills and dispositions (i.e., attitudes). The skills are developing expertise based on how well you can execute certain functions of leadership. The dispositions are developing expertise based on how you think about these functions. 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. The discussion will 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 to the task at hand. Creativity is important for leadership because 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.

The discussion of creativity is divided into two parts. The first part deals with processes of creativity. The second part deals with some of the contents to which these processes are applied, namely, stories of leadership.

### Processes of Creativity

#### *Leadership as a Confluence of Skills and Dispositions*

A confluence model of creativity (Sternberg & Lubart, 1995, 1996) suggests that creative people show a variety of characteristics. These characteristics represent not innate abilities, but rather, largely, 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. The elements of a creative attitude are characterized in Table 1.

**TABLE 1** CREATIVE SKILLS AND ATTITUDES UNDERLYING SUCCESSFUL LEADERSHIP

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<b>Problem redefinition</b>
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 importantly, they are willing to defy the crowd in defining a problem differently from the way others do (Sternberg, 2002a; Sternberg & Lubart, 1995).
<b>Problem analysis</b>
They are willing to analyze whether their solution to the problem is the best one possible.
<b>Selling solutions</b>
They realize that creative ideas do not sell themselves; rather, creators have to decide to sell their ideas, and then decide to put in the effort to do so. Recognizing how knowledge can both help and hinder creative thinking. They realize that knowledge can hinder as well as facilitate creative thinking (see also 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.
<b>Willingness to take sensible risks</b>
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 (Lubart & Sternberg 1995).
<b>Willingness to surmount obstacles</b>
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).
<b>Belief in one's ability to accomplish the task at hand.</b>
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.
<b>Willingness to tolerate ambiguity</b>
The leaders recognize that there may be long periods of uncertainty during which they cannot be certain they are doing the right thing or that what they are doing will have the outcome they hope for.
<b>Willingness to find extrinsic rewards for the things one is intrinsically motivated to do</b>
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.
<b>Continuing to grow intellectually rather than to stagnate</b>
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.

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### **Types of Creative Leadership**

Creative leadership can be of different types (Sternberg, 1999b; Sternberg, Kaufman & Pretz, 2003). Some of these types accept current ways of doing things, others do not; and still another attempts to integrate different current practices. Which types are more acceptable depends upon the interaction of the leader with the situation. The types of creative leadership are characterized in Table 2.

**TABLE 2** TYPES OF CREATIVE LEADERSHIP

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**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.

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**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 the others' ideas, or say they do.

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**Forward incrementation**

This type of leadership is an attempt to lead a field or an organization forward in the direction it already is going. The leader specializes to forward motion. 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 probably 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.

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**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 usually are not successful at the time they are attempted, because 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 which case they form an organized and sometimes successful source of resistance.

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**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. Redirective leaders need to match to 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.

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**Reconstruction/redirection**

This type of creative leadership is an attempt to move a field or 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 from that point onward.

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**Reinitiation**

This type of leadership is an attempt to move a field, organization, or product line to a different as yet unreached starting point and then to move from that point. The leaders takes followers from a new starting point in a direction that is different from that the field, organization, or product line previously has pursued.

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**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, but rather, a merger of them.

## Contents of Creativity: Stories

Leaders generate stories that appeal in various degrees to their followers. These stories, like stories of love (Sternberg, 1998c), attract followers in various degrees. In unsuccessful leaders, they leave followers indifferent, or even repulsed, as in stories of hate (see Sternberg, 2003a). Whether a story works or not, therefore, is a contingency dependent upon the leader, the followers, and the situation (Ayman, 2004).

## Characteristics of Stories

### *Gardner's View of Leadership Stories*

Gardner (1995) has suggested that successful leaders have a story to tell and a message to convey. The leader must have a story to tell or some kind of message to convey. The story tends to be more effective to the extent that it appeals to what Gardner (1991) refers to as the “unschooled mind,” that is, a mind that, in terms of modern cognitive theory, is more experiential than rational in its thinking (Sloman, 1996). Stories need to address both individuals’ own identities and those of the group or groups to which they belong. A story is more likely to succeed if it is central to what the leader actually does in his or her action, if the story can be unfolded over a long period of time, and if it can be stated in a time of relative calm. In times of crisis, according to Gardner, stories need to be simplified.

Stories may be inclusionary or exclusionary. Inclusionary leaders try to ensure that all of the followers for whom they are responsible somehow are made to feel inside the fold. Exclusionary leaders do not include everyone and in extreme cases, such as Hitler or Stalin, they reject and even turn against segments of the population whom they are entrusted to lead.

