
An Analysis of Emotional Intelligence and the Performance of Principals in Selected Schools in Kenya

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Abstract

The article investigates the degree of association between the emotional intelligence (EI) of school principals and their performance rating. The concept of EI is defined and data collected using the Mayer, Salovey, and Caruso Emotional Intelligence Test. This is related to the performance of the school in terms of test scores in national examinations as well as other measurable variables at the school level. The findings render valuable information indicating that there was a significant relationship between a school principal's EI and the school's success as measured by the rating of school principals who participated in the study. The study will enable further exploration into the emotional cognitive and psychological structures of these vital managers in the education sector using established HRD training programmes aimed at improving EI and performance of school principals.

Keywords

emotional intelligence, performance improvement, human resource development, leadership

Why is it that leaders with similar education training and work experience often achieve very different degrees of organizational success when undertaking comparable tasks? This question has become a central focus for many of those involved with leadership development in the field of education in Kenya. Kenyan school principals experience increasing pressures to address issues of higher standards and accountability and

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are often faced with the task of providing for the academic needs of diverse student populations in an ever-changing society. Principals are expected to demonstrate extreme flexibility and an ability to adapt to rapidly changing environments. Many of these principals have been asked to align their leadership methodologies to support new initiatives such as Free Primary Education and Free Day Secondary Education and to enforce increased accountability through student performance in national examinations. Working in conjunction with issues of student academic accountability, principals are also responsible for supporting the creation of a shared vision for their schools' growth that includes input from teachers, parents, and community members.

It has become quite evident in recent years that principals must be adept at incorporating both self-identified and social emotional conception into a plan for school success. Research has demonstrated that such understandings can be directly linked to a leader's emotional intelligence (EI). EI is defined as a person's skill and ability to access intra-personal understandings, interpersonal skills, adapt to complex situations, and to deal with stress, as well as a measure of overall general mood (Bar-On, 1997).

Some leadership styles may be more appropriate than others in any given school environment. However, the skill to respond to rapid shifts in learning environments and the ability to effectively access EI skills transcends the spectrum of leadership. Principals who are able to respond quickly and effectively to dynamic environments and who are able to implement the necessary changes have been most successful in the development of sustained and long-term growth in student performance that is measured by achievement in national examinations (Fullan, 2002). It is hoped that the findings of this study have provided insights into the degree of association between the EI of school principals and school performance.

Statement of the Problem

The problem addressed by this study was to establish the relationship between a principal's EI level and his or her school's performance in national examinations. School leadership increasingly calls for teachers who are adept at managing emotional influences from both internal and external points of view. Traditional leadership programs often focus on the delivery of a cognitively based set of skills that have been determined to be of operational value within an organizational environment (Heifetz & Laurie, 2001). In today's world, however, traditional leadership and management training programs may not afford a leader all the tools needed to guide a school through a performance improvement process. A leader's ability to interact with others using a skill set based within the underpinnings of EI may greatly affect the overall learning environment.

According to estimations, 20% to 30% of organizational performance improvement can be linked directly to employee perception of the leader. The organization in this study refers to the school. Research indicates that the leader's actions may account for as high as 70% of employee perception of the organization's wellness (Goleman, Boyatzis, & McKee, 2002). Such findings demonstrate the incredible influence of a

leader's impact, not simply on employee perception but on overall organizational performance derived from such perceptions. Leadership research has recently begun to consider the importance of a leader's ability to understand and work with emotion. It has become necessary to examine the degree of association between a head teacher's ability to work with his own emotional understandings and how these understandings interplay on various organizational levels to affect school performance.

Purpose of the Study

The purpose of this study was to establish the degree of association between EI ability in Kenyan principals and their schools' performance as measured by the ability to meet success not only in examination but with regard to social cohesion and cocurricular activities. This study attempted to determine if there was a relationship between specific aspects of a principal's EI (controlling for other variables within his or her school's demographic breakdown) that may be associated with success on standardized forms of assessment and other perceived indicators of success. The need for building the human resource capacity of education managers will also come to the fore in this study.

Research Hypothesis

This study sought to explore the degree of association between school principals' EI and their performance as measured by the rating of the principals by their immediate supervisors, the provincial directors of education (PDEs). It was hypothesized that there was no significant relationship between a principal's total EI scores and his or her performance ratings.

Sample

The sample in the study consisted of 100 high school principals from different regions around Kenya. Schools were categorized as either high performing or low performing on the basis of examination results. These two categories formed the basis for groupings for comparison. The demographic variables are shown in Table 1.

A high-performing school must have attained a pass rate of 70% of its total candidature with a pass of C+ and above in the national examinations for the past 2 years. These high performers had an achievement of between 100% and 130% (129.99%) across the targets signed in the performance contract for the school. A low-performing school exhibited a pass rate of 48% for the past 2 years. Its performance was in the range of 50% to 70% (69.99%) of the targets they signed in the performance contract for the year.

The age of the principals ranged from 36 to 54 years, with an average of 46.4 years. The principals' length of service at these schools ranged from 1 month to 27 years. On average, principals from low-performing schools had a longer period of service in the school than principals from high-performing schools. The gender or regions were

Table 1. Demographic Composition of the Sample

Variable	Group	High Performing		Low Performing	
			%		%
Gender	Men	69	29	42	40
	Women	31	11	36	20
Region	Coast	8+3+1	4	33	8
	Eastern	8+3+1	5	38	8
	Nairobi	4+2+1	4	50	4
	North Eastern	6+3+1	4	40	6
	Nyanza	8+3+1	4	33	8
	Rift Valley	12+4+2	6	38	10
	Western	12+4+1	5	33	10
	Central	6+3+1	4	40	6
	Not specified	1+1+1	2	05	1
	Total	100	40		60
	Average age, years	46.4	46.8		45.2
Average years of service	5.8	5.2		6.6	

represented in both groups, but there appears to be an overrepresentation of men in the high-performing group and an overrepresentation of women in the low-performing group. Any group differences that are found (where gender has not been controlled for in the norming process) may also reflect gender differences where these are known to occur.

