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## **Report on the Ontario Principals' Council Leadership Study**

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## **1. Executive Summary**

The purpose of the Ontario Principals' Council (OPC) leadership study (funded by the Ministry of Education and Training) was to explore the relationship between emotional intelligence and school leadership. Specifically, this project sought to identify key emotional and social competencies required by school administrators (principals and vice-principals) to successfully meet the demands and responsibilities of their positions. It is hoped that this information can be used to guide the focus of professional development activities for future and current principals and vice-principals.

The construct of emotional intelligence was defined originally by Salovey and Mayer (1989/90) as the ability to monitor one's own feelings and emotions, the ability to monitor the feelings and emotions of others, and to use this information to guide future thinking and action. Since that time several related models have been proposed. Bar-On (1997, 2000), for example, who has worked extensively on developing a comprehensive inventory for assessing relevant abilities since the 1980s, employs a slightly broader definition of emotional intelligence. He has developed a model that consists of several related dimensions: intrapersonal abilities (comprised of several related skills like recognizing and understanding one's feelings), interpersonal abilities (comprised of several related skills like reading the emotions or non-verbal communication of others), adaptability (consisting of abilities like being able to adjust one's emotions and behaviours to changing situations and conditions), and stress management abilities (consisting of skills like resisting or delaying an impulse).

There is growing empirical evidence that the type of competencies most closely linked with emotional intelligence are strongly linked with an individual's ability to cope with environmental demands and uncertainties (Mayer, Caruso & Salovey, 1999). Thus, emotional

intelligence has come to be viewed as an important factor in the quality of one's general emotional well-being (Taylor, Parker & Bagby, 1999), as well as an important predictor of one's ability to succeed in the classroom and on the job (Parker, Summerfeldt, Hogan & Majeski, 2004; Zeidner, Matthews & Roberts, 2004). Regardless of the emotional intelligence model, most theorists assume that the relevant emotional and social competencies or abilities are quite malleable (Mayer et al., 1999; Bar-On, 2000); that is, it is assumed that emotional and social competencies can be developed and enhanced via appropriate interventions (Bar-On & Parker, 2000b).

## **1.1 Present Study**

### **1.1.1 Participants**

The sample included 464 principals or vice-principals (187 men and 277 women) from nine school boards in Ontario. Two-hundred and twenty six participants were elementary school principals, 84 were elementary school vice-principals, 43 were secondary school principals and 57 were secondary school vice-principals (54 did not indicate their current position). The mean age of the participants was 47.3 years, the mean length of time participants had been in the education field was 22.4 years, the mean length of time as principal was 5.4 years, and the mean length of time as vice-principal was 3.0 years.

### **1.1.2 Procedure**

Participating principals and vice-principals provided information about their emotional intelligence by completing the *Emotional Quotient Inventory (EQ-i; BarOn, 1997)* online following instructions distributed in an information package. The *EQ-i* is a 125-item self-report instrument designed to measure the core features of emotional intelligence. The *EQ-i* generates 4 main scales, which make up total emotional intelligence: intrapersonal (consisting of self-regard, emotional self-awareness, assertiveness, independence, and self-actualization), interpersonal

(consisting of empathy, social responsibility, and interpersonal relationship), adaptability (consisting of reality testing, flexibility, and problem solving), and stress management (consisting of stress tolerance, and impulse control). The *EQ-i* also includes a general mood scale (consisting of optimism and happiness). Participants also completed a consent form which was returned to the researchers.

Participants were requested to ask their immediate supervisor (superintendent if principal and principal if vice-principal) to complete a supervisor-rated leadership questionnaire and return to the researchers. Participants also asked three staff members to be raters and complete a staff-rated leadership questionnaire which were returned directly to the researchers by the staff members. The mean of all completed staff rater forms for each participant was calculated. Leadership skills were rated by participants' immediate supervisor, as well as several staff members using a questionnaire that included 21 items related to leadership abilities. The factor structure of the leadership questionnaire was examined and analyses revealed two broad leadership dimensions: a task-oriented leadership dimension (e.g., "comes well prepared for meetings") and a relationship-oriented leadership dimension (e.g., "seeks consensus among staff members").

Four hundred and sixty-four participants completed the *EQ-i*; of these individuals, 395 had supervisor-rated leadership ratings and 434 had at least one staff-rated leadership ratings. Those individuals with complete data (*EQ-i* and all leadership ratings) did not differ on any of the *EQ-i* scales from those individuals with incomplete data (missing supervisor ratings and/or staff ratings).

## 1.2 Central Findings

Consistent with previous research using the *EQ-i*, women were found to score higher than men on the interpersonal dimension. However, no differences in *EQ-i* scales were found between individuals working in an elementary school versus a secondary school; the same was true when *EQ-i* scales were compared for principals and vice-principals.

Men and women were also compared on each of the leadership ratings (task-oriented leadership, relationship-oriented leadership, and total leadership). Men and women did not differ on any of the leadership ratings (regardless of whether supervisor or staff ratings were used). In addition, individuals employed by an elementary school did not differ from those employed at a secondary school on any of the leadership ratings. Principals, however, were rated higher than vice-principals by their supervisors on task-oriented leadership, relationship-oriented leadership, and total leadership. Vice-principals, on the other hand, were rated higher by their staff on relationship-oriented leadership.

Although there was a positive relationship between the leadership ratings from supervisors and staff, the association was weak and revealed considerable disagreement between raters. Therefore, in order to identify individuals who were perceived by others as demonstrating “above average” or “below average” leadership, a total leadership score was calculated for each individual based on a combination of both supervisor and staff ratings. A below average leadership ability group was created by identifying individuals rated at the 20<sup>th</sup> percentile (or less) on leadership ability according to both the supervisor and staff ratings; an above average leadership ability group was also created by identifying individuals rated at the 80<sup>th</sup> percentile (or higher) on leadership ability according to both the supervisor and staff ratings. The above average leadership group scored higher than the below average leadership group on total EI and

all four broad dimensions (intrapersonal, interpersonal, adaptability, and stress management).

However, the two groups did not differ on the general mood scale of the *EQ-i*.

The subscales of the dimensions that the leadership groups differed on were also investigated. With regards to intrapersonal abilities, the above average leadership group scored higher than the below average leadership group on the emotional self-awareness and self-actualization subscales. The above average leadership group scored higher than the below average leadership group on the empathy and interpersonal relationship subscales of the interpersonal dimension but not on the social responsibility subscale. In investigating adaptability skills it was revealed that the above average leadership group scored higher than the below average leadership group on the flexibility and problem solving subscales. Finally, of the two stress management subscales (stress tolerance and impulse control) the above average leadership group only scored higher than the below average leadership group on the impulse control subscale.

### **1.3 Conclusions and Recommendations**

Several key emotional and social competencies have been identified that differentiate between school administrators identified by both supervisors and staff as either above average or below average in leadership abilities. This pattern of results was consistent regardless of gender, as well as whether the individual worked in an elementary or secondary school, or was employed as a principal or vice-principal. Boards are advised to consider the use of assessment tools for EI in professional development programs, as part of the recruitment process for new school administrators, and in the process of succession planning.



Although total emotional intelligence was a significant predictor of successful school administration, some dimensions of emotional intelligence were better predictors than others. Specifically, the results of the present study suggest that professional development programs would be wise to focus on promoting or developing the following abilities: emotional self-awareness (the ability to recognize and understand one's feelings and emotions); self-actualization (ability to tap potential capacities and skills in order to improve oneself); empathy (ability to be attentive to, understand, and appreciate the feelings of others); interpersonal relationships (ability to establish and maintain mutually satisfying relationships); flexibility (ability to adjust one's emotions, thoughts, and behavior to changing situations and conditions); problem solving (ability to identify and define problems as well as to generate potentially effective solutions); and impulse control (ability to resist or delay an emotional behaviors). Since there were no differences on these EI dimensions principals or vice-principals were compared, or when supervisors were working in an elementary school were compared to individuals working in a secondary school, professional development programs that developed these abilities would benefit a broad range of school administrator.

## **2. Introduction**

### **2.1 Background and Context**

The publication of Goleman’s book on “emotional intelligence” in 1995 generated substantial popular interest in the construct. One of the ideas that quickly emerged from the “media fallout” around this book was the notion that EI was associated with success in various educational and work contexts. A plethora of “new” intervention programs quickly appeared for developing or improving various EI-related abilities (for a review, see Bar-On & Parker, 2000b). One of the problems with the early literature on EI was the often vague definitions for the concept. EI was consistently treated as a multi-dimensional construct, but it was often unclear in the early literature what dimensions should be included and which dimensions actually predicted success in different aspects of life. Equally problematic in the early literature was the fact that there was a lack of reliable and valid measurement tools for the various EI models that were being proposed (for a longer review of the early EI literature, see Zeidner, Matthews, & Roberts 2001).

Initial models for EI often included a long list of attributes or abilities that appeared drawn from a number of aspects of personality psychology. More recent work, however, has focused on a more limited set of emotional and social competencies. Although theorists often quibble over the labels given to specific dimensions, the more influential recent work has focused on four key EI dimensions (for a review of this literature see Bar-On & Parker, 2000b). The first dimension is the ability to perceive, appraise and express emotion. Emotional perception may involve paying attention to various non-verbal cues (like facial expressions, tone of voice, posture) in self and others. Research has consistently found that the ability to understand emotional behaviour in self is linked with one’s ability to understand it in others (Taylor, Bagby, & Parker,

1997). The second dimension is the ability to use emotions to facilitate thinking and behaviour. This dimension focuses on how emotions influence our cognitive system. This ability can be very beneficial, such as when we use intuition or our “gut-feelings” to help make decisions or be creative. The third dimension is the ability to understand and utilize emotional knowledge. As noted by Mayer, Salovey, and Caruso (2002), understanding about what has led to the experience of a particular emotion is a critical component of EI: “knowledge of how emotions combine and change over time is important in one’s dealings with other people and in enhancing one’s self-understanding” (p. 19). The fourth dimension is the ability to manage and regulate emotions. Individuals who are high on this dimension are generally calm and work well under pressure; they are rarely impulsive and can usually respond to a stressful event without an emotional outburst (Parker, 2000).