The story must reach an audience. Gardner (1995) points out that no matter what the story, if there is no audience for it, it is dead. So a leader needs a story to which his or her audience will respond. The leader needs to take into account the experiential mode of thinking of the audience, and the kinds of changes in points of view to which the audience is likely to be responsive. The leader must also have an organizational structure within which to work. Further, he or she needs in some way to embody the story he or she has to tell. If the leader fails to do so, then that leader’s leadership may come to be seen as bankrupt. For example, cover-ups by Richard Nixon and Bill Clinton seriously undermined their leadership, because they came to be seen as leaders who held others to one standard, and themselves to another. Many people recently have lost faith in certain church leaders who held their flocks to a standard of morality that they themselves flagrantly violated by abusing children or covering up such abuse. One cannot lead effectively if one asks people to do as one says, not as one does.

Gardner (2004) has further suggested that a good story overcomes resistances. Leaders must expect groups of followers to resist some of the leaders’ ideas. It is the leaders’ responsibility to devise ways to overcome these resistances. Good stories also involve representational redescription. Ideas can be expressed in many ways. The more different ways in which a leader’s ideas can be expressed, and the more compelling these ways are, the more likely the leader is to persuade followers to come along. A good story also embodies resonance. At a given time and in a given place, certain ideas will resonate with followers, others will not. Establishing resonance can go a long way toward persuading people to listen. Finally, the story will be more effective to the extent it incorporates real-world events. Followers need to see how the leader’s ideas relate to the day-to-day lives of the followers.

## Sternberg's Characterization of Stable Story Elements

Stories have certain stable elements (Sternberg, 1995, 1998c; Sternberg, Hojjat & Barnes, 2001). First, they have beginnings, middles, and ends. In this way, they are like scripts (Schank & Abelson, 1977). Sometimes, leaders start with a story that works well in the beginning and discover that the end does not work. They either change stories, or they lose the support of their followers. Indeed, stories are constantly being rewritten in order to suit the needs of the leader-follower unit. For example, the story of the war in Iraq changed multiple times in 2004 in order to accommodate emerging facts and the perceived needs of followers. Some individuals found it distressing that many people little cared about the changes in the stories. They cared more about having a story with resonance than one that was necessarily true in any meaningful sense.

Stories also have plots, themes, and characters. For example, a common story now for political leaders is the warrior chieftain who will fight terrorists. The plot is the battle against terrorists. Themes give stories meaning. They help people understand why the story is important and what script it will follow. One theme is that the leader must constantly prepare his followers to combat the terrorists; another is that followers must give up some of their liberty to enable the leader to fight the terrorists in an effective way. Vladimir Putin, for example, announced in September, 2004, a major reorganization of the Russian government to enable effective mobilization against terrorists. The reorganization concentrated more power in his hands. The characters in the battle are the terrorists, the victims, the warriors who oppose the terrorists, and the audience that watches what is happening,

Perceptions of leaders are filtered through stories. The reality may be quite different from the stories. For example, Stalin was responsible for the deaths of many millions of Soviet and other citizens. Yet when he died, there was a great deal of sadness among many citizens of the USSR. For many years, Stalin was idolized, despite his responsibility for so many deaths. Even today, many people still idolize Hitler. People see the leaders only through their stories, not through any objective reality. The stories may be based in part on objective reality, but the part may be fairly small.

It is important to realize that stories are social constructions. Different people and different groups may interpret the same events in different ways. Leadership is the attempt to capture the minds of the people to accept one's version of events. In presidential campaigns, such as that of 2004 between Bush and Kerry, much of the campaign is devoted to the fight for the storyline that people will accept. For example, was the war in Iraq a war against international terrorists or against a bad regime unconnected with the terrorists? The candidates took opposite positions, each trying to persuade listeners to believe their story. Of course, there is a truth underlying the battle: The regime either was or was not connected to international terrorists. For better or worse, truth plays a minor role in persuading people one way or another. Strong emotions, such as fear, rage, joy, and sorrow, probably play much more powerful roles.

Stories are hierarchically arranged so that people have multiple stories they can accept at a given time. The challenge of the leader is to create a story that is higher in people's hierarchies rather than lower. Moreover, the leader in a competition may try to undermine the story or stories of his or her competitors, trying to show that the story he or she proposes is the one that followers should accept. Again, truth may play a relatively small role in what stories people accept. Rather, their emotional needs are likely to be key. Effective leaders know this, and pitch their stories to resonate with people's emotions.

Stories can become self-fulfilling prophecies. For example, the governments of both the United States and Russia have a history of acting aggressively toward nations or interest groups that displease them. In



Chechnya, the Russian government has acted in very harsh ways to suppress rebellions. The harshness of the actions creates resistance, which in turn creates more harshness, and so forth. The same dynamic has played out in the Israeli-Palestinian conflict. When people have stories, they act in ways to make them come true, and often they do.