Informing Literature

The influence of EI on school leadership is still in its early stages of development. However, initial research demonstrated a positive correlation between high levels of principals' EI and high-performing schools (Beavers, 2005). Furthermore, research on EI in other fields yielded large quantities of applicable data indicating that a leader who demonstrated a deeper understanding of emotion showed improved performance compared with leaders who did not have high levels of EI. It is hoped that the presentation of the following literature review will provide an overview of the current research being conducted in the field of EI and the applicability of such research to this study on principals' EI in relation to school success in Kenya.

EI Defined

The study of EI has received much attention during the past two decades. Daniel Goleman, a foundational researcher in the field of EI, established that EI can be

divided into aspects of both personal and social competence. These competencies are divided into four domains of EI described as self-awareness, self-management, social awareness, and relationship management (Goleman, 2001). Goleman's (2001) work on EI has allowed for the development of a wide range of fields devoted to the study and use of EI as a central component of organizational structure, function, and performance. Such work has broadened the understandings of EI and has allowed for the further evolution of understandings devoted to the adaptation of EI in a wide array of endeavors.

EI has been defined as "an array of emotional and social abilities, competencies, and skills that enable individuals to cope with daily demands and be more effective in their personal and social life" (Bar-On, Tranel, Denburg, & Bechara, 2003, p. 21). Many researchers currently believe that EI might serve to act as a method of addressing specific aspects of organizational performance not previously explored in studies of IQ or personality traits. Much of the current theory on EI research and study is attributed to Thorndike's work. Thorndike proposed that the issues of "social intelligence exist independently from issues of academic intelligence" (Landy, 2005, p. 411). Whereas IQ measures such attributes as academic performance and has traditionally been "the gatekeeper" to positions of management and leadership, EI speaks to success beyond those waypoints often captured by traditional cognitive measures of intelligence. There has been a great deal of controversy surrounding the development of EI as a scientifically validated measure within the social sciences. However, current research is drawing powerful connections between EI and social experiences, which is creating a strong foundation for further acceptance of this field of study (Meyer, Fletcher, & Parker, 2004).

One of the strongest critiques against EI theory is that there are numerous constructs regarding the very nature of EI itself. Some researchers believe that the general nature of divergence within this field of study creates difficulty in solidifying a "scientific" understanding of EI. This argument is often used as a framework under which issues of previous concepts of personality and IQ are used against the validation of EI (Cherniss, Extein, Goleman, & Weissberg, 2006; Matthews, Roberts, & Zeidner, 2004). However, Goleman (2002) wrote:

All leaders need enough intellect to grasp the specifics of the tasks and challenges at hand. Of course, leaders gifted in the decisive clarity that analytic and conceptual thinking allow certainly add value. We see intellect and clear thinking largely as the characteristics that get someone in the leadership door. Without those fundamental abilities, no entry is allowed. However, intellect alone will not make a leader; leaders execute a vision by motivating, guiding, inspiring, listening, persuading—and, most crucially, through creating resonance. . . . The neural systems responsible for the intellect and for the emotions are separate, but they have intimately interwoven connections. (p. 26)

Goleman's attempt was not to devalue cognitive intelligence. However, he did bring to light the importance of "internal characteristics" that could also be attributed

to organizational success measured by improved performance. Other researchers have specifically included aspects of personality and individual abilities into their understandings of EI. For instance, in a study of 103 college students it was found that a linkage existed between EI and personality traits and EI was found to positively affect social relationships. Furthermore, those students who scored high on specific areas dealing with the management of emotional subscales on the Mayer, Salovey, and Caruso Emotional Intelligence Test (MSCEIT) experienced less negative interaction with members of the family and friends (Lopes et al., 2003).

As research in the field of EI increased during the past decade, it became apparent that there were connections between a person's ability to manage his or her own emotional understandings and the result of such understanding on the immediate environment that existed beyond the range of traditional personality or IQ measurement. Human emotional response has been linked to both the amygdala, which appears to control aspects of impulse emotion, and the neocortex, which is located behind the frontal lobe and serves as a control of the amygdala (Goleman, 1995). Building on Goleman's original work on EI, researchers have explored reasons beyond cognitive ability to explain success. McClelland (1985) described the effect of personal motivation as it related to human behavior; he discovered that human behavior is often determined by the level of "strength" attributed to individual motivational inputs. Furthermore, his work demonstrated that incentive offered will greatly affect the decision-making processes in human behavior. Furthermore, McClelland discovered that a combination of motive strength and chances for success could be used to predict the actions of a study participant. Internal processes of assigning levels of motivational importance are a fundamental process for the further analysis of EI. A leader who is able to identify the motivators within himself or herself and others will often experience greater levels of organizational success and improved performance than a leader who is deficient in these areas.

EI tests can be used to measure a participant's ability to regulate his or her own emotional responses and understandings to a given social environment. Such tests have determined direct correlation between a participant's ability to regulate emotion and the quality of interaction within a social environment (Lopes, Salovey, Cote, & Beers, 2005). In two separate studies, it was determined that a higher score on a measurement test of EI could be used to predict positive interactions with friends as well as members of the opposite sex. Specific aspects of the tests that focused on emotional management led researchers to conclude that there was a direct positive correlation between EI and positive social interaction in a wide variety of environmental settings. However, some critics continue to question the validity of EI as a form of intelligence and associate findings to previous work dealing with understandings of personality traits or cognitive ability. Researchers have begun to answer such critiques by linking EI to many of the same theoretical foundations as other forms of academic intelligence and cognition. This connection has yielded widely accepted methods for the testing and classification of EI within the parameters of "scientific study" (Van Rooy, Viswesvaran, & Pluta, 2005).

Measurement of EI

The issue of measurement has been at the heart of debate over the construct validity of EI from the outset. Critics describe research wherein EI could not be demonstrated to describe any level of variance in the research outcomes beyond other methods used to measure cognitive intelligences (Amelang, 2006). Others have discounted the claims that social competencies may better predict individual behaviors than traditional measures of academic measures and IQ levels (Barrett & Depinet, 1991). Ultimately, critics of EI claim that the construct of EI measurement theory and methodology is too broad based and incorporates several aspects of human psychological study that have already been identified as personality and IQ (Petrides & Furnham, 2000). However, there is overwhelming support in the research literature for the construct validity of EI and its measurement for establishing an individual's ability to comprehend and manage emotions in such a way as to positively affect an individual's environment and performance in the workplace.

