The science of emotional intelligence

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ABSTRACT

At the heart of a human being are emotions, feelings, and the behavioral manifestations that come from those inner stirrings. Emotional information plays a critical role in our working lives since the relationships we form are governed by rules of behavior – of cooperation and dominance, among others – that are triggered by our emotions. Before the 1990s, EI had been an overlooked part of human nature – recognized intuitively sometimes, but not examined according to rigorous, scientific criteria. The new scientific idea behind EI is that human beings process emotional information; they comprehend and utilize emotional information about social relationships. This idea was launched in two 1990 scientific articles by Peter Salovey and myself. Daniel Goleman's successful popularization of those early articles on emotional intelligence, and the related work of many other scientists, led to a great deal of popular discussion of the idea. This popular notion of EI as anything but IQ has created a new management fad. Unfortunately, the faddish appeal of emotional intelligence has encouraged many people engaged in otherwise legitimate business consultation to include a wide variety of approaches and concepts under the umbrella emotional intelligence. Emotional Intelligence is increasingly relevant to organizational development and developing people, because the EQ principles provide a new way to understand and assess people's behaviors, management styles, attitudes, interpersonal skills, and potential. Emotional Intelligence is an important consideration in human resources planning, job profiling, recruitment interviewing and selection, management development, customer relations and customer service, and more. Emotional Intelligence links strongly with concepts of love and spirituality: bringing compassion and humanity to work, and also to 'Multiple Intelligence' theory which illustrates and measures the range of capabilities people possess, and the fact that everybody has a value. The EQ concept argues that IQ, or conventional intelligence, is too narrow; that there are wider areas of Emotional Intelligence that dictate and enable how successful we are. Success requires more than IQ (Intelligence Quotient), which has tended to be the traditional measure of intelligence, ignoring essentials behavioral and character elements. We've all met people who are academically brilliant and yet are socially and inter-personally inept. And we know that despite possessing a high IQ rating, success does not automatically follow.

Introduction

Emotional intelligence an increasingly popular consulting tool. According to popular opinion and work-place testimonials, emotional intelligence increases performance and productivity; however, there has been a general lack of independent, systematic analysis substantiating that claim.

The concept of emotional intelligence became popular after the immense success of Daniel Goleman's book in 1995, Emotional Intelligence, Why It Can Matter More Than IQ.

It was followed by a second best seller in 1998 by the same author, working with Emotional Intelligence. The business community was rocked by the research that overwhelmingly showed that up to 90 percent of one's performance effectiveness was due to emotional savvy rather than technological knowledge. In a country where IQ and SAT scores have dominated thinking on who is likely to succeed, the evidence is now clear that people skills are far more important when it comes to the bottom line. For many years it had been considered inappropriate to show or to have emotions in a work situation. An overwhelming amount of research shows that not only are emotions very much a part of the work experience, but to a large degree they set the course that a company follows. The influence of emotional intelligence on popular culture and the academic community has been rapid and widespread. While this has stimulated a surprising number or research initiatives across a wide range of domains within psychology, the Swiftness with which the concept of emotional intelligence has caught on perhaps inevitably created a gap between what we know and what we need to know. Understandably, this has led to a great deal of controversy and debate among researchers and practitioners eager to understand and apply the principles associated with emotional intelligence. Such debate, of course, is not confined to emotional intelligence, but is an inherent part of the process of theory development and scientific discovery in any field.

Emotional intelligence, then, refers to the capacity to understand and explain emotions, on the one hand, and of emotions to enhance thought, on the other. Emotional intelligence in the workplace: A case study the capacity to reason with and about emotion is frequently important in

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management and leadership. Consider the case of Jerry Taksic (this and other names have been changed).

Jerry was a well-regarded operations manager at a New York City office of Merrill Lynch. Several years ago, he supervised the move of some in his group from their offices in the city across the river to an office park in Jersey City. The move was seemingly welcomed by the staff, most of who lived on the other side of the river. The move would dramatically cut down their commuting time and reduce their tax bills. Jerry handled this project with his usual meticulousness and concern. He worked with the designers and the architects, as well as building management, to ensure a smooth transition. Jerry never expected perfection, and perfection was not to be realized. Soon after the move, he fielded a phone call at his downtown office from Eddie Fontaine, the group manager at the Jersey City location. Eddie reported that his group had become concerned that they were working in a "sick" building, because a number of employees were suffering from respiratory problems. Although Eddie made light of their concerns, Jerry perceived concern in the group and began to investigate the situation. He called in heating, ventilation, and air conditioning (HVAC) team, and it, along with environmental engineers, were dispatched to the site. They inventoried the physical plant, and shortly thereafter, filed their report.

Another prominent researcher of the emotional intelligence construct is Reuven Bar-On, the originator of the term "emotion quotient". Possessing a slightly different outlook, he defines emotional intelligence as being concerned with understanding oneself and others, relating to people, and adapting to and coping with the immediate surroundings to be more successful in dealing with environmental demands (Bar-On, 1997). Regardless of the discrepancies between definitions of emotional intelligence, it is clear that what is being referred to is distinct from standard intelligence, or I.Q.

The Mayer-Salovey Four-Branch model of emotional intelligence states that there are four branches of skills that are related to EI. These four branches and some of their interrelationships are shown in the diagram below. The first two branches, Perception, and Facilitation, are termed "experiential EI," because they relate most closely to feelings. They involve, first, the capacity to perceive emotions in others accurately, and, second, the ability to use emotions to enhance how we think. When Jerry perceived concerns and anxieties in his team, he accurately perceived emotions among those around him. When he (presumably) used his own emotions to motivate his response to those concerns, he was effectively using his emotions to facilitate his thoughts and actions.