Perhaps one of the most important developments in the EI area in recent years has been work trying to develop psychometrically sound measures for assessing relevant abilities. Since the late 1990s several new measures have appeared that have sought to assess EI dimensions related to the four dimensions described above. Mayer and colleagues (2002) have developed a performance-based measure in which respondents are asked to solve emotion-related problems (such as recognizing facial expressions). This measure produces a separate score for each of the four dimensions, as well as a total EI score. Proponents of performance-based measures contend that they are relatively objective and tap an individual’s ability to perform an emotion-related problem.

Bar-On (1997) used an EI model similar to the one described earlier to develop a self-report measure for EI. The 133-item Emotional Quotient Inventory (EQ-i) is now the most widely used self-report measure for EI. Along with a total EI score, the instrument has four broad scales:

intrapersonal (comprised of several related subscales like recognizing and understanding one's feelings), interpersonal (comprised of several related subscales like empathy), adaptability (consisting of related subscales like being able to adjust one's emotions and behaviours to changing situations and conditions), and stress management (consisting of subscales like resisting or delaying an impulse). Recently, the EQ-i has been adapted for use with children and adolescents (Bar-On & Parker, 2000a).

It is interesting to note that human resource specialists were some of the first groups of professionals to take notice of the new EI measures that were appearing at the end of the 1990s. In particular, there was a strong interest in examining the relationship between EI and leadership in various workplace environments. Leadership concerns the interaction of leaders with other individuals, and once social interactions are involved, emotional awareness and emotional regulation become important factors affecting the quality of these interactions. Although mass-media discussions of EI and the workplace (e.g., Goleman) often focus on the top of the corporate structure (e.g., what makes a good CEO, etc), the growing empirical literature is suggesting that EI abilities are linked with leadership managing behaviours at various levels within an institution (George, 2000).

If we look for patterns in the recent literature on successful leadership ability, we can see several basic ways that EI appears to contribute to positive management behaviour. People with above average levels of EI tend to have above average communication skills (often at both verbal and non-verbal levels). This is an essential skill when a manager needs to communicate goals and objectives to subordinates. People with above average levels of EI are usually above average in their ability to cope with stress. This is an ability that is very important for generating and maintaining enthusiasm, confidence, and cooperation in the workplace. Stress is an inevitable

part of the workplace, but over the long term, people are more optimistic and trusting if they work around or for individuals who know how to cope under pressure (George, 2000).

## **2.2 Present Study**

The purpose of the Ontario Principals' Council (OPC) leadership study (funded by the Ministry of Education and Training) was to explore the relationship between emotional intelligence and school leadership. Specifically, this project sought to identify key emotional and social competencies required by school administrators (principals and vice-principals) to successfully meet the demands and responsibilities of their positions. It is hoped that this information can be used to guide the focus of professional development activities for future and current principals and vice-principals.

## **3. Methodology**

### **3.1 Participants**

The sample included 464 principals or vice-principals (187 men and 277 women) from nine different public school boards in Ontario. The boards were from geographically diverse parts of the province. Two-hundred and twenty six participants were elementary school principals, 84 were elementary school vice-principals, 43 were secondary school principals and 57 were secondary school vice-principals (54 did not indicate their current position). The mean age of the participants was 47.3 years ( $SD = 6.62$ ), the mean length of time participants had been in the education field was 22.4 years ( $SD = 7.55$ ), the mean length of time as principal was 5.4 years ( $SD = 4.16$ ), and the mean length of time as vice-principal was 3.0 years ( $SD = 2.98$ ).

## 3.2 Measures

### 3.2.1 Emotional Intelligence

Participating principals and vice-principals provided information about their emotional intelligence by completing the on-line version of the *Emotional Quotient Inventory (EQ-i*; BarOn, 1997). The *EQ-i* is a 125-item self-report instrument designed to measure the core features of emotional intelligence using 5-point Likert scales for each item (ranging from “1” being “very seldom true of me” to “5” being “very often true of me”). The *EQ-i* generates 4 main scales, which make up total emotional intelligence: intrapersonal (consisting of 5 subscales: self-regard, emotional self-awareness, assertiveness, independence, and self-actualization), interpersonal (consisting of 3 subscales: empathy, social responsibility, and interpersonal relationship), adaptability (consisting of 3 subscales: reality testing, flexibility, and problem solving), and stress management (consisting of 2 subscales: stress tolerance, and impulse control). The *EQ-i* also includes a general mood scale (consisting of 2 subscales: optimism and happiness). High scores on these scales can be interpreted as follows:

- Individuals who score high on the intrapersonal scale tend to understand their emotions and are able to express and communicate their feeling and needs.
- Those scoring high on the interpersonal scale are likely to have satisfying interpersonal relationships, are good listeners and are able to understand and appreciate the feelings of others.
- Individuals with high adaptability scores are flexible, realistic, and effective in managing change; good at finding positive ways of dealing with everyday problems.

- Those with high scores on the stress management scale are generally calm and work well under pressure; they are rarely impulsive and can usually respond to a stressful event without an emotional outburst.
- Individuals who score high on the general mood scale feel satisfied with their lives and maintain a positive outlook.

### **3.2.2 Leadership**

Principals and vice-principals also completed a 21-item self-report questionnaire, especially developed for the present study, which assessed various leadership abilities. The items on this instrument were selected from a review of various skills and abilities used in performance evaluations of school administrators from several different boards (Appendix 6.3 presents the list of items as well as instructions for this instrument). Leadership skills were also rated by participants' immediate supervisor, as well as several staff members using a parallel set of 21-items (see Appendix 6.3 for a list of the items and rater instructions). Each of the leadership questionnaires also included a 10-point rating of overall leadership ability with 0 meaning "No leadership ability" and 9 meaning "Highest level possible".

The factor structure of each questionnaire was examined using exploratory factor analysis. These analyses revealed a very interpretable two-factor structure for the data from the self-report ratings, as well as from the data from the supervisor ratings and staff ratings. Factor 1 includes 8 items related to "task-oriented leadership" abilities (e.g., "Comes well prepared for meetings"), while factor 2 includes 6 items related to "relationship-oriented leadership" abilities (e.g., "Seeks consensus among staff members"). Internal reliability coefficients for the two factors in the present sample are 0.83 and 0.75 for the self-report questionnaire, 0.89 and 0.87 for

the supervisor-rated questionnaire, and 0.89 and 0.87 for the staff-rated questionnaire. The items on the two factors added together provide a total leadership score.

### **3.3 Procedure**

Participants completed the *EQ-i* online following instructions distributed in an information package. Participants also completed the self-report leadership questionnaire and consent form which were returned to the researchers by mail. Participants asked their immediate supervisor (superintendent if they were a principal and the principal of the school if they were a vice-principal) to complete the supervisor-rated leadership questionnaire and return the form to the researchers by mail. Participants were also instructed to ask three staff members to complete the staff-rated leadership questionnaire and return the forms to the researchers by mail.

Five hundred and seventy-seven packages were distributed to potential participants. All completed questionnaires were entered into a database and matched with participants *EQ-i* assessment results. Four hundred and sixty-four participants completed the *EQ-i*. Of those individuals who completed the *EQ-i*, 416 participants also provided a self-report leadership questionnaire. A supervisor-rated leadership questionnaire was available for 395 participants, and 434 participants had at least one staff-rated leadership questionnaire. Participants with complete data-sets (*EQ-i* and all leadership questionnaires) did not differ ( $p > .05$ ) on any of the *EQ-i* measures from individuals with incomplete data-sets.



## 4. Central Findings

### 4.1 Comparisons of Demographic Variables

Several gender by level (elementary vs. secondary) by position (principal vs. vice principal) ANOVAs were performed with each of the *EQ-i* scales (intrapersonal, interpersonal, adaptability, stress management, and general mood) as dependent variables. Women were found to score higher than men on the interpersonal scale of the *EQ-i* only [ $F(1, 402) = 18.63, p < .001$ ]. Individuals employed by an elementary school did not significantly differ ( $p > .05$ ) from those employed at a secondary school on any of the *EQ-i* scales. Principals and vice principals also did not differ ( $p > .05$ ) on any of the *EQ-i* scales.

Several gender by level (elementary vs. secondary) by position (principal vs. vice principal) ANOVAs were also performed with mean scores from each of the leadership ratings (self-, supervisor- and staff-rated) as the dependent variables. Men and women did not differ ( $p > .05$ ) on any of the leadership ratings. Individuals employed at an elementary school did not significantly differ ( $p > .05$ ) from those employed at a secondary school on any of the leadership ratings. Principals, however, were rated significantly higher than vice principals on all leadership ratings by their supervisors: task-oriented leadership [ $F(1, 361) = 9.62, p < .01$ ], relationship-oriented leadership [ $F(1, 361) = 7.21, p < .01$ ], total leadership [ $F(1, 361) = 9.73, p < .01$ ], and overall leadership ability [ $F(1, 357) = 10.91, p < .01$ ]. Vice-principals, on the other hand, were rated significantly higher than principals by their staff on relationship-oriented leadership [ $F(1, 395) = 5.17, p < .05$ ]. No other comparisons were significant.

## 4.2 Relationships among Leadership Ratings

Inter-correlations between self-reported leadership abilities, supervisor-rated leadership abilities and staff-rated leadership abilities were all examined. As shown in Table 1, correlations between self-reported and supervisor-rated leadership abilities were low or non-significant ( $p > .05$ ). The correlations between self-reported and staff-rated leadership abilities, presented in Table 2, were also low or non-significant ( $p > .05$ ). The correlations between supervisor-rated and staff-rated leadership abilities, presented in Table 3, were all significant ( $p < .05$ ) and slightly higher than the coefficients presented in the other two tables.

## 4.3 Relationships among EQ-i and Leadership Abilities

Table 4 presents correlations between *EQ-i* scores (scales and subscales) and self-reported leadership abilities (task-oriented leadership, relationship-oriented leadership, total leadership, and overall leadership rating). The majority of the correlations were moderate in magnitude and significant ( $p < .001$ ). Table 5 presents the correlations between *EQ-i* scores and supervisor-rated leadership abilities. The majority of correlations were low or non-significant ( $p > .05$ ). Table 6 presents the correlations between *EQ-i* scores and staff-rated leadership abilities. Again, the majority of correlations were low or non-significant ( $p > .05$ ).