Stories always have two principal roles. One is for the leader, the other for followers. Some of the stories are more symmetrical, others less so. For example, a democratic leader expects a great deal of participation from followers in setting and determining policies. An autocratic leader expects little or no participation. Leaders and followers clearly differ in the level of symmetry with which they are comfortable. For example, Russia has a history of less symmetry; and when more symmetry was introduced, the system as implemented under Boris Yeltsin was not particularly successful. Today, Vladimir Putin is moving back toward a more asymmetrical system.

### Classification of Stories

Christopher Rate, a graduate student at Yale, and I are working to create and test a taxonomy of stories. Our main hypothesis is that leaders will succeed differentially well, depending in large part on the extent of match between the stories of the leaders and the followers. Some tentative examples of stories we are exploring are characterized in Table 3.

**TABLE 3** STORIES OF LEADERSHIP

<b>The carpenter</b>	The leader who can build a new organization or society
<b>The CEO</b>	The leader who can “get things done”
<b>The communicator</b>	The leader who can communicate with diverse followers
<b>The conqueror</b>	The leader who is going to conquer all enemies
<b>The conserver</b>	The leader who will make sure things stay the wonderful way they are
<b>The cook</b>	The leader who has the recipe to improve the life of his or her followers
<b>The deep thinker</b>	The leader who will make sense out of what is going on
<b>The defender</b>	The leader who will save all followers from harm
<b>The deity</b>	The leader who presents him or herself as savior
<b>The diplomat</b>	The leader who can get everyone to work together
<b>The doctor</b>	The leader who can cure what is wrong with the organization
<b>The ethicist</b>	The leader who pledges to clean up the place
<b>The lifesaver</b>	The leader who will rescue followers from otherwise certain death
<b>The organizer</b>	The leaders who can creating order out of chaos
<b>The plumber</b>	The leader who can fix all the leaks
<b>The politician</b>	The leader who understands how “the system” works
<b>The replicator</b>	The leader who is going to be like some past individual
<b>The scout</b>	The leader who can lead followers to new and uncharted territory
<b>The ship captain</b>	The captain of a ship navigating through turbulent times
<b>The turn-around specialist</b>	The leader who can turn around a failing organization
<b>The warrior chieftain</b>	The leader who will lead followers to fight, defensively or offensively, enemies, seen or unseen

In terms of the model of types of creativity described above, the kinds of leaders vary widely. Replicators and conservers pretty much leave existing paradigms as they are. Doctors change things that are wrong. Turn-around specialists make major changes in the organization they lead. They are redirectors or reinitiators.

### Success or Failure of Stories

Leaders succeed to the extent that they (a) have a story that fits their followers' needs, (b) communicate that story in a compelling way, (c) implement the story in a way that suggests it is succeeding (given that there may be a difference between the perception and the reality), and (d) persuade followers, in the end, that the story accomplished what it was supposed to have accomplished. Leaders fail to the extent that they (a) have a story that fails to fit their followers' needs, (b) fail in communicating their story, (c) fail in implementing the story, (d) fail in persuading followers that they have accomplished what they promised, (e) fail to have any coherent story at all, (f) seem to move from story to story without convincing followers that there is a need to change stories, or (g) allow a story of successful leadership to be replaced with a story of personal failings. For example, the leader may come to be viewed as in power not to lead, but to maintain power at all costs, to enrich him- or herself personally, to increase his or her power to the maximum extent possible, or to harm groups not obeying him or her. In these cases, stories of leadership come to be replaced with stories of personal failings. Joseph Stalin, Adolph Hitler and many other leaders eventually lost the mantle of leadership as a result of such personal failings.

In the 2004 U.S. presidential election, for example, John Kerry's campaign floundered over the summer. Why? First, it was not clear what his story was. Or if he had a clearly defined story, he failed adequately to convey it. Second, he did not persuade people that he would be able to implement a story, if he had one. Third, he allowed Bush to define the story to which people paid attention, namely, one of a leader who would be a defender and even as a warrior in the face of threats of terrorism. Fourth, he allowed the Bush campaign to portray him as a "flip-flopper," that is, someone who kept changing stories in the hope of finding one that worked.

Leaders need to be creative in inventing their stories, analytically intelligent in addressing the strengths and weaknesses of their stories, practically intelligent in implementing the stories and persuading followers to listen to them, and wise in generating and instantiating stories that are for the common good. They may fail if they lack creativity, intelligence, or wisdom, and especially if they foolishly succumb to the fallacies described earlier (such as egocentrism), which can divert them from a successful leadership story to a story of failed leadership.