Assessments

The study used the MSCEIT, a tool that is designed to measure four separate branches of the respondent's EI (Mayer, Salovey, Caruso, & Sitarenios, 2003). Mayer and Salovey developed the Mayer–Salovey 4-Branch ability model as a way to operationalize EI within a hierarchical structure (Mayer, Caruso, & Salovey, 1999). This model equates Total EQ to:

1. Experiential perceiving emotions (the ability to correctly identify how people are feeling)
2. Using emotions (using emotions to facilitate thought—the ability to create emotions and to integrate your feelings into the way you think).
3. Strategic area EI
4. Understanding emotions EI (the ability to understand causes of emotions)
5. Managing emotions EI (the ability to create effective strategies that use your emotions to help you achieve a goal rather than having your emotions negatively affect you)

The MSCEIT measures an individual's overall level of EI and his or her ability levels in relation to the four branches of the model: perceiving emotions, using emotions, understanding emotions, and managing emotions. The *perceiving emotions* branch consists of two tasks concerned with the ability to perceive and identify the emotional content of four different faces (faces task) and also of sex artistic images and photos (pictures task). The *using emotions* branch of the MSCEIT measures how much a respondent's thoughts and other cognitive activities are informed by their experience of emotions, and consists of two tasks—the facilitation task, which involves identifying which emotions may be useful to perform five different

activities, and the sensations task, which requires the participant to relate emotions to other mental sensations such as taste and color. The *understanding emotions* branch consists of two tasks: the changes task and the blends task, where the changes task looks at the progression of emotions and measures the ability to understand how emotions may change and alter over time. For example, fear often changes to relief and anger often changes to sadness. The blends task measures a respondent's ability to identify the individual emotional constituents of complex feelings. The *managing emotions* branch consists of two tasks, emotional management and social management. The emotional management task measures the respondent's ability to incorporate his or her own emotions into decision making. In this instance, the test taker is required to rate the effectiveness of alternative actions in achieving a certain result in five situations where a person must regulate his or her own emotions. The social management task, similar to that of emotional management, measures the respondent's ability to incorporate emotions into decision making involving other people.

The MSCEIT also generates two domain scores: experiential emotional intelligence (EEI), which assesses an individual's ability to experience emotion (the cumulative score of the first two branches, namely, perceiving and using emotions), and reasoning emotional intelligence (REI), which assesses an individual's ability to strategize about emotion (the cumulative score of the last two branches, namely, understanding and managing emotions). The MSCEIT consists of 141 items that provide 15 scores: total EI score, 2 area scores, 4 branch scores, and 8 task scores. Research has suggested the MSCEIT has good reliability (Brackett & Mayer, 2006; Lopes et al., 2003; Mayer et al., 2004) and supported factor structure (Day & Carroll, 2004).

The MSCEIT is scored via consensus and expert scoring methods. Both systems operate under the principle of consensus scoring to the effect that if an individual indicated that anger was definitely present in a face and the same alternative was selected by 45% of the consensus scoring sample, then the individual's score would be incremented by 0.45 as his or her consensus score for that item. MacCann, Roberts, Mathews, and Zeidner (2004) argue that consensus scoring suffers from a major weakness in that the distribution of test scores will have a negative skew and a high degree of kurtosis. As most of the scores will form a highly peaked cluster at the top end of the distribution, individuals who scored very highly in EI will fall close to someone who scored adequately in EI. This may result in difficulties in discriminating between the scores for these individuals (MacCann et al., 2004). The expert scoring method, selected for this investigation, is more robust against these criticisms because of the relatively small sample size of 50. Research has provided discriminant validity from the Big Five personality traits (Brackett & Mayer, 2006; Ciarrochi et al., 2000; Day & Carroll, 2004; Lopes et al., 2003; Salovey et al., 2003) and other personality measures (Caruso et al., 2002; Rosete & Ciarrochi, 2005).

Method

Participants

A total of 100 principals were selected through stratification and simple random sampling. The province was the unit of analysis and a representation was sought from each of the eight provinces in the Republic of Kenya. In each province, a sampling frame was developed based on the categorization of the schools as high performing and low performing.

Data Collection Procedures

The administration of the MSCEIT PMS tests was done by JVR–South Africa, a psychometrics firm that is an agent for Multi-Health Systems Inc. [MHS], the publisher of the MSCEIT V.02. A paper-and-pencil version of the MSCEIT was used instead of the online format. The participation of the principals was enhanced by the fact that KIE is the National Curriculum Development Centre and the same principals would be trained and certified as administrators of these instruments in the anticipated national study. The principals selected to participate in the study were assembled at the Kenya Institute of Education and the instruments administered by JVR.

This study used EI as an independent variable and leadership effectiveness as the dependent variable. School performance assessment based on a Likert-type scale was collected from the PDEs in each of the provinces. EI data were gathered for this study through the application of the MSCEIT V.02. This survey is a 141-item instrument designed to measure the four-branch model of EI (discussed earlier) based on respondent skill and ability. This test provided a total EI score, area scores, branch scores, as well as subscores for each of the four branches tested.

Outcome Measures

The leadership effectiveness data were gathered from the targets set out in the performance contract signed by the schools' boards of governors and the government, through the ministry of education. The achievement levels of the performance contracting annual targets for each school were then correlated with the EI scores of the school principals who participated in the study.

Reliability of the Instrument

Reliability levels for the MSCEIT V.02 were established for both general and expert participants. For the purposes of this study, the reliability reports are applied from the general participant category. The total MSCEIT reliability was $r = .91$. Area reliability was reported as $r = .86$, and branch score reliability was reported as $r = .86$ (Mayer et al., 2002). Numerous studies have reported similar findings linking higher levels of EI to positive organizational performance.

The Mayer, Salovey, and Caruso MSCEIT User's Manual (2002) offered a breakdown of the MSCEIT V.02. The EI score reported by the MSCEIT can be interpreted as a total EI score applied to either a general or expert population. All participant data gathered from the MSCEIT was scored under the general population category.