Several multiple regression analyses were also performed using gender, intrapersonal abilities, interpersonal abilities, adaptability skills, stress management skills, general mood, position, level, and years on job as predictors of leadership ability: task-oriented leadership, relationship-oriented leadership, and total leadership. Table 7 presents the results from the analyses with the self-report leadership data (only results for significant predictors are presented). Collectively, the independent variables were moderate predictors of self-reported leadership ability:  $R^2$  was 0.297 for task-oriented leadership, 0.253 for relationship-oriented

leadership, and 0.316 for total leadership ability. Gender, intrapersonal abilities, interpersonal abilities, and adaptability skills contributed to 1, 3, 1, and 2%, respectively, of the variability in self-reported task-oriented leadership. Gender, interpersonal abilities, adaptability skills, and general mood contributed to 3, 7, 2 and 1%, respectively, of the variability in self-reported relationship-oriented leadership, while gender, intrapersonal abilities, interpersonal abilities, and adaptability skills contributed to 2, 1, 4, and 2%, respectively, of the variability in total self-reported leadership ability.

Table 8 presents the results from the analyses with the supervisor-rated leadership data (only results for significant predictors are presented). Collectively, the independent variables were poor predictors of self-reported leadership ability:  $R^2$  was 0.072 for task-oriented leadership, 0.044 for relationship-oriented leadership, and 0.057 for total leadership ability. Position contributed to 3% of the variability in supervisor-rated task-oriented leadership. Interpersonal abilities, stress management abilities and position contributed to 2, 1, and 1%, respectively, of the variability in supervisor-rated relationship-oriented leadership. Interpersonal abilities and position each accounted for 2%, respectively, of the variability in supervisor-rated total leadership ability.

Table 9 presents the results from the analyses with the staff-rated leadership data (only results for significant predictors are presented). Collectively, the independent variables were poor predictors of self-reported leadership ability:  $R^2$  was 0.048 for task-oriented leadership, 0.053 for relationship-oriented leadership, and 0.042 for total leadership ability. Interpersonal abilities contributed to 1% of the variability in staff-rated task-oriented leadership. Interpersonal abilities, along with intrapersonal abilities and position, also contributed 2, 1, and 2%,

respectively, of the variability in staff-rated relationship-oriented leadership and interpersonal abilities accounted for 2% of the variability in staff-rated total leadership ability.

## 4.4 Predicting the Good Leader

### 4.4.1 Self-Reported Leadership

The total self-reported leadership score was used to separate the participants into two groups: an above average leadership ability group (top 20% based on self-report ratings) and a below leadership ability group (bottom 20%). Table 10 presents means and standard deviations for *EQ-i* scores by leadership group. A leadership group (above vs. below average) by gender by type of EI (intrapersonal, interpersonal, adaptability, stress management and general mood) ANOVA was conducted with level of EI as the dependent variable. The main effect for gender was significant [ $F(1, 166) = 5.60, p < .05$ ], with women scoring higher than men. To understand the main effect for gender, separate univariate *F* tests were conducted for each *EQ-i* scale. Women were found to score higher than men on the interpersonal [ $F(1, 166) = 8.74, p < .01$ ] and adaptability [ $F(1, 166) = 7.81, p < .01$ ] scales. The main effect for leadership group was also significant [ $F(1, 166) = 153.94, p < .001$ ], with the above average leadership group scoring higher than the below average group on overall level of EI.

The leadership group by type of EI interaction was also significant [ $F(4, 664) = 6.23, p < .001$ ]. To understand the main effect for group and the group by type interaction, separate univariate *F*-tests were conducted for each of the *EQ-i* scales. The above average leadership group scored significantly higher than the below average group on the intrapersonal [ $F(1, 166) = 120.01, p < .001$ ], interpersonal [ $F(1, 166) = 116.82, p < .001$ ], adaptability [ $F(1, 166) = 131.51, p < .001$ ], stress management [ $F(1, 166) = 48.13, p < .001$ ] and general mood [ $F(1, 166) = 76.99, p < .001$ ] scales of the *EQ-i*. The main effect for type of EI was also significant [ $F$

(4, 664) = 6.60,  $p < .001$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored lower on the interpersonal and general mood scales than on the intrapersonal, stress management and adaptability scales.

***Intrapersonal ability.*** To better understand the relationship between leadership ability and the various facets that make up intrapersonal ability, a leadership group (above average vs. below) by gender by type of intrapersonal ability (emotional self-awareness, assertiveness, self-regard, self-actualization, and independence) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender was not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 166) = 120.28, p < .001$ ], with the above average leadership group scoring higher than the below average group on overall intrapersonal ability. The group by type of EI interaction was also significant [ $F(4, 664) = 2.65, p < .05$ ]. To understand the main effect for group and the interaction between group and type, separate univariate  $F$ -tests were conducted for each of the intrapersonal ability subscales. The above average leadership group scored significantly higher than the below average leadership group on the self regard [ $F(1, 166) = 44.17, p < .001$ ], emotional self-awareness [ $F(1, 166) = 64.53, p < .001$ ], assertiveness [ $F(1, 166) = 65.65, p < .001$ ], independence [ $F(1, 166) = 45.46, p < .001$ ] and self-actualization [ $F(1, 166) = 61.71, p < .001$ ] subscales. The main effect for type of intrapersonal ability was also significant [ $F(4, 664) = 10.39, p < .001$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored lower on the self-regard subscale than the other intrapersonal subscales and lower on the self-actualization subscale than on the independence subscale. The type of intrapersonal ability by gender interaction was also significant [ $F(4, 664) = 6.43, p < .001$ ]. None of the other interactions were significant.

**Interpersonal ability.** To better understand the relationship between leadership ability and the various facets that make up interpersonal ability, a leadership group (above average vs. below) by gender by type of interpersonal ability (interpersonal relationship, social responsibility, and empathy) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender was significant [ $F(1, 166) = 12.43, p < .001$ ], with women scoring higher than men. Separate univariate  $F$  tests were conducted for each of the interpersonal subscales. Women were found to score higher than men on the empathy [ $F(1, 166) = 13.71, p < .001$ ], social responsibility [ $F(1, 166) = 9.37, p < .01$ ] and interpersonal relationships [ $F(1, 166) = 4.35, p < .05$ ] subscales. The main effect for leadership group was also significant [ $F(1, 166) = 126.62, p < .001$ ], with the above average leadership group scoring higher than the below average leadership group on overall interpersonal ability. The group by type of interpersonal ability was also significant [ $F(2, 332) = 23.73, p < .001$ ]. To understand the main effect for group and the group by type of interpersonal ability interaction, separate univariate  $F$ -tests were conducted for each of the interpersonal ability subscales. The above average leadership group scored significantly higher than the below average group on the empathy [ $F(1, 166) = 119.18, p < .001$ ], social responsibility [ $F(1, 166) = 56.65, p < .001$ ] and interpersonal relationship [ $F(1, 166) = 84.81, p < .001$ ] subscales. The main effect for type of interpersonal ability was also significant [ $F(2, 332) = 23.73, p < .001$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored higher on the empathy subscale than the other interpersonal subscales, and higher on the social responsibility subscale than the interpersonal relationship subscale. None of the other interactions were significant.

**Adaptability.** To better understand the relationship between leadership ability and the various facets that comprise adaptability, a leadership group (above average vs. below) by

gender by type of adaptability skills (problem solving, reality testing, and flexibility) ANOVA was conducted with level of adaptability as the dependent variable. The main effect for gender was significant [ $F(1, 166) = 7.52, p < .01$ ], with women scoring higher than men. Separate univariate  $F$  tests were conducted for each of the adaptability subscales. Women were found to score higher than men on the reality testing [ $F(1, 166) = 5.68, p < .05$ ] and problem solving [ $F(1, 166) = 8.79, p < .01$ ] subscales. The main effect for leadership group was also significant [ $F(1, 166) = 130.66, p < .001$ ], with the above average leadership group scoring higher than the below average leadership group on overall adaptability. To understand the main effect for group, separate univariate  $F$ -tests were conducted for each of the adaptability subscales. The above average leadership group scored significantly higher than the below average group on the reality testing [ $F(1, 166) = 73.95, p < .001$ ], flexibility [ $F(1, 166) = 49.19, p < .001$ ], and problem solving [ $F(1, 166) = 108.32, p < .001$ ] subscales. The main effect for type of adaptability was also significant [ $F(2, 332) = 6.75, p < .01$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored lower on the flexibility subscale than the other adaptability subscales. None of the interactions were significant.

***Stress management ability.*** To better understand the relationship between leadership ability and the various facets that comprise stress management ability, a leadership group (above average vs. below) by gender by type of stress management ability (stress tolerance and impulse control) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender was not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 166) = 49.33, p < .001$ ], with the above average leadership group scoring higher than the below average group on overall stress management. The group by type of stress management interaction was also significant [ $F(1, 166) = 6.12, p < .05$ ]. To understand the main effect for

group and the group by type interaction, separate univariate  $F$ -tests were conducted for each of the stress management subscales. The above average leadership group scored significantly higher than the below average group on the stress tolerance [ $F(1, 166) = 63.78, p < .001$ ] and impulse control [ $F(1, 166) = 17.40, p < .001$ ] subscales. The main effect for type of stress management was significant [ $F(1, 166) = 21.20, p < .001$ ]. Participants scored higher on the stress tolerance subscale than on the impulse control subscale. The gender by type of stress management interaction was also significant [ $F(1, 166) = 5.93, p < .001$ ]. No other interactions were significant.

**General mood.** To better understand the relationship between leadership ability and the facets that comprise general mood, a leadership group (above average vs. below) by gender by type of general mood (optimism and happiness) ANOVA was conducted with level of mood as the dependent variable. The main effect for gender and the interactions were not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 166) = 86.05, p < .001$ ], with the above average group having higher general mood scores than the below average group. To understand the main effect for group, separate univariate  $F$  tests were performed with each of the general mood subscales. The above average leadership group was found to score higher than the below average group on the optimism [ $F(1, 166) = 72.20, p < .001$ ] and happiness [ $F(1, 166) = 46.79, p < .001$ ] subscales. The main effect for type of general mood was also significant [ $F(1, 166) = 5.91, p < .05$ ], with participants scoring higher on the optimism subscale than on the happiness subscale.