Stories fit into a contingency-based notion of leadership. There is no one story that works for all organizations in all times or all places. Rather, success of a story fits into the situation at a given time and place. When Tolstoy speculated, in *Anna Karenina*, that if it had not been Napoleon, it would have been someone else fitting that particular situation, he was partially right. The situation demanded a certain kind of story. But it was not certain that anyone would come along who could tell that story in a compelling way and convince people to listen to him or her.

### (SUCCESSFUL) INTELLIGENCE

Intelligence would seem to be important to leadership, but how important? Indeed, 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 (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)—but rather, in terms of the theory of successful intelligence (Sternberg, 1997, 1999c, 2002b). Successful intelligence is defined in part as the skills and dispositions needed to succeed in life, given one’s own conception of success, within one’s sociocultural environment (Sternberg, 1997). Two particular aspects of the theory are especially relevant: academic and practical intelligence (see also Neisser, 1979).

**“ Leaders often fail not because they are not smart enough, but because they choose not to use the intelligence they have.”**

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 act inappropriately 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 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 recall and recognize but also to analyze, evaluate, and judge information.

These skills and dispositions matter for leadership, because 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.

The long-time primary emphasis on academic intelligence (IQ) in the literature relating intelligence to leadership perhaps has been unfortunate. Indeed, as mentioned above, recent theorists 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. Here the emphasis is on practical intelligence (Hedlund, et al., 2003; Sternberg, et al., 2000; Sternberg & Hedlund, 2002), which has a somewhat different focus from emotional intelligence. Practical intelligence is a part of successful intelligence. Practical intelligence is a core component of leadership, and thus will receive special attention here.

### **Practical Intelligence**

Practical intelligence is the set of skills and dispositions to solve everyday problems by utilizing knowledge gained from experience in order purposefully to 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.

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 it 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 may be 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, leaders exist 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.

For three levels of military leadership, tacit knowledge scores were not found to correlate with the number of months leaders had served in their current positions (Hedlund, et al., 2003), presumably because successful leaders spent less time in a job before being promoted than did less successful leaders. Subsequent research, however, found that *tacit knowledge* scores did correlate with leadership rank such that leaders at higher levels of command exhibited greater tacit knowledge than did those at lower ranks (Hedlund, et al., 2003).

## WISDOM

A leader can have all of the above skills and dispositions and still lack an additional quality that, arguably, is the most important quality a leader can have, but perhaps, also the rarest. This additional quality is wisdom. Wisdom is viewed here according to a proposed balance theory of wisdom (Sternberg, 1998b, 2003b), according to which an individual is wise to the extent he or she uses successful intelligence, creativity, and knowledge as moderated by values to (a) seek to reach a common good, (b) by balancing intrapersonal (one's own), interpersonal (others'), and extrapersonal (organizational/institutional/spiritual) interests, (c) over the short and long term, to (d) adapt to, shape, and select environments. Wisdom is in large part a decision to use one's intelligence, creativity, and experience for a common good.

Wise leaders do not look out just for their own interests, nor do they ignore these interests. Rather, they skillfully balance interests of varying kinds, including their own, 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, in their respective cover-ups, not only failed to fulfill the interests of the country they led, but also failed to fulfill their own interests. Their cover-ups ended up bogging down their administrations in scandals rather than allowing them to make the positive accomplishments they had hoped to make. 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, 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.

Leaders can be intelligent in various ways and creative in various ways; it does not guarantee they are wise. Indeed, probably relatively few leaders at any level are particularly wise. Yet the few leaders who are notably so—perhaps Nelson Mandela, Martin Luther King, Mahatma Gandhi, Winston Churchill, Mother Teresa—leave an indelible mark on the people they lead and, potentially, on history. It is important to note that wise leaders are probably usually charismatic, but charismatic leaders are not necessarily wise, as Hitler, Stalin, and many other charismatic leaders have demonstrated over the course of time.

Unsuccessful leaders often show certain stereotyped fallacies in their thinking. Consider five 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, *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, *omniscience fallacy*, occurs when leaders think that they know everything, and lose sight of the limitations of their own knowledge. The fourth, *omnipotence fallacy*, occurs when leaders think they are all-powerful and can do whatever they want. And the fifth, *invulnerability fallacy*, occurs when leaders think they can get away with anything, because they are too clever to be caught; and even if they are caught, they figure that they can get away with what they have done because of who they imagine themselves to be.

In sum, WICS provides a way of understanding leadership as a set of cognitive-decision processes embodying wisdom, intelligence, and creativity. One uses creativity to generate ideas, intelligence to analyze and implement the ideas, and wisdom to ensure that they represent a good common good.