The third and fourth areas of EI skills are termed "strategic EI" because they pertain to calculating and planning with information about emotions. The third area, Understanding Emotions, involves knowing how emotions change, in and of themselves, as well as how they will change people and their behaviors over time. The fourth area, Emotional Management, focuses on how to integrate logic and emotion for effective decision-making. These four skill areas are related to one another, but they are functionally distinct as well. We know this from our research in ability-testing of EI, which has accompanied the scientific theory.

Charles Darwin was the first to recognize the value of emotions. He noted that the emotional system energizes behavior needed to stay alive. Emotions cannot be stopped, they happen instinctually and immediately in response to situations and people. In the 1920s E.I. Thorndike identified "social intelligence" as the ability to act wisely in human relations. In

1988, Reuven Bar-On coined the term emotional intelligence in his doctoral dissertation. In 1990, John Mayer and Peter Salovey did groundbreaking research on emotional intelligence, pointing to the importance of knowing yourself as well as understanding others. In 1995, Daniel Goleman introduced the important of EQ in the workplace, noting that IQ is a less powerful predictor of outstanding leadership than EQ. The highest estimate of how much difference IQ (intellectual quotient) accounts for in how well people perform in their careers is no higher than 10% and perhaps as low as 4% (Sternberg, 1997). IQ is considered a threshold competence, a minimum capability that all must have. Once you're in a group of similar IQs, IQ will no longer distinguish you in the group.

EQ (emotional intelligence) data suggests that older groups score significantly higher than younger groups in most EQ scales. Respondents in their late 40s obtained the highest mean scores. On the North American sample, females appear to have stronger interpersonal skills than males, but males have higher intrapersonal capacity, are better at managing emotions, and are more adaptable. Women are more aware of emotions, demonstrate more empathy towards others, and are more socially responsible. Men have better self-regard, are more self-reliant, cope better with stress, and are more optimistic than women in the studies conducted. No significant differences in emotional intelligence were found between various ethnic groups in North America. Higher-level employees are more likely to have inflated views of their emotional intelligence and less congruence with the perceptions of others than lower-level employees. Data shows that when there is no easy right or wrong answer to a problem or decision, people usually decide one direction or another based on emotions.

There is a moderate yet significant relationship between EQ and physical health and significant differences in psychological health and a moderate, yet statistically significant relationship between EQ and performance at school. However, EQ is not something we have been taught to improve since childhood. So, it makes sense that most people have an average EQ score.

Neurological Substrates of EI

The EI theory of performance posits that each of the four domains of EI derives from distinct neurological mechanisms that distinguish each domain from the others and all four from purely cognitive domains of ability. In turn, at a higher level of articulation, the EI competencies nest within these four EI domains. This distinction between EI-based competencies and purely cognitive abilities like IQ can now be drawn more clearly than before owing to recent findings in neuroscience. Research in the newly emerging field of affective neuroscience (Davidson, Jackson, & Kalin, 2000) offers a fine-grained view of the neural substrates of the EI-based range of behavior and allows us to see a bridge between brain function and the behaviors described in the EI model of performance.

From the perspective of affective neuroscience, the defining boundary in brain activity between emotional intelligence and cognitive intelligence is the distinction between capacities that are purely (or largely) neocortical and those that integrate neocortical and limbic circuitry. Intellectual abilities like verbal fluency, spatial logic, and abstract reasoning—in other words, the components of IQ—are based primarily in specific areas of the neocortex. When these neocortical areas are damaged, the corresponding intellectual ability suffers. In contrast, emotional intelligence encompasses the behavioral manifestations of underlying neurological circuitry that primarily links the limbic areas for emotion, centering on the amygdale and its extended

networks throughout the brain, to areas in the prefrontal cortex, the brain's executive center.

Key components of this circuitry include the dorsolateral, vendor medial, and orbit frontal sectors of the prefrontal cortex (with important functional differences between left and right sides in each sector) and the amygdala and hippocampus (Davidson, Jackson, & Kalin, 2000). This circuitry is essential for the development of skills in each of the four main domains of emotional intelligence. Lesions in these areas produce deficits in the hallmark abilities of EI—Self-Awareness, Self-Management (including Motivation), Social Awareness skills such as Empathy, and Relationship Management, just as lesions in discrete areas of the neocortex selectively impair aspects of purely cognitive abilities such as verbal fluency or spatial reasoning (Damasio, 1994, 1999).

The first component of emotional intelligence is Emotional Self-Awareness, knowing what one feels. John Mayer (see, for example, Mayer & Stevens, 1994) uses the term meta-mood, the affective analogue of meta-cognition, for key aspects of Emotional Self-Awareness. The neural substrates of Emotional Self-Awareness have yet to be determined with precision. But Antonio Damasio (1994), on the basis of neuropsychological studies of patients with brain lesions, proposes that the ability to sense, articulate, and reflect on one's emotional states hinges on the neural circuits that run between the prefrontal and verbal cortex, the amygdala, and the viscera. Patients with lesions that disconnect the amygdala from the prefrontal cortex, he finds, are at a loss to give words to feelings, a hallmark of the disorder alexithymia. In some ways, alexithymia and Emotional Self-Awareness may be mirror concepts, one reflecting a deficiency in the workings of these neural substrates, the other efficiency (Taylor, Parker, & Bagby, 1999). The second component of EI, Emotional Self-Management, is the ability to regulate distressing affects like anxiety and anger and to inhibit emotional impulsivity. PET (positron-emission tomography) measurements of glucose metabolism reveal that individual differences in metabolic activity in the amygdala are associated with levels of distress or dysphoria—the more activity, the greater the negative affect (Davidson, Jackson, & Kalin, 2000). In contrast, metabolic activity in the left medial prefrontal cortex is inversely related to levels of activity in the amygdala—an array of inhibitory neurons in the prefrontal area, animal studies have shown, regulate activation of the amygdala. In humans, the greater the activity level in the left medial prefrontal cortex, the more positive the person's emotional state. Thus a major locus of the ability to regulate negative affect appears to be the circuit between the amygdala and the left prefrontal cortex.