#### **4.4.2 Supervisor Rated Leadership**

The total supervisor-rated leadership score was used to separate the participants into two groups: an above average leadership ability group (top 20% based on supervisor ratings) and a



below leadership ability group (bottom 20%). Table 11 presents means and standard deviations for *EQ-i* scores by leadership group (based on supervisor ratings). A leadership group (above average vs. below) by gender by type of EI (intrapersonal, interpersonal, adaptability, stress management and general mood) ANOVA was conducted with level of EI as the dependent variable. The main effect for type of EI was significant [ $F(4, 604) = 4.27, p < .01$ ], with participants scoring lower on the general mood scale than on the intrapersonal, stress management and adaptability scales. Also, participants were found to score lower on the interpersonal scale than on the adaptability scale. The main effect for gender and leadership group was not significant ( $p > .05$ ), although the interaction of gender and type was significant [ $F(4, 604) = 3.65, p < .01$ ]. No other interactions were significant. Since the main effect for leadership group was not significant no separate analyses were conducted at the subscale for the *EQ-i*.

#### **4.4.3 Staff Rated Leadership**

The total staff-rated leadership score was used to separate the participants into two groups: an above average leadership ability group (top 20% based on staff ratings) and a below leadership ability group (bottom 20%). Table 12 presents means and standard deviations for *EQ-i* scores by leadership group (based on staff-ratings). A leadership group (above average vs. below) by gender by type of EI (intrapersonal, interpersonal, adaptability, stress management and general mood) ANOVA was conducted with level of EI as the dependent variable. The main effect for gender was not significant ( $p > .05$ ). The main effect for leadership group, however, was significant [ $F(1, 165) = 4.79, p < .05$ ], with the above average leadership group scoring higher than the below average group. To understand the main effect for group, separate univariate *F*-tests were conducted for each of the *EQ-i* scales. The above average leadership

group scored significantly higher than the below average group on the interpersonal [ $F(1, 165) = 11.23, p < .001$ ] and adaptability [ $F(1, 165) = 4.55, p < .05$ ] scales of the *EQ-i*. The main effect for type of EI was also significant [ $F(4, 660) = 7.90, p < .001$ ] with participants scoring higher on the adaptability scale than on the intrapersonal and interpersonal scale, and higher on the stress management scale than on the interpersonal and general mood scales. There was also a significant interaction between type of EI and gender [ $F(4, 660) = 3.72, p < .01$ ]. No other interactions were significant ( $p > .05$ ).

***Interpersonal ability.*** To better understand the significant relationship that was found between leadership ability and interpersonal ability, a leadership group (above average vs. below) by gender by type of interpersonal ability (interpersonal relationship, social responsibility, and empathy) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender was significant [ $F(1, 165) = 12.59, p < .001$ ], with women scoring higher than men. To understand the main effect for gender, separate univariate *F* tests were performed. Women were found to score higher than males on the empathy [ $F(1, 165) = 9.80, p < .01$ ], social responsibility [ $F(1, 165) = 4.08, p < .05$ ], and interpersonal relationships [ $F(1, 165) = 12.77, p < .001$ ] subscales. The main effect for leadership group was also significant [ $F(1, 165) = 13.95, p < .001$ ], with the above average leadership group scoring higher than the below average group on overall interpersonal ability. To understand this main effect, separate univariate *F*-tests were also conducted for each of the interpersonal ability subscales. The above average leadership group scored significantly higher than the below average group on the empathy [ $F(1, 165) = 17.28, p < .001$ ], social responsibility [ $F(1, 165) = 8.12, p < .01$ ] and interpersonal relationship [ $F(1, 165) = 5.80, p < .05$ ] subscales. The main effect for type of interpersonal ability was also significant [ $F(2, 330) = 31.41, p < .001$ ]. A Student-Newman

Keuls post-hoc test revealed that participants scored higher on the empathy subscale than the other interpersonal subscales, and higher on the social responsibility subscale than the interpersonal relationship subscale. None of the interactions were significant.

**Adaptability.** To better understand the significant relationship that was found between leadership ability and adaptability, a leadership group (above average vs. below) by gender by type of adaptability dimension (problem solving, reality testing, and flexibility) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender and all interactions were not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 165) = 4.39, p < .05$ ], with the above average leadership group scoring higher than the below average group on overall adaptability. To understand the main effect for group, separate univariate  $F$ -tests were conducted for each of the adaptability subscales. The above average leadership group scored significantly higher than the below average group on the reality testing subscale [ $F(1, 165) = 4.03, p < .05$ ]. The main effect for type of adaptability was also significant [ $F(2, 330) = 8.63, p < .001$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored lower on the flexibility subscale than the other adaptability subscales.

#### **4.4.4 Leadership Ability (Based on Combined Supervisor and Staff Ratings)**

A total leadership score was calculated by adding the supervisor ratings with the mean of the staff ratings. This composite score was used to create two new groups: an above average leadership group (top 20% based) and a below average leadership group (bottom 20%). Table 13 presents means and standard deviations for  $EQ-i$  scores by leadership group (based on the combined supervisor and staff ratings). A leadership group (above average vs. below) by gender by type of EI (intrapersonal, interpersonal, adaptability, stress management and general mood) ANOVA was conducted with level of EI as the dependent variable. The main effect for gender

and all of the interactions were not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 151) = 8.99, p < .01$ ], with the above average leadership group scoring higher than the below average group on overall level of EI. To understand the main effect for group, separate univariate  $F$ -tests were conducted for each  $EQ-i$  scale. The above average leadership group scored significantly higher than the below average group on the intrapersonal [ $F(1, 151) = 4.52, p < .05$ ], interpersonal [ $F(1, 151) = 7.95, p < .01$ ], adaptability [ $F(1, 151) = 6.16, p < .05$ ] and stress management [ $F(1, 151) = 6.50, p < .01$ ] scales of the  $EQ-i$ . There was no significant difference on the general mood scale ( $p > .05$ ). The main effect for type of EI was also significant [ $F(4, 604) = 5.44, p < .001$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored lower on the interpersonal scale than on the stress management and adaptability scales. Participants also scored lower on the general mood scale than on the adaptability scale.

***Intrapersonal ability.*** To better understand the significant relationship that was found between leadership ability and intrapersonal ability, a leadership group (above average vs. below) by gender by type of intrapersonal ability (emotional self-awareness, assertiveness, self-regard, self-actualization, and independence) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender was not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 151) = 4.39, p < .05$ ], with the above average leadership group scoring higher than the below average group on overall intrapersonal ability. Separate univariate  $F$ -tests found that the above average leadership group scored significantly higher than the below leadership group on the emotional self-awareness [ $F(1, 151) = 4.30, p < .05$ ], and self-actualization [ $F(1, 151) = 4.38, p < .05$ ] subscales. The main effect for type of intrapersonal ability was also significant [ $F(4, 604) = 5.48, p < .001$ ]. A Student-Newman Keuls post-hoc test

revealed that participants scored lower on the self-regard subscale than the other intrapersonal subscales. The type of intrapersonal ability by gender interaction was also significant [ $F(4, 604) = 9.25, p < .001$ ]. None of the other interactions were significant.

***Interpersonal ability.*** To better understand the significant relationship that was found between leadership ability and interpersonal ability, a leadership group (above average vs. below) by gender by type of interpersonal ability (interpersonal relationship, social responsibility, and empathy) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender was not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 151) = 8.85, p < .01$ ], with the above average leadership group scoring higher than the below average group on overall interpersonal ability. Separate univariate  $F$ -tests found that the above average leadership group scored significantly higher than the below average group on the empathy [ $F(1, 151) = 10.12, p < .01$ ] and interpersonal relationship [ $F(1, 151) = 6.15, p < .05$ ] subscales. The main effect for type of interpersonal ability was also significant [ $F(2, 302) = 22.02, p < .001$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored higher on the empathy subscale than the other interpersonal subscales, and higher on the social responsibility subscale than the interpersonal relationship subscale. The type of interpersonal ability by gender interaction was also significant [ $F(2, 302) = 3.87, p < .05$ ]. A post-hoc analysis revealed that women scored higher on the interpersonal relationship subscale than men. It also revealed that women scored higher on empathy than on other subscales; men scored lower on interpersonal relationship than other subscales. None of the other interactions were significant.

***Adaptability.*** To better understand the significant relationship that was found between leadership ability and adaptability, a leadership group (above average vs. below) by gender by

type of adaptability dimension (problem solving, reality testing, and flexibility) ANOVA was conducted with level of ability as the dependent variable. The main effect for gender and all the interactions were not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 151) = 6.44, p < .01$ ], with the above average leadership group scoring higher than the below average group on overall adaptability. Separate univariate  $F$ -tests found that the above average leadership group scored significantly higher than the below average group on the flexibility [ $F(1, 151) = 4.31, p < .05$ ] and problem solving [ $F(1, 151) = 5.59, p < .05$ ] subscales. The main effect for type of adaptability was also significant [ $F(2, 302) = 5.86, p < .01$ ]. A Student-Newman Keuls post-hoc test revealed that participants scored lower on the flexibility subscale than the other adaptability subscales.

***Stress management ability.*** To better understand the significant relationship that was found between leadership ability and stress management ability, a leadership group (above average vs. below) by gender by type of stress management ability (stress tolerance and impulse control) ANOVA was conducted with level of ability as the dependent variable. The main effects for gender, type of stress management ability, and all interactions were not significant ( $p > .05$ ). The main effect for leadership group was significant [ $F(1, 151) = 6.70, p < .01$ ], with the above average leadership group scoring higher than the below average group on overall stress management. Separate univariate  $F$ -tests found that the above average leadership group scored significantly higher than the below average group on the impulse control [ $F(1, 151) = 4.27, p < .05$ ] subscale.

#### **4.4.5 Creation of Leadership Profiles**

To further explore the predictive validity of the EQ-i, several related discriminant function analyses were performed using the 13 EQ-i subscales as predictors of membership in various leadership groups (depending on which leadership ratings were used). Figure 1 graphically presents mean EQ-i scores for the above average and below average leadership groups (based on self-report leadership ratings). Classification rates for self-reported leadership groups are presented in Table 14. The discriminant function analysis revealed that the EQ-i scales were significant predictors of above average leadership ability [ $F(13, 156) = 16.33, p < .001$ ]. The overall correct classification rate from the analysis was 87% (90% for above average leadership and 83% for below average leadership).