## **RELATION OF WICS TO PAST MODELS OF LEADERSHIP AND TO DATA TESTING ANTECEDENTS OF LEADERSHIP**

The WICS model is of course related to many other models. It incorporates elements of transformational as well as transactional leadership (Bass, 1998; Bass & Avolio, 1994; Bass, Avolio & Atwater, 1996), emotionally intelligent leadership (Goleman, 1998), visionary leadership (Sashkin, 1988, 2004), and charismatic leadership (Conger & Kanungo, 1998; Weber, 1968). Eventually a model of leadership will appear that integrates all the strengths of these various models. In the meantime, the WICS model seems like a start.

Antonakis, Cianciolo & Sternberg (2004a) have identified several different schools of leadership, providing a taxonomy similar to taxonomies provided by others (see Antonakis, Cianciolo & Sternberg, 2004b; Goethals, Sorenson & Burns, 2004). Here, I discuss different approaches and how they are related to WICS. Leadership is a complex interlocking of many antecedent skills, attitudes, and situational variables (Hunt, 2004). What WICS provides is a framework that integrates many of the models that have come earlier, but that individually have included only some of these interlocking skills, attitudes, and situational variables.

### **The Trait-Based Approach**

A traditional approach is the trait-based approach (Bird, 1940; Mann, 1959; Stogdill, 1948; Zaccaro, Kemp & Bader, 2004). This approach seeks to find those attributes of persons that are associated with leadership success. WICS also seeks to find such attributes, although in WICS, attributes are viewed as more highly modifiable than they are in traditional trait theories.

WICS argues that there is a relation between intelligence and leadership effectiveness. There does indeed seem to be a moderate correlation between intelligence and leadership effectiveness (Stogdill, 1948; see also Morrow & Stern, 1990; Spreitzer, McCall & Mahony, 1997; essays in Riggio, Murphy & Pirozzolo, 2002). This positive correlation appears both in laboratory and field studies, and appears to be robust (Zaccaro, Kemp & Bader, 2004).

WICS also claims that creative intelligence and creativity are related to intelligence. Research shows that an aspect of creative intelligence and of creativity, divergent thinking, is indeed positively correlated with leadership success (Baehr, 1992; Mumford & Connelly, 1991; Mumford, Scott, Gaddis & Strange, 2002).

Research also 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 that aspect of practical interactions that are emotionally laden. Research suggests that emotional intelligence also appears to be a positive predictor of leadership (Caruso, Mayer & Salovey, 2002; Goleman, Boyatzis & McKee, 2002; Sosik & Megerian, 1999; see also Zaccaro, et al., 2004).

Other theories of leadership overlap with the trait-based aspects of WICS. 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/tacit knowledge. Cognitive abilities overlap highly with what I have referred to as successful intelligence. 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.

### The Behavioral Approach

The behavioral approach fits into the tradition of B. F. Skinner and his behaviorist progenitors (Bales, 1954; Goethals, Sorenson & Burns, 2004). Skinner, a radical behaviorist, believed that virtually all forms of human behavior, not just learning, could be explained by behavior emitted in reaction to the environment. Skinner rejected mental mechanisms. He believed instead that *operant conditioning*—involving the strengthening or weakening of behavior, contingent on the presence or absence of reinforcement (rewards) or punishments—could explain all forms of human behavior. Skinner applied his experimental analysis of behavior to many psychological phenomena, such as learning, language acquisition, and problem solving. Largely because of Skinner’s towering presence, behaviorism dominated the discipline of psychology for several decades.

Behavioral theories are associated with mid-twentieth-century approaches at the University of Michigan and Ohio State University (e.g., Lewin, Lippitt & White, 1939; Lippitt, 1938). 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 be either high or low in initiating structure and in showing consideration (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 also emphasizes not just the behaviors, but also the cognitions underlying and producing the behaviors.

A related view has been proposed by McGregor (1957). He suggested two “theories” of leadership, which he referred to as X and Y. Theory X assumes that people inherently dislike work and that nothing will much change that fact. Hence leaders must act very task and production oriented, because otherwise employees will take advantage of them and work as little as possible. Theory Y assumes that people can enjoy work and feel affirmed by work if they are treated well. Hence this theory emphasizes good treatment of employees and showing trust and respect for them and their work. WICS takes a somewhat different view, namely, that there are individual differences whereby for some workers, Theory X is true, and for others, Theory Y is true. A practically intelligent leader adjusts his or her behavior to take into account different needs of individual employees. The wise leader ensures that, in doing so, the interests of all stakeholders are respected.

**“WICS also emphasizes not just the behaviors, but also the cognitions underlying and producing the behaviors.”**

### **Situational Approaches to Leadership**

Social psychology tends to emphasize the importance of situational variables in behavior. For example, two of the most famous studies of all time, Milgram (1974) and Zimbardo (1972), are famous precisely because they show the power of situations, in the case of Milgram, in inciting obedience, and in the case of Zimbardo, in inciting guard-like or prisoner-like behavior in a prison simulation. Situational approaches to leadership similarly emphasize the importance of situations in leadership (Ayman, 2004).