This circuitry also appears instrumental in the motivational aspect of Emotional Self-Management; it may sustain the residual affect that propels us to achieve our goals. David McClelland (1975) has defined motivation as "an affectively toned associative network arranged in a hierarchy of strength and importance in the individual," which determines what goals we seek (p. 81). Davidson proposes that the left medial prefrontal cortex is the site of "affective working memory." Damage to this region is associated with a loss of the ability to sustain goal-directed behavior; loss of the capacity to anticipate affective outcomes from accomplishing goals diminishes the ability to guide behavior adaptively (Davidson, Jackson, & Kalin, 2000). In other words, Davidson proposes that the prefrontal cortex allows us to hold in mind or remind ourselves of the positive feelings that will come when we attain our goals and at the same time allows us to inhibit the negative feelings that would discourage us from continuing to strive toward those goals.

Social Awareness, the third EI component, which encompasses the competency of Empathy, also involves the amygdala. Studies of patients with discrete lesions to the amygdala show impairment of their ability to read nonverbal cues for negative emotions, particularly anger and fear, and to judge the trustworthiness of other people (Davidson, Jackson, & Kalin, 2000). Animal studies suggest a key role in recognizing emotions for circuitry running from the amygdala to the visual cortex; Brothers (1989), reviewing both neurological findings and comparative studies with primates, cites data showing that certain neurons in the visual cortex respond only to specific emotional cues, such as a threat. These emotion-recognition cortical neurons have strong connections to the amygdala.

Finally, Relationship Management, or Social Skill, the fourth EI component, poses a more complex picture. In a fundamental sense, the effectiveness of our relationship skills hinges on our ability to attune ourselves to or influence the emotions of another person. That ability in turn builds on other domains of EI, particularly Self-Management and Social Awareness. If we cannot control our emotional outbursts or impulses and lack Empathy, there is less chance we will be effective in our relationships. Indeed, in an analysis of data on workplace effectiveness, Richard Boyatzis, Ruth Jacobs, and I have found that Emotional Self-Awareness is a prerequisite for effective Self-Management, which in turn predicts greater Social Skill. A secondary pathway runs from Self-Awareness to Social Awareness (particularly Empathy) to Social Skill. Managing relationships well, then, depends on a foundation of Self-Management and Empathy, each of which in turn requires Self-Awareness. This evidence that Empathy and Self-Management are foundations for social effectiveness finds support at the neurological level. Patients with lesions in the prefrontal-amygdala circuits that undergird both Self-Management and Empathy show marked deficits in relationship skills, even though their cognitive abilities remain intact (Damasio, 1994). When Damasio administered an EI measure to one such patient, he found that though the patient had an IQ of 140, he showed marked deficits in self-awareness and empathy (Bar-On, 2000b). Primate studies find parallel effects. Monkeys in the wild who had this prefrontal-amygdala circuitry severed were able to perform food gathering and similar tasks to maintain themselves but lacked all sense of how to respond to other monkeys in the band, even running away from those who made friendly gestures (Brothers, 1989).

The Self-Management Cluster: Managing Internal States, Impulses, and Resources The Self-Management cluster of EI abilities encompasses six competencies. Heading the list is the Emotional Self-Control competence, which manifests largely as the absence of distress and disruptive feelings. Signs of this competence include being unfazed in stressful situations or dealing with a hostile person without lashing out in return. Among small business owners and employees, those with a stronger sense of control over not only themselves but the events in their lives are less likely to become angry or depressed when faced with job stress or to quit (Rahim & Psenicka, 1996). Among counselors and psychotherapists, superior performers tend to respond calmly to angry attacks by a patient, as do outstanding flight attendants dealing with disgruntled passengers (Boyatzis & Burrus, 1995; Spencer & Spencer, 1993). And among managers and executives, top performers are able to balance their drive and ambition with Emotional Self-Control, harnessing their personal needs in the service of the

organization's goals (Boyatzis, 1982). Those store managers who are best able to manage their own stress and stay unaffected have the most profitable stores, by such measures as sales per square foot, in a national retail chain (Lusch & Serkenci, 1990). The Trustworthiness competence translates into letting others know one's values and principles, intentions and feelings, and acting in ways that are consistent with them. Trustworthy individuals are forthright about their own mistakes and confront others about their lapses. A deficit in this ability operates as a career derailer (Goleman, 1998).

The signs of the Conscientiousness competence include being careful, self-disciplined, and scrupulous in attending to responsibilities. Conscientiousness distinguishes the model organizational citizens, the people who keep things running as they should. In studies of job performance, outstanding effectiveness in virtually all jobs—from the bottom to the top of the corporate ladder—depends on Conscientiousness (Barrick & Mount, 1991). Among sales representatives for a large U.S. appliance manufacturer, those who were most conscientious had the largest volume of sales (Barrick, Mount, & Straus, 1993).