The MSCEIT allowed for the analysis of specific abilities within EI beginning with two separate categories described as area scores. These area scores consisted of experiential emotional intelligence (EEIQ) and strategic emotional intelligence (SEIQ). Each of these area scores is further divided into two branch scores in which each described specific emotional ability. The EEIQ scores are composed of two branches that extended out to the perceiving emotions intelligences (PEIQ) and facilitating emotions intelligences (FEIQ). Both PEIQ and FEIQ were gathered through the participants' ability to navigate two associated tasks for each grouping of survey questions. To gather PEIQ, respondents were asked to analyze photographs of faces, landscapes, and abstract designs to determine the degree and type of emotional influence that was most prevalent. FEIQ is assessed by the facilitating emotions, which ask the respondent to judge which emotions might best facilitate a given situation's cognitive tasks. FEIQ is also assessed through the sensations that test a respondent's ability to match an emotion to a physical sensation such as heat or cold. The second area of EI is defined as the strategic emotional intelligence (SEIQ). SEIQ is also divided into two subcategories of intelligence, defined as understanding emotions (UEIQ) and managing emotions (MEIQ). As with EEIQ, the two subbranches of SEIQ (UEIQ and MEIQ) are split into two separate task abilities. UEIQ is determined by the respondent's ability level at determining Change and Blends within emotional contexts. The Changes Task requires the participant to determine specific emotional results from the intensification of a specific feeling. The Blends Task requires participants to attempt to identify the resultant emotion when two or more different feelings are combined.

MEIQ is derived from emotional management and emotional relations tasks. The emotional management task requires the respondent to judge the actions that would be deemed as most effective in bringing about a desirable outcome for an individual in a story. The emotional relations task asks participants to identify the emotional response to a given situation that might best allow for the management of another's emotions.

Leadership Effectiveness

The researcher also developed a 5-point Likert-type scale for rating the what and how reasoning by the principals. The PDEs are the immediate supervisors of the school principals. The principals were not rated for their innate abilities, knowledge, and skills, but rather on how well they achieved their targets for the period under research. These targets were internally set based on the performance contracting model currently operationalized across the Public Service in Kenya. Due consideration was also given to the performance of the schools in national examinations by the PDEs in rating the principals. The 5-point scale was constructed based on this framework: *excellent* (5)—performance well beyond expectations, breaking new ground, outcomes quite

unexpected; *very good* (4)—achievement had been consistently high on the range of indicators and capabilities; *good* (3)—good and meritorious achievement within set targets; *average* (2); and *weak* (1).

Data Analysis

The following hypotheses guided this study:

Hypothesis 1: There is no significant relationship between a principal's total EI score and school performance.

Hypothesis 2: There is no significant relationship between specific areas or branches of a principal's EI and school performance.

The Pearson correlation coefficient was used to establish the relationship between EI scores and the rating of the principals' performance by their immediate supervisors, the PDEs. The Pearson coefficient was preferred here because it is a measure of the linear relationship between two variables and is the most frequently used measure of association between variables. The confidence levels ranged between $p < .001$ and $p < .05$. Table 2 shows a correlation matrix for the main principals' EI scores and the ratings of their performance by the PDEs.

As expected, a number of positive correlations were found between MSCEIT scores and performance ratings (e.g., perceiving emotions, $r = .41, p < .01$; using emotions branch, $r = .51, p < .001$). Surprisingly, both the understanding and managing emotions branch scores, and their corresponding reasoning EI domain, did not display a significant relationship with performance ratings.

Discussion of the Regression Analysis

Analysis of the data showed that the total EI score displayed a strong positive correlation with performance ratings ($r = .37, p < .001$). The results indicate that 13.7% of the variation in performance ratings can be predicted by the principal's total EI score. Mayer and Salovey (1997) note that "a 10% contribution of emotional intelligence (to life outcomes) would be considered very large indeed" (p. 17).

With regard to the MSCEIT domain scores, the EEI score was found to be highly correlated with performance ratings ($r = .49, p < .001$), whereas the REI score displayed no significant correlation ($r = .08$). The results indicate that the EEI limb of the MSCEIT accounts for almost all significance in the relationship between total EI (TEI) and performance ratings. The r^2 value rises from 13.7% for TEI at MSCEIT Factor Level 1 to 24.0% for the EEI at MSCEIT Factor Level 2. This outcome suggests that whereas the TEI score can predict 13.7% of the variation in performance ratings, the EEI score alone can predict 24.0% of the variation. This increase, along with the lack of any significant statistical relationship found between REI scores and supervisor ratings (REI: $r = .08$), indicates that the REI value does not possess any

Table 2. Correlations of EI Scores and Performance of School Principals Studied

MSCEIT Scores	<i>r</i>	<i>r</i> ²
Total EI	.37***	.137
Area scores		
Experiential EI	.49***	.240
Reasoning EI	.08*	-.006
Branch scores		
Perceiving emotions	.41**	.168
Using emotions	.51***	.260
Understanding emotions	.26*	.068
Managing emotions	-.12*	-.001

*NS, ** $p < .01$. *** $p < .001$.

significant predictive power in regards to performance ratings. Indeed, these findings suggest that when the REI score is added to the EEI score (to create the overall TEI value) the REI score dilutes the overall level of correlation with the dependent variable; thus, we witness a reduction in the value of r^2 . Perceiving emotions branch scores displayed a positive correlation with performance ratings ($r = .41, p < .001$). The r^2 value indicates that principals' respective perceiving emotions branch scores can account for 16.8% of the variance in performance ratings. These findings indicate that the PDEs view principals who are adept at perceiving emotions as more effective in their leadership role.

The using emotions branch of the MSCEIT involves using emotions to enhance reasoning (Mayer et al., 2001). The branch aims to measure how much a respondent's thoughts and other cognitive activities are informed by their experience of emotions. These using emotions branch scores displayed a highly significant positive correlation with performance ratings ($r = .49, p < .001$). Indeed, the regression coefficient for the using emotions branch was more significant than all other branches ($r^2 = .26$; see Table 2). Perceiving emotions and using emotions had the greatest overall impact on performance ratings.

The understanding emotions branch assesses an individual's ability to understand emotions and to reason with emotional knowledge (Mayer & Salovey, 1997). High levels of emotional understanding enable superior comprehension of the advantages and disadvantages of future actions (Mayer et al., 2002) and more effective self-management of emotions, particularly negative emotions (Mischel & DeSmet, 2000). Surprisingly, understanding emotions branch scores had a nonsignificant positive correlation with performance ratings ($r = .26$). These findings indicate that the level of a principal's emotional understanding, as measured by the MSCEIT, has little bearing on PDEs' perceptions of the principals' effectiveness. Matthews et al. (2002) propose that expert knowledge of appropriate emotional behavior does not necessarily translate into the actual application of emotionally appropriate behavior.