The situational view is reflected in the philosophy of Leo Tolstoy (1865), who wrote in *War and Peace*: “In historical events great men—so-called—are but labels serving to give a name to the event, and like labels they have the least possible connection with the event itself. Every action of theirs, that seems to them an act of their own free will, is in an historical sense not free at all, but in bondage to the whole course of previous history, and predestined from all eternity.”

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 or may not be considered to be intelligent in another (Sternberg, 2004a). Second, one of the six facets of our investment model of creativity (Sternberg & Lubart, 1995) is the situation: People can be creative only to the extent 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, resulting 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. But note that situations matter only in interaction with the person, as proposed by contingency theories.

### **Contingency Approaches to Leadership**

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, 1978; Vroom & Yetton, 1973; Yukl, 1994). There is some evidence that when a leader’s cognitive skills are substantially higher than those of his or her followers, 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 constraints under which they are operating, the state of the organization at the time, and so on.

### Transformational Leadership Approaches

Transformational approaches to leadership can be seen as originating in the work of Burns (1978), although it has been greatly developed since then (Bass, 1985, 1998, 2002; Bass & Avolio, 1994, 1995; Bass, Avolio & Atwater, 1996; Sashkin, 2004). Burns suggested that there are essentially two ways of performing leadership functions. In the first, there is an implicit or explicit contractual relationship between the leader and his or her followers. This type of leadership, which has come to be called *transactional leadership*, is characterized by followers agreeing to do certain stipulated things in exchange for the leader (usually a boss) doing others. A second and more powerful kind of *transformational leadership* tries to gain converts to ideas. In WICS, transactional leaders basically 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.

## CONCLUSION

There probably is no model of leadership that will totally capture all of the many facts—both internal and external to the individual—that make for a successful leader. The WICS model may come closer to some models, however, in capturing dimensions that are important. It is based upon the notion that a successful leader decides to synthesize wisdom, intelligence, and creativity.

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 may end up implementing ideas that are contrary to the best interests of the people he or she leads.

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Correspondence regarding the paper should be sent to Robert J. Sternberg, PACE Center, Yale University, Box 208358, New Haven, CT 06520-8358. E-mail: Robert.Sternberg@yale.edu. My work on intelligence has been collaborative with many people over the years. My work on practical intelligence has particularly relied on the contributions of Anna Cianciolo, Elena Grigorenko, Jennifer Hedlund, Joseph Horvath, Cynthia Matthew, Richard Wagner and Wendy Williams. My work on creativity has also depended on the contributions of many people, especially Elena Grigorenko, James Kaufman, Todd Lubart and Jean Pretz. My work on stories of leadership is being done in collaboration with Christopher Rate.

## REFERENCES

- Amabile, T.M. 1983. *The Social psychology of creativity*. New York: Springer.
- \_\_\_\_\_. 1996. *Creativity in context*. Boulder, CO: Westview.
- Antonakis, J., Cianciolo, A.T. & Sternberg, R.J. 2004a. Leadership: Past, present, and future. In J. Antonakis, A.T. Cianciolo & R.J. Sternberg (Eds.), *The Nature of leadership*, 3-15. Thousand Oaks, CA: Sage.
- \_\_\_\_\_. (Eds.). 2004b. *The Nature of leadership*. Thousand Oaks, CA: Sage Publications.
- Ayman, R. 2004. Situational and contingency approaches to leadership. In J. Antonakis, A. Cianciolo & R.J. Sternberg (Eds.), *The Nature of leadership*, 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.
- Bales, R.F. 1954. *Interaction process analysis: A Method for the study of small groups*. Cambridge, MA: Addison-Wesley.
- Bandura, A. 1996. *Self-efficacy: The Exercise of control*. New York: Freeman.
- Bass, B.M. 1985. *Leadership and performance beyond expectations*. New York: Free Press.
- \_\_\_\_\_. 1998. *Transformational leadership: Industrial, military and educational impact*. Mahwah, NJ: Erlbaum.
- \_\_\_\_\_. 2002. Cognitive, social and emotional intelligence of transformational leaders. In R. E. Riggio, S.E. Murphy & F.J. Pirozzolo (Eds.), *Multiple intelligences and leadership*, 105-118. Mahwah, NJ: Erlbaum.
- Bass, B.M. & Avolio, B.J. (Eds.) 1994. *Improving organizational effectiveness through transformational leadership*. Thousand Oaks, CA: Sage.
- \_\_\_\_\_. 1995. *MLQ multifactor leadership questionnaire for research: Permisson set*. Redwood City, CA: Mindgarden.
- 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. *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: Gulf Publishing Company.
- 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 (Ed.), *Multiple Intelligences and Leadership*. Mahwah, NJ: Erlbaum.