If there is any single competence our present times call for, it is Adaptability. Superior performers in management ranks exhibit this competence (Spencer & Spencer, 1993). They are open to new information and can let go of old assumptions and so adapt how they operate. Emotional resilience allows an individual to remain comfortable with the anxiety that often accompanies uncertainty and to think "out of the box," displaying on-the-job creativity and applying new ideas to achieve results. Conversely, people who are uncomfortable with risk and change become naysayers who can undermine innovative ideas or be slow to respond to a shift in the marketplace. Businesses with less formal and more ambiguous, autonomous, and flexible roles for employees open flows of information, and multidisciplinary team-oriented structures experience greater innovation (Amabile, 1988).

David McClelland's landmark work The Achieving Society (1961) established Achievement Orientation as the competence that drives the success of entrepreneurs. In its most general sense, this competence, which I call Achievement Drive, refers to an optimistic striving to continually improve performance. Studies that compare star performers in executive ranks to average ones find that stars display classic achievement-oriented behaviors—they take more calculated risks, they support enterprising innovations and set challenging goals for their employees, and so forth. Spencer and Spencer (1993) found that the need to achieve is the competence that most strongly sets apart superior and average executives. Optimism is a key ingredient of achievement because it can determine one's reaction to unfavorable events or circumstances; those with high achievement are proactive and persistent, have an optimistic attitude toward setbacks, and operate from hope of success. Studies have shown that optimism can contribute significantly to sales gains, among other accomplishments (Schulman, 1995). Those with the Initiative competence act before being forced to do so by external events. This often means taking anticipatory action to avoid problems before they happen or taking advantage of opportunities before they are visible to anyone else. Individuals who lack Initiative are reactive rather than proactive, lacking the farsightedness that can make the critical difference between a wise decision and a poor one. Initiative is key to outstanding performance in industries that rely on sales, such as real estate, and to the development of personal relationships with clients, as is critical in such businesses as financial services or consulting (Crant, 1995; Rosier, 1996).

The Social Awareness Cluster: Reading People and Groups Accurately

The Social Awareness cluster manifests in three competencies. The Empathy competence gives people an astute awareness of others' emotions, concerns, and needs. The empathic individual can read emotional currents, picking up on nonverbal cues such as tone of voice or facial expression. Empathy requires Self-Awareness; our understanding of others' feelings and concerns flows from awareness of our own feelings. This sensitivity to others is critical for superior job performance whenever the focus is on interactions with people. For instance, physicians who are better at recognizing emotions in patients are more successful than their less sensitive colleagues at treating them (Friedman & DiMatteo, 1982). The ability to read others' needs well comes naturally to the best managers of product development teams (Spencer & Spencer, 1993). And skill in Empathy correlates with effective sales, as was found in a study among large and small retailers (Pilling & Eroglu, 1994). In an increasingly diverse workforce, the Empathy competence allows us to read people accurately and avoid resorting to the stereotyping that can lead to performance deficits by creating anxiety in the stereotyped individuals (Steele, 1997). Social Awareness also plays a key role in the Service competence, the ability to identify a client's or customer's often unstated needs and concerns and then match them to products or services; this empathic strategy distinguishes star sales performers from average ones (Spencer & Spencer, 1993). It also means taking a long-term perspective, sometimes trading off immediate gains in order to preserve customer relationships. A study of an office supply and equipment vendor indicated that the most successful members of the sales team were able to combine taking the customer's viewpoint and showing appropriate assertiveness in order to steer the customer toward a choice that satisfied both the customer's and the vendor's needs (McBane, 1995).

Organizational Awareness, the ability to read the currents of emotions and political realities in groups, is a competence vital to the behind-the-scenes networking and coalition building that allows individuals to wield influence, no matter what their professional role. Insight into group social hierarchies requires Social Awareness on an organizational level, not just an interpersonal one. Outstanding performers in most organizations share this ability; among managers and executive generally, this emotional competence distinguishes star performers. Their ability to read situations objectively, without the distorting lens of their own biases and assumptions, allows them to respond effectively (Boyatzis, 1982).

EI Leadership, Climate, and Organizational Performance I have indicated how EI can affect an individual's success in an organization. But how does it affect organizational success overall? The evidence suggests that emotionally intelligent leadership is key to creating a working climate that nurtures employees and encourages them to give their best. That enthusiasm, in turn, pays off in improved business performance. This trickle-down effect emerged, for example, in a study of CEOs in U.S. insurance companies. Given comparable size, companies whose CEOs exhibited more EI competencies showed better financial results as measured by both profit and growth (Williams, 1994).

A similar relationship between EI strengths in a leader and business results was found by McClelland (1998) in studying the division heads of a global food and beverage company. The divisions of the leaders with a critical mass of strengths in EI competencies outperformed yearly revenue targets by a margin