The managing emotions branch is viewed as the most advanced emotional ability within the ability-based model (Mayer et al., 2000) and therefore has potentially the greatest impact on the management function (George, 2000). However, the actual results of the data analysis on the managing emotions branch scores are contrary to expectations. Correlation analysis identified no significant correlations between managing emotions branch scores and supervisor ratings ($r = -.14$). The correlation, though nonsignificant, was also in an opposite direction than expected (negative instead of positive). The managing emotions branch and corresponding tasks were the only factorial components of the MSCEIT to display a negative relationship with performance ratings. Measuring an individual's ability to manage emotions is intrinsically more difficult than other branches of the ability model.

The managing emotions branch tasks are, in principle, closer to a self-reporting format than any other section of the MSCEIT. Whereas the other tasks focus on an individual determining what he or she thought was the right (i.e., correct) answer, the managing emotions tasks asked respondents to place themselves within a situation and identify which behavior would be most socially effective to engage in. An individual's ability to regulate his or her emotions is not truly tested. The individual is to a large extent detached from the actual emotional stimulation the situation would invoke, allowing the individual to answer questions from an emotional vacuum. Thus, the managing emotions branch seems vulnerable to similar criticisms applied to other self-report tests, that is, self-reported ability and actual ability are only minimally correlated in the realm of intelligence research (Davis, Stankov, & Roberts, 1998; Mayer et al., 2000).

Assumptions and Limitations

This study sought to determine the degree of association between school principals' EI and the performance of the school principals as rated by their immediate supervisors. It is assumed that the Teachers Service Commission whose mandate is to recruit head teachers has ensured that any principal working in the country has satisfied the required academic and professional certifications and requirements to be placed in his or her current position as the principal of a public school. It was further assumed that the academic and training programs from which these principals received their administrative training satisfied all requirements from a nationally recognized university or college, and provide similar opportunities for professional development in this regard.

There are multiple factors that may affect a school's ability to do well. A principal's cognitive abilities would have an impact on school success. Specific aspects of a principal's previous educational and training experiences will influence school success levels. Other factors may include variations in the macroeconomic context in the country at any given time. Levels of parental involvement in the schools to be used for this study are unknown, and the extent of parental participation in the school's organizational structures was not gathered. This study did not address the principal's staff on issues such

as experience, education, or interest, and/or motivation to be creative in helping students meet their required academic standards.

Depending on the school's operational systems, principals do have varying degrees of interactions with students, parents, and staff, which could have had an impact on student success. Issues of support for the principal were also not explored within this study. The final limitation of the study is the restricted scope of variables measured. There are several competencies not related to EI that are extremely important to leadership success that were not measured. Variables such as motivation, technical skills, experience, and extent of one's network can all lead to increased levels of success in leadership in various situations and these competencies were not accounted for in this study. The small size of the sample studied also limits the generalization of the study. Thus, the findings of the study can only be generalized to the principals who participated in the study.

Implications for Human Resource Development (HRD) Research and Practice

The implications of EI for HRD research and practice are captured under this section in addition to aspects of the effect of HRD and EI on individual and organizational productivity, EI and leadership development, and the relationship between EI and job performance. The need for organizations such as schools to invest in people through HRD programs, EI activities, and promotion of the development of social capital to remain competitive and succeed in the current knowledge-based economy characterized by uncertainty and inevitable change is critical. The research linking HRD and performance improvement is a relatively new body of literature (Weinberger, this issue) and has endeavored to integrate economic theories, psychological theories, and systems thinking models (Nafukho, Hairston, & Brooks, 2004; Nafukho & Hinton, 2003; Pate, Martin, Beaumont, & McGoldrick, 2000; Swanson, 1999). The current literature specifically linking HRD, EI, social capital, and organizational productivity is limited at best (Brooks & Nafukho, 2006). Although a universally accepted definition of HRD is nonexistent, several scholars have attempted to identify its essential elements. For instance, McLagan and Suhadolink (1989) grouped organization development, training and development, and career development as the primary foci of HRD. Swanson and Holton (2001) define HRD as "a process for developing and unleashing human expertise through organization development and personnel training and development for the purpose of improving performance" (p. 4). This definition is more inclined toward individuals, organizations, and work groups or teams. An exploratory study of the definitions of HRD concluded that HRD's definitions were culturally influenced and varied internationally in scope of activities, intended audiences, and beneficiaries (McLean et al., 2003; McLean & McLean, 2001; Weinberger, 1998).

Social capital theory has emerged from sociology as a potential influence on performance at the individual, process, and organizational levels. Social capital can be expressed as "the resources embedded in social networks accessed and used by

actors . . . and can also be envisioned as investment by individuals in interpersonal relationships useful in the markets” (Lin, 2001, p. 25). Coleman (1990) explains that in social capital, the social relationships are relations with predictive capacity and can be used to create something of value. Unlike human capital and traditional organizational assets, social capital is unique in that it is developed by and is a result of meaningful social relationships that individuals invest in creating together over time (Storberg-Walker, 2002). In her excellent review of the evolution of social capital theory, Storberg-Walker (2002) indicates that like human capital theory and HRD, conflicting definitions and rationale for its measurement can be found in the management, sociology, and HRD literature. However, Lin (2001) suggested that although definitions may differ, most scholars agree that social capital “benefits both the collective and individuals of the collective” (pp. 11-13).

During the past 15 years, new technology has allowed breakthroughs in brain research that have increased our understanding about the mutual interaction between feelings (affect) and cognition (thought). Defining the nature and significance of this interplay between thought and emotion is at the heart of the emerging research on EI. HRD professionals continually grapple with the issues associated with organizing, motivating, enhancing, and evaluating human activity; EI research can inform HRD practices to this end within organizations. Fineman (2000) noted that “feelings shape and lubricate social transactions; hence emotional intelligence as an organizational development tool is widely accepted among managers, consultants, and practitioners as a means for solving problems and enhancing social capital” (pp. 1-24).