Figure 2 graphically presents mean EQ-i scores for the above average and below average leadership groups (based on supervisor ratings). Classification rates for supervisor-rated leadership groups are presented in Table 15. The discriminant function analysis revealed that the EQ-i scales were not significant predictors of above average leadership ability [ $F(13, 141) = 1.21, p > .05$ ]; the overall correct classification rate of 61% (61% for above average leadership and 61% for below average leadership).

Figure 3 graphically presents mean EQ-i scores for the above average and below average leadership groups (based on staff-rated leadership ratings). Classification rates for staff-rated leadership groups are presented in Table 16. The discriminant function analysis revealed that the EQ-i scales were significant predictors of above average leadership ability [ $F(13, 155) = 2.34, p < .01$ ]. The overall correct classification rate from the analysis was 70% (68% for above average leadership and 73% for below average leadership).

Figure 4 graphically presents mean EQ-i scores for the above average and below average leadership groups (based on combined supervisor and staff ratings of leadership ability).

Classification rates for supervisor- and staff-rated leadership groups are presented in Table 17. The discriminant function analysis revealed that the EQ-*i* scales were significant predictors of above average leadership ability [ $F(13, 141) = 1.80, p < .05$ ]. The overall correct classification rate from the analysis was 65% (66% for above average leadership and 64% for below average leadership).

## **5. Conclusions and Recommendations**

### **5.1 Conclusions**

Consistent with previous research using the EQ-*i* (Bar-On, 1997; 2000), women were found to score higher than men on the interpersonal dimension. It is worth noting, however, that no differences were found on any of the EQ-*i* scales when individuals working in an elementary school were compared with those supervisors working in a secondary school. The same lack of difference was found when the EQ-*i* measures for principals and vice-principals were compared. Thus, the overall results of study with respect to the relationship between EI and leadership ability generalize to principals and vice-principals working in both an elementary and secondary environment.

The factor analysis of the leadership ratings produced a similar two-dimensional model in all three sets of ratings (self-report, supervisor, and staff). These analyses revealed that raters distinguish between two types of leadership abilities: task-oriented skills and relationship-oriented skills. The former dimension relates to skills like managing resources, delegating tasks, and planning for the future; while the latter dimension relates to skills like motivating others, communicating one on one, as well as in small groups. This two-dimensional model of leadership is similar to one identified by Humphrey (2002).



Although a positive relationship was found between the leadership ratings from supervisors and staff, the association was weak and revealed considerable disagreement among raters. There was also little agreement in leadership ability when the self-report leadership ratings were correlated with supervisor and staff ratings. This pattern is consistent with reports from other researchers (Humphrey, 2002), and is further evidence for the common recommendation in the leadership literature about the need to get leadership ratings from multiple individuals (e.g., supervisors as well as staff members).

Men and women were also compared on each of the leadership ratings (task-oriented leadership, relationship-oriented leadership, and total leadership). Men and women did not differ on any of the leadership ratings, regardless of whether supervisor, staff, or self-report ratings were used. Individuals working in an elementary school also did not differ from those employed at a secondary school on any of the leadership ratings. Principals, however, were rated higher than vice-principals by their supervisors on task-oriented leadership, relationship-oriented leadership, and total leadership. Vice-principals, on the other hand, were rated higher by their staff on relationship-oriented leadership. These results are not surprising, since vice-principals are often involved in more inter-personal activities with staff than principals.

The above average leadership group scored higher than the below average leadership group on total EI and all four broad dimensions (intrapersonal, interpersonal, adaptability, and stress management). However, the two groups did not differ on the general mood scale of the *EQ-i*. This pattern of results was consistent regardless of gender, as well as whether the individual worked in an elementary or secondary school, or was a principal or vice-principal.

The subscales of the dimensions that the leadership groups differed on were also investigated. With regards to intrapersonal abilities, the above average leadership group scored

higher than the below average leadership group on the emotional self-awareness and self-actualization subscales. The above average leadership group scored higher than the below average leadership group on the empathy and interpersonal relationship subscales of the interpersonal dimension but not on the social responsibility subscale. In investigating adaptability skills it was revealed that the above average leadership group scored higher than the below average leadership group on the flexibility and problem solving subscales. Finally, of the two stress management subscales (stress tolerance and impulse control) the above average leadership group only scored higher than the below average leadership group on the impulse control subscale.

The EI and leadership findings are in line with past research on effective leadership. The most effective leaders have a combination of both task-oriented leadership skills and relationship-oriented leadership skills (Humphrey, 2002). Behaviours related to emotional self-awareness, self-actualization and impulse control have been found to be important for task-oriented leadership (Humphrey, 2002). Although empathy is likely key for relationship-oriented leadership, it has also been shown to contribute to cognitive skills necessary in task-oriented leadership (Humphrey, 2002; Wolff, Rescosolido, & Druskat, 2002). Another competency necessary to facilitate relationship-oriented leadership is the ability to establish mutually satisfying interpersonal relationships (George, 2000). Leadership positions often entail changing demands, effective leaders are likely flexible in the way they behave and use their emotions to approach problems and new situations (George, 2000). Skills related to flexibility and problem solving have been indicated as important for both task- and relationship-oriented leadership (George, 2000).

## 5.2 Recommendations

When evaluating leadership abilities multiple perspectives should be employed (e.g. supervisor and staff ratings), since different raters may offer quite different points-of-view.

Although total emotional intelligence was a significant predictor of successful school administration, some dimensions of emotional intelligence were better predictors than others. Specifically, the results of the present study suggest that professional development programs would be wise to focus on promoting or developing the following abilities:

- emotional self-awareness (the ability to recognize and understand one's feelings and emotions);
- self-actualization (the ability to tap potential capacities and skills in order to improve oneself);
- empathy (the ability to be attentive to, understand, and appreciate the feelings of others);
- interpersonal relationships (the ability to establish and maintain mutually satisfying relationships);
- flexibility (the ability to adjust one's emotions, thoughts, and behaviors to changing situations and conditions);
- problem solving (the ability to identify and define problems as well as to generate potentially effective solutions);
- impulse control (to the ability to resist or delay emotional behaviors);

There were no differences on the critical EI dimensions when principals and vice-principals were compared, as well as when supervisors working in an elementary school were

compared to individuals working in a secondary school. Therefore, professional development programs that promote and develop these abilities can be used with a broad range of school administrator (e.g., principals as well as vice-principals).

Boards are advised to consider the use of assessment tools for EI in professional development programs, as part of the recruitment process for new school administrators, and in the process of succession planning.

**Table 1**  
**Intercorrelations between self-reported and supervisor-rated leadership abilities.**

Supervisor-Rated	Self-Reported			Overall
	Task-Oriented	Relationship-Oriented	Total	
Task-Oriented	.16**	.12*	.16**	.07
Relationship-Oriented	.07	.16**	.13*	.03
Total	.12*	.16**	.16**	.06
Overall	.16**	.13*	.16**	.13*

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; N = 358

**Table 2**  
**Intercorrelations between self-reported and staff-rated leadership abilities.**

Staff-Rated	Self-Reported			Overall
	Task-Oriented	Relationship-Oriented	Total	
Task-Oriented	.12*	.10	.12*	.10*
Relationship-Oriented	.04	.13**	.09	.06
Total	.08	.13**	.12*	.09
Overall	.07	.09	.09	.12*

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; N = 399

**Table 3**  
**Intercorrelations between staff-rated and supervisor-rated leadership abilities.**

Supervisor Rated	Staff Rated			Overall
	Task-Oriented	Relationship-Oriented	Total	
Task-Oriented	.21***	.11*	.17**	.19***
Relationship-Oriented	.15**	.20***	.20***	.15**
Total	.20***	.18**	.20***	.19***
Overall	.23***	.23***	.25***	.26***

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; N = 371.

**Table 4**  
**Intercorrelations for the EQ-i and self-reported leadership abilities.**

EQ-i scales	Self-Reported Leadership			Overall
	Task-Oriented	Relationship-Oriented	Total	
Intrapersonal	.49	.32	.45	.37
<i>Self-Regard</i>	.34	.22	.31	.27
<i>Self-Awareness</i>	.33	.29	.34	.25
<i>Assertiveness</i>	.41	.23	.37	.35
<i>Independence</i>	.43	.22	.37	.37
<i>Self-Actualization</i>	.37	.25	.35	.22
Interpersonal	.39	.40	.44	.26
<i>Empathy</i>	.34	.44	.44	.22
<i>Social Responsibility</i>	.27	.35	.34	.14**
<i>Interpersonal Relation</i>	.37	.31	.38	.27
Adaptability	.46	.40	.48	.32
<i>Reality Testing</i>	.38	.31	.39	.23
<i>Flexibility</i>	.32	.25	.32	.28
<i>Problem Solving</i>	.41	.41	.45	.26
Stress Management	.28	.33	.34	.24
<i>Stress Tolerance</i>	.36	.31	.37	.31
<i>Impulse Control</i>	.12*	.24	.20	.10*
General Mood	.38	.25	.36	.29
<i>Optimism</i>	.41	.25	.37	.32
<i>Happiness</i>	.30	.22	.29	.21
Total EI	.50	.41	.51	.37

Note: \*  $p < .05$ ; \*\*  $p < .01$ ; All other correlations are significant at  $p < .001$ ; N = 412