of 15 to 20 percent. The divisions of the leaders weak in EI competencies underperformed by about the same margin (Goleman, 1998).The relationship between EI strengths in a leader and performance of the unit led appears to be mediated by the climate the leader creates. In the study of insurance CEOs, for example, there was a significant relationship between the EI abilities of the leader and the organizational climate (Williams, 1994). Climate reflects people's sense of their ability to do their jobs well. Climate indicators include the degree of clarity in communication; the degree of employees' flexibility in doing their jobs, ability to innovate, and ownership of and responsibility for their work; and the level of the performance standards set (Litwin & Stringer, 1968; Tagiuri & Litwin, 1968). In the insurance industry study, the climate created by CEOs among their direct reports predicted the business performance of the entire organization, and in three-quarters of the cases climate alone could be used to correctly sort companies by profits and growth. Leadership style seems to drive organizational performance across a wide span of industries and sectors and appears to be a crucial link in the chain from leader to climate to business success. A study of the heads of forty-two schools in the United Kingdom suggests that leadership style drove up students' academic achievement by directly affecting school climate. When the school head was flexible in leadership style and demonstrated a variety of EI abilities, teachers attitudes were more positive and students' grades higher; when the leader relied on fewer EI competencies, teachers tended to be demoralized and students underperformed academically (Hay/McBer, 2000). Effective school leaders not only created a working climate conducive to achievement but were more attuned to teachers' perceptions of such aspects of climate and organizational health as clarity of vision and level of teamwork. The benefits of an understanding and empathic school leader were reflected in the teacher-student relationship as well. In a related follow-up analysis, Lees and Barnard (1999) studied the climates of individual classrooms, concluding that teachers who are more aware of how students feel in the classroom are better able to design a learning environment that suits students and better able to guide them toward success. Teachers who have a leader who has created a positive school climate will be better equipped to do the same in their own classrooms. Indeed, several dimensions of school climate identified in the earlier study correspond to dimensions of classroom climate. For instance, clarity of vision in a school's purpose parallels clarity of purpose in class lessons; challenging yet realistic performance standards for teachers translate into like standards for students. A similar effect of EI-based leadership on climate and performance was demonstrated in a study of outstanding leaders in health care (Catholic Health Association, 1994). For this study, 1,200 members of health care organizations were asked to nominate outstanding leaders based on criteria such as organizational performance and anticipation of future trends. The members were then asked to evaluate the effectiveness of the nominees in fifteen key situations that leaders face—among them organizational change, diversity, and institutional integrity. The study revealed that the more effective leaders in the health care industry were also more adept at integrating key EI competencies such as Organizational Awareness and relationship skills like persuasion and influence.The link between EI strengths in a leader and the organization's climate is important for EI theory. A Hay/McBer analysis of data on 3,781 executives, correlated with climate surveys filled out by those who worked for them, suggests that 50 to 70 percent of employees' perception of working climate is linked to the EI

characteristics of the leader (Goleman, 2000b). Research drawing on that same database sheds light on the role of EI competencies in leadership effectiveness, identifying how six distinct styles of EI-based leadership affect climate. Four styles—the visionary (sometimes called the "authoritative"), the affiliative, the democratic, and the coaching—generally drive climate in a positive direction. Two styles—the coercive and the pacesetting—tend to drive climate downward, particularly when leaders overuse them (though each of these two can have positive impact if applied in appropriate situations Visionary leaders are empathic, self-confident, and often act as agents of change. Affiliative leaders, too, are empathic, with strengths in building relationships and managing conflict. The democratic leader encourages collaboration and teamwork and communicates effectively—particularly as an excellent listener. And the coaching leader is emotionally self-aware, empathic, and skilled at identifying and building on the potential of others. The coercive leader relies on the power of his position, ordering people to execute his wishes, and is typically handicapped by a lack of empathy. The pacesetting leader both sets high standards and exemplifies them, exhibiting initiative and a very high drive to achieve—but to a fault, too often micromanaging or criticizing those who fail to meet her own high standards rather than helping them to improve. The most effective leaders integrate four or more of the six styles regularly, switching to the one most appropriate in a given leadership situation. For instance, the study of school leaders found that in those schools where the heads displayed four or more leadership styles, students had superior academic performance relative to students in comparison schools. In schools where the heads displayed just one or two styles, academic performance was poorest. Often the styles here were the pacesetting or coercive ones, which tend to undermine teacher morale and enthusiasm (Hay/McBer, 2000). Among life insurance company CEOs, the very best in terms of corporate growth and profit were those who drew upon a wide range of leadership styles (Williams, 1994). They were adept at all four of the styles that have a positive impact on climate—visionary, democratic, affiliative, and coaching—matching them with the appropriate circumstances. They rarely exhibited the coercive or pacesetting styles.Granted, the factors influencing organizational performance are diverse and complex. But the EI theory of performance at the collective level predicts positive links between EI leadership, organizational climate, and subsequent performance. Hay/McBer data indicate not only that EI-based leadership may be the most important driver of climate but also that climate in turn may account for 20 to 30 percent of organizational performance (Goleman, 2000b). If these data are borne out, the implications are greatly supportive of employing EI as a criterion for selection, promotion, and development: such an application becomes a competitive strategy.

Gender Differences in Emotional Intelligence Competing evidence exists surrounding whether or not males and females differ significantly in eneral levels of emotional intelligence. Daniel Goleman (1998) asserts that no gender differences in E.I. exist, admitting that while men and women may have different profiles of strengths and weaknesses in different areas of emotional intelligence, their overall levels of E.I. are equivalent. However, studies by Mayer and Geher (1996), Mayer, Caruso, and Salovey (1999), and more recently Mandell and Pherwani (2003) have found that women are more likely to score higher on measures of emotional intelligence than men, both in professional and personal settings. The discrepancy may be due to measurement choice. Brackett and Mayer (2003) found that

females scored higher than males on E.I. when measured by a performance measure (the Mayer-Salovey-Caruso Emotional Intelligence Test). However, when using self-report measures such as the Bar-On Emotion Quotient Inventory (EQ-i) and the Self-Report Emotional Intelligence Test (SREIT), they found no evidence for gender differences. Perhaps gender differences exist in emotional intelligence only when one defines E.I. in a purely cognitive manner rather than through a mixed perspective. It could also be the case that gender differences do exist but measurement artifacts such as over-estimation of ability on the part of males are more likely to occur with self-report measures. More research is required to determine whether or not gender differences do exist in emotional intelligence.