- Cianciolo, A.T. & Sternberg, R.J. 2004. *A Brief history of intelligence*. Malden, MA: Blackwell.
- Conger, J.A. & Kanungo, R.N. 1998. *Charismatic leadership in organizations*. Thousand Oaks, CA: Sage.
- Demetriou, A. 2002. Tracing psychology's invisible giant and its visible guards. In R.J. Sternberg & E.L. Grigorenko (Eds.), *The General factor of intelligence: How general is it?* 3-18. Mahwah, NJ: Erlbaum.
- Fiedler, F.E. 1978. The Contingency model and the dynamics of the leadership process. In L. Berkowitz (Ed.), *Advances in experimental social psychology* 11, 59-112. New York: Academic Press.
- \_\_\_\_\_. 2002. The Curious role of cognitive resources in leadership. In R.E. Riggio, S.E. Murphy & F.J. Pirozzolo, *Multiple intelligences and leadership*, 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*, 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*, 5, 157-188. Hillsdale, NJ: Erlbaum.
- Gardner, H. 1991. *The Unschooled mind*. New York: Basic Books.
- \_\_\_\_\_. 1993. *Creating minds*. New York: Basic Books.
- \_\_\_\_\_. 1995. *Leading minds*. New York: Basic Books.
- \_\_\_\_\_. 1999. *Intelligence reframed: Multiple intelligences for the 21st century*. New York: Basic Books.
- \_\_\_\_\_. 2004. *Changing Minds: The Art and science of changing our own and other people's minds*. Boston, MA: Harvard Business School Press.
- Goethals, G.R., Sorenson, G.J. & Burns, J.M. (Eds.) 2004. *Encyclopedia of leadership*, Vols. 1-4. Thousand Oaks, CA: Sage.
- Goleman, D. 1998a. *Working with emotional intelligence*. New York: Bantam.
- \_\_\_\_\_. 1998b. What makes a good leader? *Harvard Business Review*, November-December, 93-102.
- 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.
- 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. *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, 321-338.
- \_\_\_\_\_. 1996. Path-goal theory of leadership: Lessons, legacy, and a reformulated theory. *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.

- Hunt, J.G. 2004. What is leadership? In J. Antonakis, A.T. Cianciolo & R.J. Sternberg (Eds.), *The Nature of leadership*, 19-47. Thousand Oaks, CA: Sage.
- Jensen, A.R. 1998. *The g factor: The Science of mental ability*. Westport, CT: Praeger/Greenwood.
- \_\_\_\_\_. 2002. Psychometric g: Definition and substantiation. In R.J. Sternberg & E.L. Grigorenko (Eds.), *General factor of intelligence: How general is it?* 39-54. Mahwah, NJ: Erlbaum.
- Kaufman, A.S. 2000. Tests of intelligence. In R.J. Sternberg (Ed.), *Handbook of intelligence*, 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.
- Lewin, K. & Lippitt, R. 1938. An Experimental approach to the study of autocracy and democracy: A Preliminary note. *Sociometry*, 1, 292-300.
- Lewin, K., Lippitt, R. & White, R.K. 1939. Patterns of aggressive behavior in experimentally created social climates. *Journal of Social Psychology*, 10, 271-299.
- 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*, 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.
- McGregor, D. 1957, November. The Human side of enterprise. *Management Review*, 46(11), 22-28, 88-92.
- Milgram, S. 1974. *Obedience to authority: An Experimental view*. New York: Harper & Row.
- 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*, 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. *Leadership Quarterly*, 2, 289-316.
- Mumford, M.D., Scott, G.M., Gaddis, B. & Strange, J.M. 2002. Leading creative people: Orchestrating expertise and relationships. *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. 1988. The Visionary leader. In J.A. Conger & R.N. Kanungo (Eds.), *Charismatic leadership: The Elusive factor in organizational effectiveness*, 122-160. San Francisco: Jossey-Bass.
- \_\_\_\_\_. 2004. Transformational leadership approaches: A Review and synthesis. In J. Antonakis, A. Cianciolo & R.J. Sternberg (Eds.), *The Nature of leadership*, 171-196. Thousand Oaks, CA: Sage.
- Schank, R.C. & Abelson, R.P. 1977. *Scripts, plans, goals and understanding*. Hillsdale, NJ: Erlbaum.
- Shartle, C.L. 1951. Studies of naval leadership, Part I. In H. Guetzkow (Ed.), *Group, leadership and men*, 119-133. Pittsburgh, PA: Carnegie Press.
- Simonton, D.K. 1994. *Greatness: Who makes history and why?* New York: Guilford.
- Slovan, S.A. 1996. The empirical case for two systems of reasoning. *Psychological Bulletin*, 119, 3-22.