**Table 5**  
**Intercorrelations for the EQ-i and supervisor-rated leadership abilities.**

EQ-i scales	Supervisor-Rated Leadership			
	Task-Oriented	Relationship-Oriented	Total	Overall
Intrapersonal	.13*	.01	.07	.14**
<i>Self-Regard</i>	.02	-.00	.01	.06
<i>Self-Awareness</i>	.18***	.07	.13*	.20***
<i>Assertiveness</i>	.10*	-.03	.04	.08
<i>Independence</i>	.06	-.05	.00	.06
<i>Self-Actualization</i>	.11*	.04	.08	.13*
Interpersonal	.15**	.11*	.14**	.18**
<i>Empathy</i>	.14**	.12*	.14**	.13**
<i>Social Responsibility</i>	.15**	.08	.12*	.11*
<i>Interpersonal Relation</i>	.13*	.08	.11*	.18***
Adaptability	.11*	.04	.08	.08
<i>Reality Testing</i>	.07	.02	.05	.03
<i>Flexibility</i>	.07	.01	.04	.07
<i>Problem Solving</i>	.13*	.07	.11*	.08
Stress Management	.11*	.12*	.12*	.10*
<i>Stress Tolerance</i>	.10*	.06	.09	.11*
<i>Impulse Control</i>	.08	.13*	.12*	.05
General Mood	.08	.03	.06	.12*
<i>Optimism</i>	.08	.00	.04	.09
<i>Happiness</i>	.07	.04	.06	.12*
Total EI	.14**	.06	.11*	.14**

Note: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; N = 383

**Table 6**  
**Intercorrelations for the EQ-i and staff-rated leadership abilities.**

EQ-i scales	Staff-Rated Leadership			
	Task-Oriented	Relationship-Oriented	Total	Overall
Intrapersonal	.18***	.05	.12*	.15**
<i>Self-Regard</i>	.07	.03	.05	.09
<i>Self-Awareness</i>	.19***	.07	.14**	.17***
<i>Assertiveness</i>	.17***	-.01	.08	.12*
<i>Independence</i>	.14**	.02	.08	.09
<i>Self-Actualization</i>	.12*	.05	.09	.09
Interpersonal	.21***	.15**	.20***	.20***
<i>Empathy</i>	.23***	.20***	.23***	.21***
<i>Social Responsibility</i>	.18***	.14**	.17***	.12*
<i>Interpersonal Relation</i>	.18***	.09	.15**	.18***
Adaptability	.14**	.10*	.13**	.12*
<i>Reality Testing</i>	.12*	.12*	.13**	.12*
<i>Flexibility</i>	.06	.04	.05	.07
<i>Problem Solving</i>	.16**	.09	.13**	.10*
Stress Management	.09	.09	.10*	.08
<i>Stress Tolerance</i>	.12*	.05	.09	.11*
<i>Impulse Control</i>	.04	.11*	.09	.03
General Mood	.15**	.09	.13**	.15**
<i>Optimism</i>	.14**	.05	.10*	.12*
<i>Happiness</i>	.13**	.11*	.13**	.14**
Total EI	.19***	.11*	.16**	.17***

Note: \*  $p < .05$ , \*\*  $p < .01$ , \*\*\*  $p < .001$ ; N = 434



**Table 7**  
**Significant predictors of self-reported leadership abilities.**

Criterion	Predictors	SE	$\beta$	sr	<i>t</i>	<i>p</i>
Task-Oriented	Gender	.045	.105	.098	2.34	< .05
	Intrapersonal	.076	.308	.170	4.05	.000
	Interpersonal	.062	.139	.094	2.23	< .05
	Adaptability	.075	.257	.144	3.43	.001
$F(9, 398) = 18.71, p < .000, R^2 = .297, \text{adj. } R^2 = .281$						
Relationship-Oriented	Gender	.046	.175	.163	3.76	.000
	Interpersonal	.064	.394	.266	6.13	.000
	Adaptability	.077	.247	.139	3.20	< .01
	Mood	.070	.175	.108	2.50	< .05
$F(9, 398) = 14.94, p < .000, R^2 = .253, \text{adj. } R^2 = .236$						
Total	Gender	.044	.155	.144	3.48	.001
	Intrapersonal	.075	.168	.093	2.24	< .05
	Interpersonal	.061	.291	.196	4.74	.000
	Adaptability	.074	.282	.158	3.82	.000
$F(9, 398) = 0.45, p < .000, R^2 = .316, \text{adj. } R^2 = .301$						

**Table 8**  
**Significant predictors of supervisor-rated leadership abilities.**

Criterion	Predictors	SE	$\beta$	sr	<i>t</i>	<i>p</i>
Task-Oriented	Position	.056	.188	.1701	3.35	.001
	$F(9, 358) = 3.10, p < .001, R^2 = .072, \text{adj. } R^2 = .049$					
Relationship-Oriented	Interpersonal	.077	.205	.137	2.66	< .01
	Stress Man.	.073	.148	.105	2.03	< .05
	Position	.057	.125	.114	2.20	< .05
	$F(9, 358) = 1.82, p = .06, R^2 = .044, \text{adj. } R^2 = .020$					
Total	Interpersonal	.077	.191	.128	2.50	< .05
	Position	.057	.169	.153	2.98	< .01
$F(9, 358) = 2.39, p < .01, R^2 = .057, \text{adj. } R^2 = .033$						

**Table 9**  
**Significant predictors of staff-rated leadership abilities.**

Criterion	Predictors	SE	$\beta$	sr	<i>t</i>	<i>p</i>
Task-Oriented	Interpersonal	.072	.157	.107	2.17	< .05
	$F(9, 391) = 2.20, p < .05, R^2 = .048, \text{adj. } R^2 = .026$					
Relationship-Oriented	Intrapersonal	.088	.203	.114	2.31	< .05
	Interpersonal	.072	.187	.128	2.60	< .01
	Position	.054	.140	.127	2.59	< .01
$F(9, 391) = 2.42, p < .01, R^2 = .053, \text{adj. } R^2 = .031$						
Total	Interpersonal	.072	.194	.135	2.67	< .01
	$F(9, 391) = 1.91, p < .05, R^2 = .042, \text{adj. } R^2 = .020$					

**Table 10**  
**Means (standard deviations) for the EQ-i scales and subscales by above and below average groups (based on self-report leadership ability).**

	Below Average (N = 77) Mean (SD)	Above (N = 93) Mean (SD)
Intrapersonal	100.2 (9.89)	115.3 (7.61)
<i>Self-Regard</i>	97.7 (10.17)	107.5 (8.34)
<i>Self-Awareness</i>	100.0 (13.31)	114.2 (10.31)
<i>Assertiveness</i>	100.5 (10.74)	113.7 (10.63)
<i>Independence</i>	103.2 (11.17)	114.0 (8.44)
<i>Self-Actualization</i>	100.3 (11.66)	111.6 (6.06)
Interpersonal	97.6 (11.73)	113.3 (6.94)
<i>Empathy</i>	100.1 (11.82)	116.1 (7.44)
<i>Social Responsibility</i>	100.5 (10.58)	110.2 (6.54)
<i>Interpersonal Relation</i>	94.9 (12.92)	110.6 (8.48)
Adaptability	100.0 (10.69)	115.7 (8.23)
<i>Reality Testing</i>	101.7 (10.20)	113.8 (8.39)
<i>Flexibility</i>	98.3 (11.93)	110.6 (10.28)
<i>Problem Solving</i>	99.7 (10.34)	114.4 (8.39)
Stress Management	101.9 (9.75)	112.6 (9.22)
<i>Stress Tolerance</i>	102.5 (10.24)	114.2 (8.32)
<i>Impulse Control</i>	101.3 (12.12)	108.3 (10.48)
General Mood	99.6 (9.91)	111.1 (6.48)
<i>Optimism</i>	101.3 (9.03)	112.0 (6.83)
<i>Happiness</i>	99.0 (12.66)	109.9 (7.03)
Total EI	100.0 (10.07)	116.6 (7.17)

**Table 11**  
**Means (standard deviations) for the EQ-i scales and subscales by above and below average groups (based on supervisor rated leadership ability).**

	Below Average (N = 78) Mean (SD)	Above (N = 77) Mean (SD)
Intrapersonal	105.9 (10.00)	106.1 (11.69)
<i>Self-Regard</i>	102.1 (10.82)	100.9 (11.38)
<i>Self-Awareness</i>	105.2 (13.51)	108.6 (13.45)
<i>Assertiveness</i>	105.5 (10.98)	104.1 (11.28)
<i>Independence</i>	106.6 (9.15)	105.7 (10.88)
<i>Self-Actualization</i>	104.4 (9.82)	105.2 (11.63)
Interpersonal	102.9 (11.49)	106.6 (11.40)
<i>Empathy</i>	105.6 (11.29)	109.2 (11.38)
<i>Social Responsibility</i>	103.4 (9.97)	105.9 (10.00)
<i>Interpersonal Relation</i>	100.5 (13.17)	104.2 (12.57)
Adaptability	106.4 (10.81)	107.2 (10.84)
<i>Reality Testing</i>	107.5 (10.42)	107.3 (10.26)
<i>Flexibility</i>	102.9 (13.66)	103.1 (12.88)
<i>Problem Solving</i>	105.1 (11.88)	107.4 (9.72)
Stress Management	105.0 (9.29)	107.2 (10.87)
<i>Stress Tolerance</i>	106.1 (9.65)	106.8 (11.72)
<i>Impulse Control</i>	103.1 (10.78)	106.3 (11.60)
General Mood	104.1 (5.54)	104.0 (10.96)
<i>Optimism</i>	105.6 (9.79)	104.9 (9.66)
<i>Happiness</i>	103.1 (10.76)	103.6 (12.38)
Total EI	106.1 (9.83)	107.4 (11.43)

**Table 12**  
**Means (standard deviations) for the EQ-i scales and subscales by above and below average groups (based on staff-rated leadership ability).**

	Below Average (N = 85) Mean (SD)	Above (N = 84) Mean (SD)
Intrapersonal	105.1 (11.30)	108.0 (11.84)
<i>Self-Regard</i>	101.2 (11.52)	101.6 (12.13)
<i>Self-Awareness</i>	105.0 (10.76)	108.6 (12.22)
<i>Assertiveness</i>	103.9 (12.90)	106.1 (12.98)
<i>Independence</i>	105.6 (10.70)	108.4 (11.09)
<i>Self-Actualization</i>	104.7 (10.82)	107.1 (11.24)
Interpersonal	101.7 (10.51)	108.3 (10.49)
<i>Empathy</i>	103.8 (11.49)	112.2 (10.31)
<i>Social Responsibility</i>	103.5 (9.81)	108.4 (8.03)
<i>Interpersonal Relation</i>	99.2 (12.04)	104.6 (11.76)
Adaptability	106.5 (9.20)	110.6 (10.61)
<i>Reality Testing</i>	106.7 (9.26)	110.2 (9.55)
<i>Flexibility</i>	103.3 (11.30)	106.0 (12.13)
<i>Problem Solving</i>	106.1 (10.56)	109.9 (10.55)
Stress Management	106.4 (9.40)	108.4 (10.52)
<i>Stress Tolerance</i>	106.7 (10.05)	107.8 (11.26)
<i>Impulse Control</i>	104.7 (10.19)	107.2 (11.18)
General Mood	104.0 (10.67)	106.8 (10.20)
<i>Optimism</i>	105.7 (9.79)	107.8 (9.61)
<i>Happiness</i>	102.7 (12.44)	106.0 (10.45)
Total EI	105.6 (9.81)	110.0 (10.83)