Effect of HRD and EI on Individual and Organizational Productivity

Organizations continue the search for innovative approaches to increase their competitive advantage in this knowledge-based economic era, which is defined by the utilization of people’s talent. According to Appleby and Mavin (2000), “the unique positioning of each individual organization provides that difference through its culture and the human resources. It is human capability and commitment which distinguish successful organizations from the rest” (p. 555).

They further suggest that people, and the way they are managed and deployed, are the single most sustainable source of competitive advantage (Appleby & Mavin, 2000). As noted, other advantages, such as technology, global reach, or IT systems, can all be copied and exceeded by competitors. The current drive for differentiation is to generate ideas and innovation through the organization’s human resources (Appleby & Mavin, 2000). Appleby and Mavin lastly highlighted the fact that “ideas are now the DNA of organizations and therefore learning and development of people become crucial to economic survival” (p. 555). Statements like these reinforce the importance of HRD to the strategic initiatives of the enterprise. It is widely held that we live in a knowledge age. However, there is evidence that the ideas or innovation era has emerged. In an ideas or innovation era, individuals and organizations with the capacity to create and re-create themselves and their outputs are rewarded by developing and sustaining a competitive advantage in the marketplace, and HRD becomes the delivery system of individual and organizational development on which such organizations depend.

Furthermore, just as the human pulmonary system is affected by the type of inhalants to which it is exposed, the organizational climate is reactive to the emotions that are evident within the workplace. Organizations are illustrative of open-loop systems, those systems that depend on external sources to sustain themselves (Goleman et al., 2002). At the individual level, individuals rely on others for emotional stability while subsequently influencing the emotions of others. For example, displays of toxic emotions such as rage and unbridled coercion can contribute to negativity and impede collaboration, innovation, and good performance. Whereas positive emotions promote collaboration and feedback, these elements are essential too for innovation and productivity and improved performance in the workplace.

EI and Leadership Development

The application of EI to leadership development theory and methodology is a relatively new concept. However, the emotional implications of leadership training have long been accepted as a vital component of organizational function and change theory. Research has demonstrated that through the emotional connections often forged via coaching and mentoring relationships, both the leader and the follower benefit from reduced stress and higher levels of health and personal growth (Boyatzis & Akrivou, 2006). Peterson (1996) outlined a 5-step strategy that would foster positive coaching and mentoring relationships. The strategy included the development of a relationship that would establish close partnerships, inspire a sense of commitment, encourage persistence, allow for the furthering of skills, and for the development of a more productive work environment. Research demonstrated that building positive intrapersonal communicative skills allowed leaders and employees to separate personality conflict from conflicts based on organizational restructuring (Eisenhardt, Kahwajy, & Bourgeois, 1997). As the role of emotion is further developed within the organizational structure, it will become evident that organizational leaders will need specific EI development training to manage the complex emotional impacts discovered to play such vital roles in organizational change. Undergraduate education programs have begun to attract the attention of researchers who are interested in examining the level of EI in a student population. One such study focused on students in an accounting program in an effort to determine specific EI ability. The author (Bay, 2006) stated that historically speaking, much of the focus in such educational programs has centered on the cognitive development of the student. However, in the light of recent research, the author suggested that EI plays a vital role in modern organizational structures and is a highly desirable component of employer interest. Following the administration of the MSCEIT, it was determined that the EI levels of these students might be of concern to undergraduate training programs. It was suggested that EI intervention training might be a valuable resource to be considered.

EI research has been applied to other fields of undergraduate study with similar findings. A large number of nursing education programs have developed curricula heavily weighed toward cognitive development and attainment of professional competencies.

Some nursing education programs have included EI development in their curricula. However, Freshwater and Stickley (2004) argue that the concept of EI might not be fully understood by those implementing the curriculum and is little more than “rhetoric,” with little training or developmental follow-through. They suggested inclusion of reflective learning experiences, modeling, self-inquiry, and reflective writing and discussion to further strengthen the EI component of such a curriculum.

Teacher education programs have also been the subject of such research inquiry. The role of EI in education and educational policy requires a great deal more study, but initial research indicates that EI development is greatly lacking in both preservice educational training programs and teacher mentoring programs (Hawkey, 2006). In the face of current educational policy reformation efforts taking place in the United States, further research in this area may be required. Researchers have also examined the role of EI in graduate-level programs. Jaeger (2003) described the disconnect between current evidence that supports the value of EI in organizational development and the fact that few graduate training programs provide the training within their curriculum to support the development of EI in the student. Holistic training programs were offered as a method of increasing the EI and cognitive abilities of such students (Boyatzis, Stubbs, & Taylor, 2002). Various other studies of graduate programs that have specifically addressed the development of EI have produced data suggesting that the inclusion of EI into graduate training programs may facilitate growth of student EI (Latif, 2004).

Employers too are taking the initiative from current EI research and attempting to incorporate EI theory into their respective training programs. Researchers have determined that the development of EI training programs often allow employees to more effectively navigate the social and contextual clues of emotional response within an organizational setting (Clarke, 2006). Employment-based training programs have been used extensively to increase behavioral efficacy in employees. Conflict and stress management programs have been used for quite some time. In a study to determine the effect of interpersonal skill development training programs, 40 supervisors were randomly placed either in a control group or a training group. Results indicated that participation in the training program predicted higher performance and affectivity over those in the control group. In addition, those supervisors in the original control group demonstrated similar and significant improvement in performance and affectivity that mirrored the original training group’s results (Latham & Saari, 1979). Other research indicates that HRD training programs such as those described above may be unsuccessful if the intrinsic motivation for change is not addressed in the target employee population. Boyatzis and Akrivou (2006) used intentional change theory in a study to design a model for the development of the image of an ideal self that allows for a deeper commitment on the part of the trainee and may lead to increased training program success.