- 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, Jr., M.W. & Mahoney, J.D. 1997. Early identification of international executive potential. *Journal of Applied Psychology*, 82, 6-29.
- Sternberg, R.J. 1985. *Beyond IQ: A Triarchic theory of human intelligence*. New York: Cambridge University Press.
- \_\_\_\_\_. 1995. Love as a story. *Journal of Social and Personal Relationships*, 12(4), 541-546.
- \_\_\_\_\_. 1997. *Successful intelligence*. New York: Plume.
- \_\_\_\_\_. 1998a. Abilities are forms of developing expertise. *Educational Researcher*, 27, 11-20.
- \_\_\_\_\_. 1998b. A Balance theory of wisdom. *Review of General Psychology*, 2, 347-365
- \_\_\_\_\_. 1998c. *Love is a story*. New York: Oxford University Press.
- \_\_\_\_\_. 1999a. Intelligence as developing expertise. *Contemporary Educational Psychology*, 24, 359-375.
- \_\_\_\_\_. 1999b. A Propulsion model of types of creative contributions. *Review of General Psychology*, 3, 83-100.
- \_\_\_\_\_. 1999c. The Theory of successful intelligence. *Review of General Psychology*, 3, 292-316.
- \_\_\_\_\_. 2000a. Creativity is a decision. In A.L. Costa (Ed.), *Teaching for intelligence II*, 85-106. Arlington Heights, IL: Skylight Training and Publishing Inc.
- \_\_\_\_\_. (Ed.). 2000b. *Handbook of intelligence*. New York: Cambridge University Press.
- \_\_\_\_\_. 2002a. Creativity as a decision. *American Psychologist*, 57(5), 376.
- \_\_\_\_\_. 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*, 232-242. New Haven: Yale University Press.
- \_\_\_\_\_. 2003a. A Duplex theory of hate: Development and application to terrorism, massacres, and genocide. *Review of General Psychology*, 7(3), 299-328.
- \_\_\_\_\_. 2003b. WICS: A Model for leadership in organizations. *Academy of Management Learning & Education*, 2, 386-401.
- \_\_\_\_\_. 2004a. Culture and intelligence. *American Psychologist*, 59(5), 325-338.
- \_\_\_\_\_. 2004b. WICS: A Model of educational leadership. *The Educational Forum*, 68(2), 108-114.
- Sternberg, R.J., Forsythe, G.B., Hedlund, J., Horvath, J., Snook, S., Williams, W.M., Wagner, R.K. & Grigorenko, E.L. 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.
- \_\_\_\_\_. 2001. *Environmental effects on cognitive abilities*. Mahwah, NJ: Erlbaum.
- \_\_\_\_\_. 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(1/2), 143-160.
- Sternberg, R.J., Hojjat, M. & Barnes, M.L. 2001. Empirical aspects of a theory of love as a story. *European Journal of Personality*, 15, 1-20.

- Sternberg, R.J., Kaufman, J.C. & Pretz, J.E. 2003. A Propulsion model of creative leadership. *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.
- \_\_\_\_\_. 1996. Investing in creativity. *American Psychologist*, 51(7), 677-688.
- Sternberg, R.J. & Vroom, V.H. 2002. The Person versus the situation in leadership. *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.
- Stogdill, R.M. & Coons, A.E. (Eds.). 1957. *Leader behavior: Its description and measurement* (Research Monograph Number 88). Columbus, Ohio: Bureau of Business Research, Ohio State University.
- Tolstoy, L. 1865/1994. *War and peace*. New York: Modern Library.
- Vroom, V.H. & Jago, A.G. 1998. Situation effects and levels of analysis in the study of leaders participation. In F. Yammarino & F. Dansereau (Eds.), *Leadership: The multi-level approaches*, 145-159. New York: JAI.
- Vroom, V.H. & Yetton, P.W. 1973. *Leadership and decision making*. Pittsburgh, PA: University of Pittsburgh Press.
- Weber, M. 1968. *Max Weber on charisma and institutional building* (S. N. Eisenstadt, Ed.). Chicago: University of Chicago Press.
- Wechsler, D. 1939. *The Measurement of adult intelligence*. Baltimore: Williams & Wilkins.
- 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., Kemp, C. & Bader, P. 2004. Leader traits and attributes. In J. Antonakis, A.T. Cianciolo & R.J. Sternberg (Eds.), *The Nature of leadership*, 101–124. Thousand Oaks, CA: Sage.
- Zimbardo, P. G. 1972, April. Psychology of imprisonment. *Transition/Society*, 4–8.