**Table 13**  
**Means (standard deviations) for the EQ-i scales and subscales by above and below average groups (based on staff-rated leadership ability).**

	Below Average (N = 77) Mean (SD)	Above (N = 78) Mean (SD)
Intrapersonal	105.0 (10.97)	108.6 (10.67)
<i>Self-Regard</i>	101.5 (11.82)	103.2 (10.17)
<i>Self-Awareness</i>	104.4 (13.52)	109.9 (13.11)
<i>Assertiveness</i>	104.4 (11.62)	105.9 (11.56)
<i>Independence</i>	105.8 (9.68)	107.7 (10.44)
<i>Self-Actualization</i>	103.9 (9.95)	107.3 (10.49)
Interpersonal	102.5 (11.32)	107.9 (10.17)
<i>Empathy</i>	105.0 (11.56)	111.1 (10.15)
<i>Social Responsibility</i>	104.0 (9.80)	106.7 (8.99)
<i>Interpersonal Relation</i>	99.7 (12.70)	105.3 (12.01)
Adaptability	105.7 (10.13)	109.5 (9.50)
<i>Reality Testing</i>	106.9 (9.98)	108.9 (9.65)
<i>Flexibility</i>	102.5 (12.71)	106.0 (11.30)
<i>Problem Solving</i>	104.5 (11.45)	108.5 (9.28)
Stress Management	105.6 (9.28)	109.8 (9.42)
<i>Stress Tolerance</i>	105.9 (10.11)	109.3 (11.00)
<i>Impulse Control</i>	104.2 (10.33)	108.2 (10.86)
General Mood	104.5 (9.25)	107.2 (8.83)
<i>Optimism</i>	105.7 (9.13)	107.1 (8.94)
<i>Happiness</i>	103.6 (9.90)	107.2 (8.83)
Total EI	105.6 (9.99)	110.2 (10.03)

**Table 14**  
**Classification results from a discriminant function analysis of above average vs. below average leadership groups (self-report ratings) using EQ-i subscales.**

Actual Status	N	Predicted Status		% Correct
		Below	Above	
Below Average	77	64	13	83.12
Above	93	9	84	90.32
Total	170	73	97	87.06

**Table 15**  
**Classification results from a discriminant function analysis of above average vs. below average leadership groups (supervisor ratings) using EQ-i subscales.**

Actual Status	N	Predicted Status		% Correct
		Below	Above	
Below Average	78	48	30	61.54
Above	77	30	47	61.04
Total	155	78	77	61.29



**Table 16**  
**Classification results from a discriminant function analysis of above average vs. below average leadership groups (staff ratings) using EQ-i subscales.**

Actual Status	N	Predicted Status		% Correct
		Below	Above	
Below Average	85	58	27	68.24
Above	84	23	61	72.62
Total	169	81	88	70.41

**Table 17**  
**Classification results from a discriminant function analysis of above average vs. below average leadership groups (combined supervisor and staff ratings) using EQ-i subscales.**

Actual Status	N	Predicted Status		% Correct
		Below	Above	
Below Average	77	51	26	66.23
Above	78	28	50	64.10
Total	155	79	76	65.16

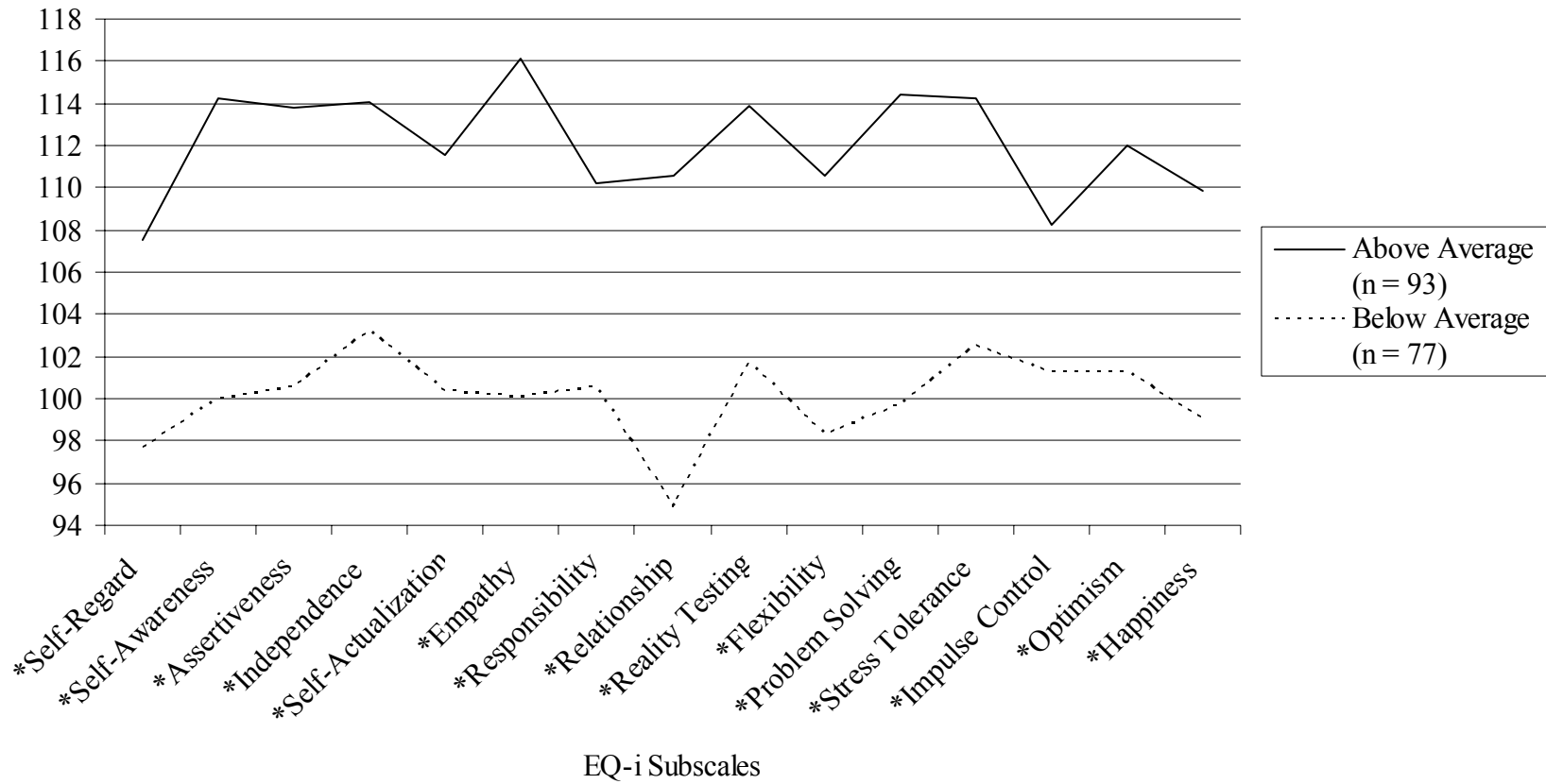
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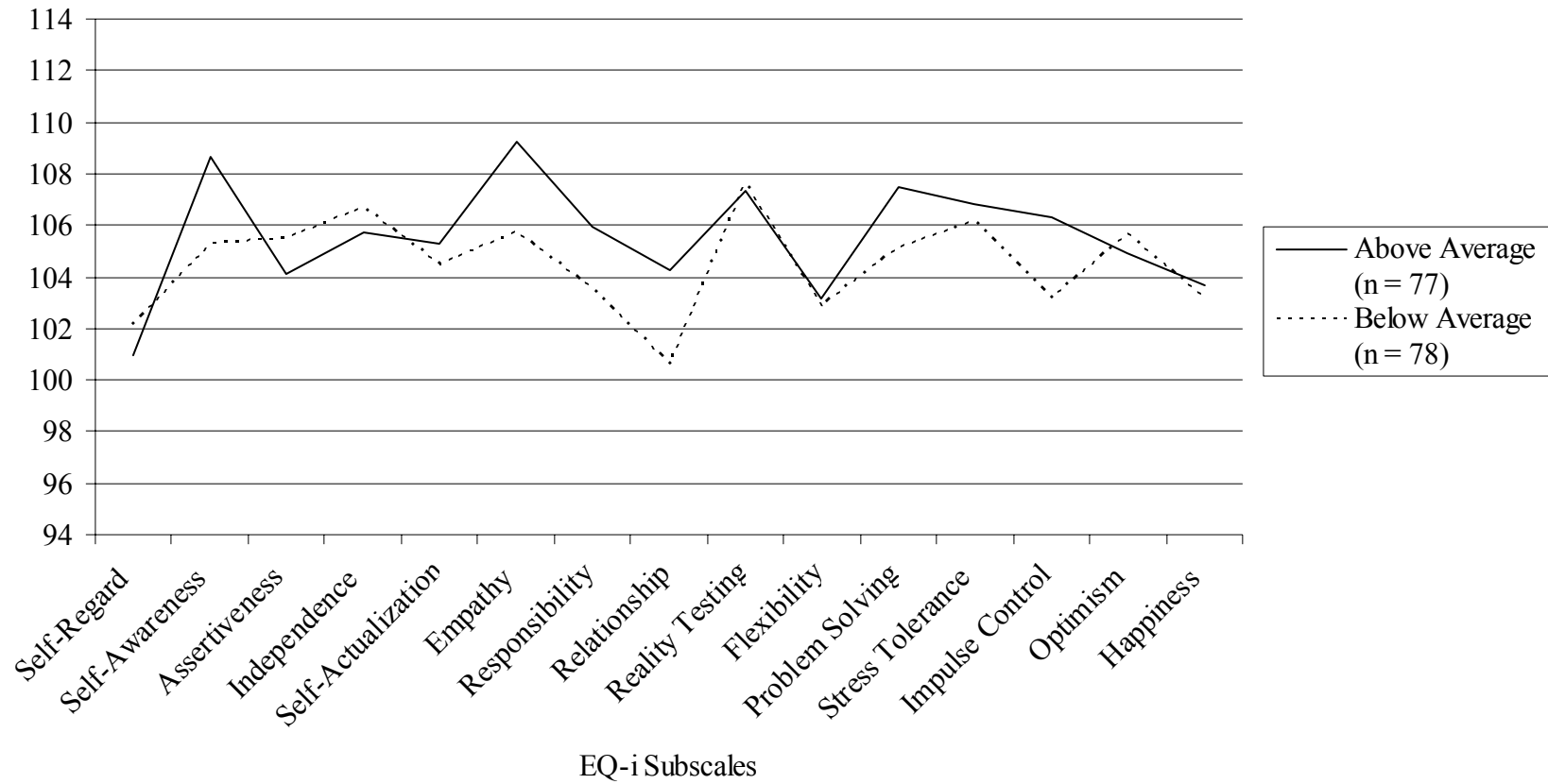
**Appendix 7.1**