Implications for the Future: EI and Higher Education Given the value of the personal and organizational effectiveness of EI-based capabilities, there is a clear need to integrate that valuation into our organizations' functions. Organizations need to hire for emotional intelligence along with whatever other technical skills or business expertise they are seeking. When it comes to promotions and succession planning, EI should be a major criterion, particularly to the extent that a position requires leadership. When those with high potential are being selected and groomed, EI should be central. And in training and development, EI should again be a major focus.

However, because EI competencies entail emotional capacities in addition to purely cognitive abilities, modes of learning that work well for academic subjects or technical skills are not necessarily well suited for helping people improve an emotional competence (Goleman, 1998b). For this reason the Consortium for Research on Emotional Intelligence in Organizations has summarized empirical findings on the mode of learning best for emotional competencies and formulated guidelines for their effective development. The consortium has posted a technical report on its Web site (www.eiconsortium.org) and has fostered a book for HR professionals on how to make training in EI skills most effective (Cherniss & Adler, 2000). Given our new understanding of the crucial role emotional competence plays in individual, group, and organizational success, the implication for education is clear: We should be helping young people master these competencies as essential life skills. There are already numerous school-based programs in the basics of EI, programs that deliver social and emotional learning (SEL). The Collaborative for Social and Emotional Learning has vetted the best models, and acts as a clearinghouse for these programs through its Web site (www.casel.org).

But as of this writing, when it comes to preparing young people in the essential emotional intelligence skills that matter most for their success in the workplace, for piloting their careers, and for leadership, we face a serious gap. The SEL programs cover the early school years but not higher education. Only a scattered handful of pioneering SEL courses exist at the college or professional level. And yet the data showing the crucial role EI skills play in career success make a compelling case for reenvisioning higher education in order to give these capabilities their place in a well-rounded curriculum.

Given that employers themselves are looking for EI capacities in those they hire, colleges and professional schools that offered appropriate SEL training would benefit both their graduates and the organizations they work for. The most forward-thinking educators will, I hope, recognize the importance of emotional intelligence in higher education, not just for the students, not just for the students' employers, but for the vitality of an economy as a whole. As Erasmus, the great

humanist writer, tells us, "The best hope of a nation lies in the proper education of its youth."

Measures of Mayer and Salovey's Model

Mayer and Salovey began testing the validity of their four-branch model of emotional intelligence with the Multibranch Emotional Intelligence Scale (MEIS). Composed of 12 subscale measures of emotional intelligence, evaluations with the Multibranch Emotional Intelligence Scale indicate that emotional intelligence is a distinct intelligence with 3 separate sub factors: emotional perception, emotional understanding, and emotional management. The Multibranch Emotional Intelligence Scale found only limited evidence for the branch of emotional intelligence related to integrating emotions. Additionally, examination of the Multibranch Emotional Intelligence Scale found evidence for discriminant validity in that emotional intelligence was independent of general intelligence and self-reported empathy, indicating its ability to measure unique qualities of an individual not encompassed by earlier tests. There were, however, certain limitations to the Multibranch Emotional Intelligence Scale. Not only was it a lengthy test (402 items) but it also failed to provide satisfactory evidence for the integration branch of the Four Branch Model (Mayer, Salovey, & Caruso, 2002). For these and other reasons, Mayer and Salovey decided to design a new ability measure of emotional intelligence.

The current measure of Mayer and Salovey's model of emotional intelligence, the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) was normed on a sample of 5,000 men and women. The MSCEIT is designed for individuals 17 years of age or older and aims to measure the four abilities outlined in Salovey and Mayer's model of emotional intelligence. Each ability (perception, facilitation of thought, understanding, and regulation) is measured using specific tasks. Perception of emotion is measured by rating the extent and type of emotion expressed on different types of pictures. Facilitation of thought is measured by asking people to draw parallels between emotions and physical sensations (e.g., light, colour, temperature) as well as emotions and thoughts. Understanding is measured by asking the subject to explain how emotions can blend from other emotions (e.g., how emotions can change from one to another such as anger to rage). Regulation (or management) of emotions is measured by having people choose effective self and other management techniques (Brackett & Mayer, 2003). With less than a third of the items of the original Multibranch Emotional Intelligence Scale, the Mayer-Salovey-Caruso Emotional Intelligence Test is comprised of 141 items. The scale yields six scores: an overall emotional intelligence score (expressed as an emotional intelligence quotient, or EIQ), two area scores (Experiential Emotional Intelligence, or EEIQ and Strategic Emotional Intelligence, or SEIQ) and four branch scores corresponding to the four branches of emotional intelligence. Each score is expressed in terms of a standard intelligence with a mean score of 100 (average score obtained in the general population) and a standard deviation of 15. Additionally, the manual provides qualitative ratings that correspond to each numeric score. For example, an individual who receives an overall EIQ of 69 or less would be rated 'considerable development' whereas someone scoring 130 or more would be rated 'significant strength' (Mayer, Salovey, & Caruso, 2002).

The Impact of EI on Organizational Effectiveness

Look deeply at almost any factor that influences organizational effectiveness, and you will find that emotional intelligence plays a role. For instance, as this volume is being

completed, the United States continues an unprecedented period of economic prosperity and growth. The downside of this fortunate circumstance for many organizations is that it has become increasingly more difficult to retain goodemployees, particularly those with the skills that are important in the high-tech economy. So what aspects of an organization are most important for keeping good employees? A Gallup Organization study of two million employees at seven hundred companies found that how long an employee stays at a company and how productive she is there is determined by her relationship with her immediate supervisor (Zipkin, 2000). Another study quantified this effect further. Spherion, a staffing and consulting firm in Fort Lauderdale, Florida, and Lou Harris Associates, found that only 11 percent of the employees who rated their bosses as excellent said that they were likely to look for a different job in the next year.