The movement of knowledge and skill from the training setting to the workplace has also been of interest for quite some time. The design of training programs is, at times, the central focus, and the transferability of such programs to the workplace

often came as a secondary consideration. Research indicates that the continuance of training initiatives must carry over into the workplace if the desired knowledge and behavior is to be maintained (and to avoid the readoption of the targeted negative organizational processes; Marx, 1982). Research also indicates that employee EI can be increased through such workplace training interventions. Meyer et al. (2004) conducted a study in which health care providers were asked to complete the MSCEIT to measure levels of EI. A 1-day EI training program was presented to the employees, with a reapplication of the MSCEIT as an exit measure. It was determined by the researchers that EI levels were higher following the EI training program than were initially measured prior to the training. This study supports Goleman's (2002) statement that unlike cognitive intelligence levels, EI levels may be increased through participation in EI developmental programs, hence the need for training provided by HRD practitioners.

EI and Job Performance

One of the largest areas of contention within the EI research community appears to relate to the impact of job performance. Some researchers have argued that the currently available data on EI as it relates to job performance may demonstrate a disconnect because it represents in fact emotional competencies that affect job performance. In this vein, Abraham (2004) wrote:

As emotional intelligence is the composite of 27 competencies, and as the competencies themselves never have been tested separately to determine their ability to predict superior performance, it is possible that the weak relationship between emotional intelligence and performance may result from the suppression of effects of some competencies with little or no impact on performance by others. (p. 121)

Arguments such as this focus on EI's overall representation of composite emotional competencies without addressing those specific competencies that may actually be the catalyst for success. However, there is an overwhelming amount of research that supports EI's ability to predict performance. Specific measurement tools such as the MSCEIT V.02 have been designed to incorporate emotional competency (ability-based measurement) into reports of ability branches as well as the general EI measurement score. Researchers have found that an employee's ability to perceive his and other's emotions, to understand the implications of such emotions, and to regulate and manage emotion as described by EI has a direct impact on job performance. Furthermore, current research provides evidence that EI exists independently from other forms of intelligence (Carmeli, 2006; Lam & Kirby, 2002; Rosete & Ciarrochi, 2005). A study of 126 undergraduates who were placed in stressful situations were asked to accomplish mathematical problem solving and oratory presentations. It was found that the EI levels of these students positively predicted the performance of the assigned task within the stressful environment (Lyons & Scheneider, 2005). Research studies have

even attempted to explore relationships between EI, an employee's sense of spirituality, and workplace performance (Tischler, Biberman, & McKeage, 2002). There is great interest in thinking out of the box to discover previously untapped areas for increased organizational performance.

Research thus indicates that direct links between emotion and organizational performance have been established. In a study examining the relationship between a leader's mood and its impact on organizational productivity and performance, researchers determined that the employees working under a manager with a positive mood were likely to experience positive moods. These employees also demonstrated a more positive affective tone. It was ultimately discovered that leaders with positive moods supported a more cohesive work environment and expended a great deal less energy than did leaders with a negative mood, for similar results in productivity (Sy, Côté, S., Miners, & Saavedra, 2005). Further studies have even determined that EI predicts positive increased task performance in specific areas as cognitive levels of intelligence decrease (Côté & Miners, 2006).

In a study of the predictability of EI to sales outcomes, Rozell, Pettijohn, and Parker (2006) determined that positive or negative sales productivity was significantly related to EI. The effects of psychologically based intervention programs have been the subject of research for many years. The overwhelming consensus is that psychosocially based workplace training programs can significantly increase organizational effectiveness (Guzzo, Jette, & Katzell, 1985). It should come as no surprise then that with the increase in interest in the effects and predictive abilities of EI to increase organizational performance, many studies have focused their attention on the effect of EI on leader or follower performance outcomes (Wong & Law, 2002). The fact that EI demonstrates the ability to identify and manage both one's own emotions and the emotions of others allows for the use of such concepts as goal identification as a vital component of EI methodology in an effort to improve workplace performance levels (Brett & VandeWalle, 1999).

Educational Leadership and EI

EI research in public educational research is still somewhat limited. Research completed covers a wide variety of indicators of EI, which point to possible connections with educational leadership development. For instance, in their study that evaluated the relationship between principal leadership and student achievement in Seattle, Washington, Andrews and Soder (1987) determined that the gain in student test scores in both reading and mathematics were significantly higher in "strong leader" schools. The relationship between gains in student performance and schools with strong principal leadership were even greater in high-minority-population schools. Even without direct student contact, it has been demonstrated that principals directly affect student learning through direction and design of the overall learning environment and climate (Hallinger & Bickman, 1996). Ambert (1997) wrote that "competent and empathetic school personnel is positive when problems exist, and a supportive and cooperative relationship is established with parents" (p. 113).

Another study demonstrated the relationship between three specific variables related to principal leadership in schools. Heck and Marcoulides (1990) found, in a study of 332 teachers and 56 school principals, that a principal's ability to implement school governance, to create a highly functional instructional organization, and to establish educationally enriching and supportive learning climates predicted significantly higher student levels of success than principals who were not. Other research has indicated that school-based variables such as socioeconomics and ethnic composition of the student body can significantly affect a principal's ability to implement positive change initiatives for student success (Blank, 1987).

The literature has developed numerous definitions of "strong principalship." For example, Sergiovanni (2005) described a four-virtue model of principal leadership that has been demonstrated to support reformation efforts in public education. The author presented the virtues of hope, trust, piety, and civility as cornerstones of effective principal characteristics. A qualitative study in Mexico City and south Texas used a cross-cultural examination and comparison of shared perspectives on positive principal behaviors. Educators in both Mexico City and Texas identified actions and values such as educational participation, clear and concise communication processes, the ability to plan for and use strategy in times of change, and a strong value system as important characteristics for a supportive and effective principal. Thomas and Kerr (2003) described various aspects of "cultural intelligence" as the knowledge to understand cross-cultural interaction, mindfulness when observing and subsequent interpretation of such interactions, and an ability to adapt one's own behavior.