However, 40 percent of those who rated their bosses as poor said they were likely to leave. In other words, people with good bosses are four times less likely to leave than are those with poor bosses (Zipkin, 2000). What is it about bosses that influences their relationship with employees? What skills do bosses need to prevent employees from leaving? The most effective bosses are those who have the ability to sense how their employees feel about their work situation and to intervene effectively when those employees begin to feel discouraged or dissatisfied. Effective bosses are also able to manage their own emotions, with the result that employees trust them and feel good about working with them. In short, bosses whose employees stay are bosses who manage with emotional intelligence.

When I ask employees and their bosses to identify the greatest challenges their organizations face, they mention these concerns:
• People need to cope with massive, rapid change.
• People need to be more creative in order to drive innovation.
• People need to manage huge amounts of information.
• The organization needs to increase customer loyalty.
• People need to be more motivated and committed.
• People need to work together better.
• The organization needs to make better use of the special talents available in a diverse workforce.
• The organization needs to identify potential leaders in its ranks and prepare them to move up.
• The organization needs to identify and recruit top talent.
• The organization needs to make good decisions about new markets, products, and strategic alliances.
• The organization needs to prepare people for overseas assignments.

These are the intense needs that face all organizations today, both public sector and private. And in virtually every case, emotional intelligence must play an important role in satisfying the need. For instance, coping with massive change involves, among other things, the ability to perceive and understand the emotional impact of change on ourselves and others. To be effective in helping their organizations manage change, leaders first need to be aware of and to manage their own feelings of anxiety and uncertainty (Bunker, 1997). Then they need to be aware of the emotional reactions of other organizational members and act to help people cope with those reactions. At the same time in this process of coping effectively with massive change, other members of the organization need to be actively involved in monitoring and managing their emotional reactions and those of others.

Let us consider one other challenge, one that might seem less emotional than many of the others in the list. How might emotional intelligence play a role in helping organizational leaders make good decisions about new products, markets, and strategic alliances? Making such decisions involves much more than emotional intelligence. Good data must be assembled, and these data must be analyzed using the most sophisticated tools available. However, in the end, data almost never produce a clear-cut answer. Many important variables can be quantified but not all.

Analytical tools can organize most of the information needed for a clear and coherent picture, but almost always there is also some ambiguity and guesswork involved. There comes a point when organizational leaders must rely on their intuition or gut feeling. Such feelings will sometimes point in the right direction and sometimes in the wrong direction. The leaders who are most likely to have feelings that point in the right direction are the ones who have a good sense of why they are reacting as they are. They have learned to discriminate between feelings that are irrelevant and misleading and feelings that are on target. In other words, emotional intelligence enables leaders to tune into the gut feelings that are most accurate and helpful in making difficult decisions.

Emotional intelligence influences organizational effectiveness in a number of areas:
• Employee recruitment and retention;
• Development of talent;
• Teamwork;
• Employee commitment, morale, and health;
• Innovation;
• Productivity;
• Efficiency;
• Sales;
• Revenues;
• Quality of service;
• Customer loyalty;
• Client or student outcomes.

The influence of EI begins with the retention and recruitment of talent. For instance, as Claudio Fernández-Aráoz points out in Chapter Eight, the extent to which candidates' emotional intelligence is considered in making top executive hiring decisions has a significant impact on the ultimate success or failure of those executives. The emotional intelligence of the persons doing the hiring is also crucial for good hiring decisions. Emotional intelligence also affects the development of talent. For instance, Kathy Kram and I (Chapter Eleven) show how relationships at work can contribute to the development of talent. However, not all relationships are equally effective in doing so. The emotional intelligence of the mentor, boss, or peer will influence the potential of a relationship with that person for helping organizational members develop and use the talent that is crucial for organizational effectiveness. (See Chapter Ten for further discussion of emotional intelligence and the development of talent.)

Conclusion

The use of emotional intelligence measures in organizational settings has also been somewhat controversial (e.g. Davies,Stankov, & Roberts, 1998). The application of social and emotional competencies and the subsequent focus on work performance and assessment has led some critics to label assessments based on social and emotional competencies as reminiscent of more mechanistic or Tayloristic views that ultimately aim to increase performance and efficacy at the expense of the well-being of individual employees. However, where Taylor's attempt to apply scientific principles to the workplace was dominated by a core belief that individuals are

basically rational beings, the very central tenets of emotional intelligence make clear that individuals are a complex combination of emotion and reason.

If individual and group emotional intelligence contribute to organizational effectiveness, what in the organization contributes to individual and group emotional intelligence? Such a question is especially important for anyone who wishes to harness the power of emotional intelligence for organizational improvement. Emotional intelligence, as Goleman (1995a) pointed out in his first book on the topic, emerges primarily through relationships. At the same time, emotional intelligence affects the quality of relationships. Kram note that both formally arranged relationships and naturally occurring relationships in organizations contribute to emotional intelligence. Relationships can help people become more emotionally intelligent even when they are not set up for that purpose. The model suggests that ultimately any attempts to improve emotional intelligence in organizations will depend on relationships. Even formal training interventions or human resource policies will affect emotional intelligence through their effect on relationships among individuals and groups in the organization.