Sternberg (2004) described his work developing a three-component model for principal leadership development using the attributes of wisdom, intelligence, and creativity (WICS). The author described that good leadership is not necessarily innate, and it can be developed to ensure successful educational leadership in public principalship. The literature also provides evidence that successful principals understand the necessity of creating a climate and environment conducive to staff professional development. A case study of one specific principal included interviews with 125 teachers in an effort to garner information on the development of a learning community designed specifically for the needs of the staff. The principal used a wide variety of approaches to meet the learning needs of the staff and was able to affect positive change for the staff and student body within the school (Zepeda, 2004). The corporate world has long understood the importance of sharing best-practice know-how. As Evans et al. (2002) observed:

Increasing the sharing of know-how and best practice is another dimension of coordination of critical importance. With increasing competition and the importance of speed in responsiveness, reinventing the wheel can be ill-afforded. Some scholars have argued that the main competitive advantage of the global corporation is its ability to learn from its experience throughout the world. The experience in sharing know-how lays the foundation for more sophisticated systems of knowledge management that are immersing in both industrial and professional service firms. (p. 321)

Effective educational leadership will also seek to include outside support in positive change efforts. The Maryland Department of Education partnered with Johns Hopkins University and Towson University in an effort to develop a network to which educational leaders from across the state could turn for technological assistance and support (Wizer & McPherson, 2005). However, there are still disconnects between student success and principal leadership that must be addressed. Ruebling, Stow, Kayona, and Clarke (2004) determined that there are four such essential aspects. In doing so, the authors examined issues relating to commonality of curricular frameworks, alignment of curriculum to state and national standards, staff training and development with delivery of the curriculum, and student accessibility and incorporation of the curriculum as vulnerable aspects within educational systems.

Principals were tasked with providing opportunities for team building and teamwork, assignment of appropriate resources for curricular implementations, and ultimately establishing a climate of total staff accountability for the results of the educational delivery on student success. To be effective, educational leaders may need to consider removing barriers to intrapersonal communication if they hope to deal with problems that arise through change and reformation programs (Argyris, 1966). Principals must be able to find a balance between the creation of a nurturing and supportive learning environment for staff and students, while remaining accountable to increasingly demanding calls for higher student test scores. Some researchers fear that the demands for accountability may lead educational leadership in the wrong direction, away from the humanistic traditions of education, and possibly weaken the overall educational system as inappropriate leadership theory or methodology are introduced in a quest for ever higher student performance scores (McInerney, 2003). This is typical of what is happening in Kenya today.

Conclusions

The predicted relationships between EI and school principals' performance are based on the research and articles presented in the literature review. Leader and employee EI has been found to positively affect the overall mental and physical health and well-being of an organization (Austin, Saklofske, & Egan, 2005; Gannon & Ranzijn, 2005). Those with higher levels of EI are more effective at regulating and understanding the emotional implications within an environment (Schutte et al., 2001). EI research has also demonstrated a positive relationship between high levels of EI and stress management (Graves, Schmidt, & Andrykowski, 2005; Salovey, Stroud, Woolery, & Epel, 2002; Slaski & Cartwright, 2003). Leaders with lower EI levels are less able to manage stress within an environment and studies have demonstrated that detrimental results may occur (Quebbeman & Rozell, 2002). Stress management is a major factor in the physical health and well-being of organizational members and is a predictor for overall organizational performance (Slaski & Cartwright, 2003). Overall organizational performance studies have determined that higher EI scores may act as overall predictors for organizational success and performance (Côté & Miners, 2006; Lyons & Scheneider, 2005; Tischler, Biberman, & McKeage, 2002).

This study used the 4-Branch Model of EI. After the data were analyzed, significant associations between a principal's total, experiential, and perceiving EI scores and their performance were established. Principals with higher EI levels in these areas were rated as high performers by their immediate supervisors. The logical conclusion is that it makes sense for school systems to seek out and use principals with higher levels of EI for positions of leadership in schools in an effort to promote increased individual and school performance. As discussed in the literature review, there are a few postsecondary leadership development programs that have included EI training in their curriculum. This is indeed an indication that the marketplace has begun to appreciate the value of leaders who are adept at navigating emotional environment and are aware of the impact that such leaders may have on organizational performance. Educational leadership programs should also evaluate the implications of research in the field of EI and consider the value of adding EI training to their current curriculum. The Teachers Service Commission (TSC), the main government agency that employs public school teachers in Kenya, may then choose to include EI selection criteria into their recruitment and promotion policies when looking for prospective school principals.

There is a need to respond to this need. Unlike IQ, current research indicates that EI levels can be increased through the application of EI training programs (Goleman, 2002; Meyer et al., 2004). EI training programs should be adopted by TSC for use in the training and appointment of school principals. This should take place with a focus on the development of programs that are designed to (a) educate people about the relevance of EI in the workplace, (b) assess their relative strengths and weaknesses, and (c) provide a framework to develop and enhance their ability to interact with others with greater EI (Boyatzis, 1999). Although current research determining the degree of association between EI and school performance is limited at this time, recent studies have demonstrated that by addressing specific segments of EI, positive outcomes in the field of public education may occur (Justice & Espinoza, 2007). The segments of EI indicated in this study as having a significant degree of association to school performance were the experiential and perceiving EI abilities of the participants. These should be specifically emphasized within the related HRD training programs.

Recommendations

In today's knowledge-based economy, organizations seek to employ and develop workers with high EI, advanced cognitive skills, and knowledge developed through HRD training and interventions programs. However, limited research has attempted to establish how the training and application of EI by HRD scholars and practitioners could be combined to optimize leadership talent and lead to improved performance. In reviewing the literature for this article, it was felt that there is an urgent need to research the link among investments in HRD, EI, and school performance and success. It is apparent that HRD scholars and practitioners need to endeavor to develop instruments that can measure and show the contribution of HRD and EI to such and

other organizations. Although HRD scholars have paid great attention to the critical role of HRD in organizations, limited work has been done to show the combined value and contribution of EI to organizations, let alone to schools. As a focus of academic inquiry, HRD draws on a wide range of disciplines—economics, sociology, and psychology, for example—and has more or less direct connections and relationships with a range of management ideas and functions, for example, strategic management, leadership, and human resource management (McGoldrick, Stewart, & Watson, 2002a, 2002b). In future studies on EI, therefore, it will be critical to engage HRD programs in leadership training on EI and enhance the linkage with HRD theory, research, and practice. HRD practitioners can play an important role in encouraging employee learning in the workplace (Johnston, McAuley, & Ogden, 2000; Koornneef, Oostvogel, Harris, & Poell, 2002; Tjepkema et al., 2002). They can also be instrumental in operationalizing individual learning goals and creating learning programs, interacting with various organizational actors through the processes of negotiation, collaboration, participation, and conflict resolution (Poell & Chivers, 1999; Romiszowski, 1982).

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