Several studies have found that emotional intelligence can have a significant impact on various elements of everyday living. Palmer, Donaldson, and Stough (2002) found that higher emotional intelligence was a predictor of life satisfaction. Additionally, Pelletier (2002) reported that people higher in emotional intelligence were also more likely to use an adaptive defense style and thus exhibited healthier psychological adaptation. Performance measures of emotional intelligence have illustrated that higher levels of E.I. are associated with an increased likelihood of attending to health and appearance, positive interactions with friends and family, and owning objects that are reminders of their loved ones (Brackett, Mayer, & Warner, in press). Mayer, Caruso, and Salovey (1999) found that higher emotional intelligence correlated significantly with higher parental warmth and attachment style, while others found that those scoring high in E.I. also reported increased positive interpersonal relationships among children, adolescents, and adults (Rice, 1999; Rubin, 1999). emotional intelligence can be beneficial in many areas of life. However, the application of its usefulness has been most frequently documented in the professional workplace. Even so, there may be significant issues to explore at the intersection of ethics and EI. Goleman (1995, 1998) has speculated that certain aspects of EI may tend to promote prosaically behavior: Self-awareness must bedeployed to act in accord with one's own sense of purpose, meaning, and ethics; empathy appears an essential step in fostering altruism and compassion. One question, then, is the extent to which cultivating abilities like empathy and self-awareness fosters a positive ethical outlook. A strong interest in the professional applications of emotional intelligence is apparent in the way organizations have embraced E.I. ideas. The American Society for Training and Development, for example, has published a volume describing guidelines for helping people in organizations ultimate emotional intelligence competencies which distinguish outstanding performers from average ones (Cherniss and Adler, 2000).

As previously noted, considerable research in the emotional intelligence field has focused on leadership, a fundamental workplace quality. Even before research in the area of E.I. had begun, the Ohio State Leadership Studies reported that leaders who were able to establish mutual trust, respect, and certain warmth and rapport with members of their group were more

effective (Fleishman and Harris, 1962). This result is not surprising given that many researchers have argued that effective leadership fundamentally depends upon the leader's ability to solve the complex social problems which can arise in organizations (Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000).

The cost-effectiveness of emotional intelligence in the workplace has been an area of interest. Several studies have reported the economic value of hiring staff based on emotional intelligence. In a report to Congress, the Government Accounting Office (1998) outlined the amount saved when the United States Air Force used Bar On's Emotional Quotient Inventory (EQ-I) to select program recruiters. By selecting those individuals who scored highest in emotional intelligence as recruiters, they increased their ability to select successful recruiters by threefold and saved $3 million annually. A similar study by Boyatzis (1999) found that when partners in a multinational consulting firm were assessed on E.I. competencies, partners who scored above the median on nine or more competencies delivered $1.2 million more profit than did other partners.

Cherniss and Goleman (1998) estimated that by not following training guidelines established to increase emotional intelligence in the workplace, industry in the United States is losing between $5.6 and $16.8 billion a year. They found that the impact of training employees in emotional and social competencies with programs which followed their guidelines was higher than for other programs, and by not implementing these programs companies were receiving less of an impact and consequently losing money.

Three main models of emotional intelligence exist. The first model by Peter Salovey and John Mayer perceives E.I. as a form of pure intelligence, that is, emotional intelligence is a cognitive ability. A second model by Reuven Bar-On regards E.I. as a mixed intelligence, consisting of cognitive ability and personality aspects. This model emphasizes how cognitive and personality factors influence general well-being. The third model, introduced by Daniel Goleman, also perceives E.I. as a mixed intelligence involving cognitive ability and personality aspects. However, unlike the model proposed by Reuven Bar-On, Goleman's model focuses on how cognitive and personality factors determine workplace success.

• Salovey and Mayer's model of E.I. is measured using the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT), a performance measure which requires the participant to complete tasks associated with emotional intelligence. Both Bar-On and Goleman's models utilize self-report measures of emotional intelligence. Bar-On's model is measured using the Emotion Quotient Inventory (EQ-i) and Goleman's model is measured using the Emotional Competency Inventory (ECI), the Emotional Intelligence Appraisal (EIA), and the Work Profile Questionnaire – Emotional Intelligence Version (WPQei).

• Research has found that significant relationships exist between all three models of E.I.. In addition, emotional intelligence has been consistently compared to three other constructs: personality, alexithymia (difficulty in feeling and distinguishing emotions), and leadership. Many traits contained in the Big Five Personality Factor Model are similar to those described by Bar-On and Goleman in their models of emotional intelligence. Alexithymia has been found to be inversely related to emotional intelligence. Studies in leadership have found transformational leadership (leadership which inspires,

motivates, and develops others while generating awareness of organizational goals) leads to increased employee effectiveness and satisfaction. Studies have also found that transformational leadership is significantly related to higher E.I.

• Studies in gender differences are inconclusive. Although some research has found that women are more emotionally intelligent than men, other studies have found no significant differences between genders. More research is required in this regard.

• Emotional intelligence has been found to be a predictor of life satisfaction, healthy psychological adaptation, positive interactions with peers and family, and higher parental warmth. Lower emotional intelligence has also been found to be associated with violent behaviour, illegal use of drugs and alcohol, and participation in delinquent behaviour.

• Emotional intelligence has been extensively researched in workplace settings. It has been related to increased success among those who share similar positions (e.g., senior managers). Additionally, hiring individuals with higher levels of emotional intelligence as well as training existing staff to be more emotionally intelligent has been associated with financial gains in the private sector. Training in emotional intelligence in the workplace can occur at all levels, and several evaluated programs have found success in developing more emotionally intelligent workforces.

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