**EQ-i Profiles**

**Figure 1**  
**EQ-i profile for self-reported above average and average leadership groups (\* p < .05).**

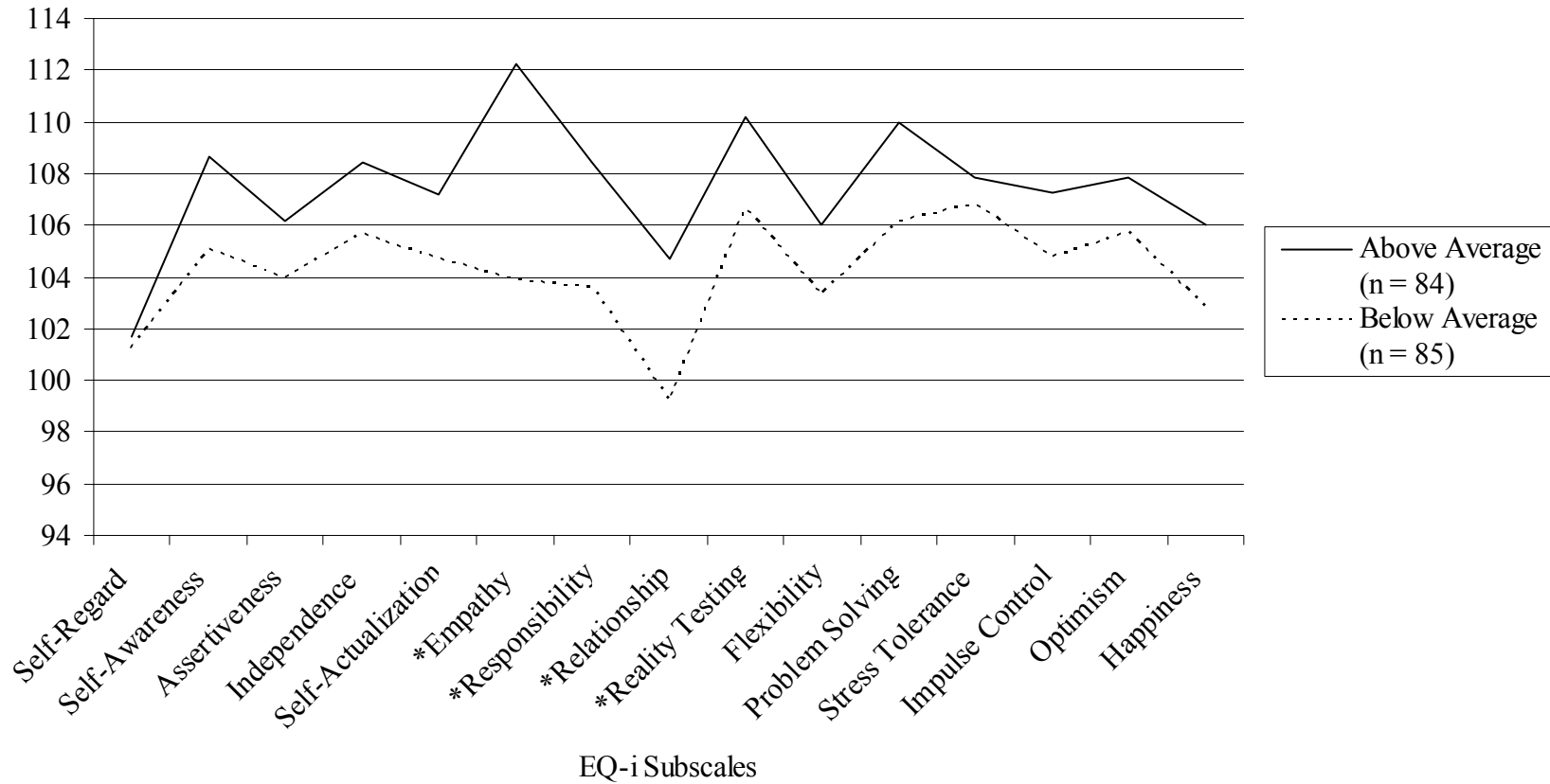


**Figure 2**  
**EQ-i profile for supervisor rated above average and average leadership groups.**

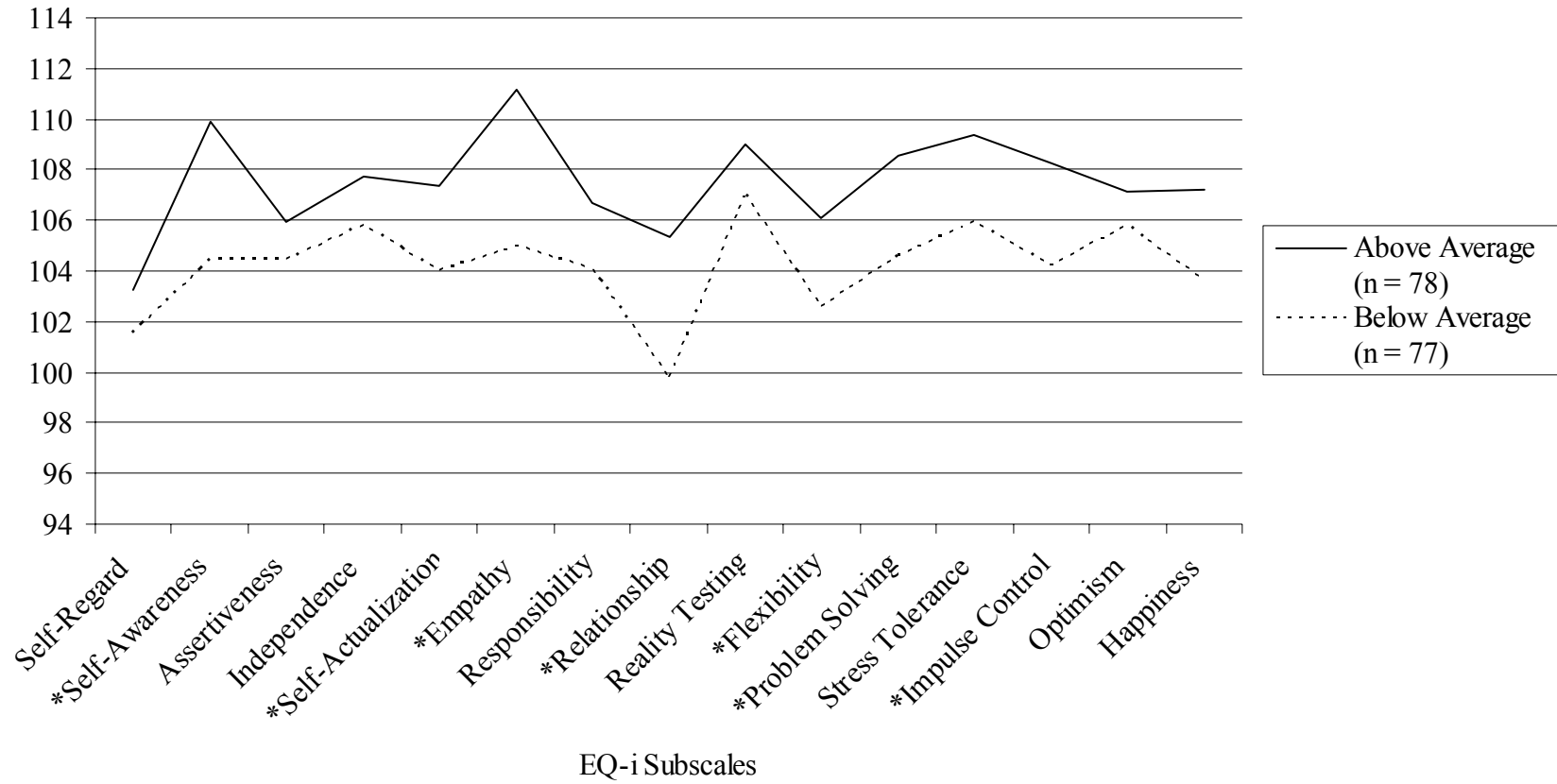


**Figure 3**

**EQ-i profile for staff rated above average and average leadership groups (\* p < .05).**



**Figure 4**  
**EQ-i profile for above average and average leadership groups based on supervisor and staff ratings (\* p < .05).**



**Appendix 7.2**

**Leadership Questionnaires**



### 7.2.1 Self-Report Questionnaire

Participants were asked to provide information about their current school and school board, as well as their current and past positions (principal or vice-principal; elementary or secondary). Participants were also asked to rate themselves on a 10-point scale from no leadership ability to highest possible level of leadership ability. Finally, participants were asked to rate themselves from 1 (very seldom true of me) to 5 (very often true of me) on the following 21 items:

1. I convey a clear vision for the school.
2. I encourage innovation in the workplace.
3. I clearly articulate performance expectations to staff.
4. I encourage ideas from staff members when solving problems.
5. I assist the staff in maintaining the direction needed to complete a task.
6. I seek consensus among staff members.
7. I am sensitive to the needs of people from different backgrounds.
8. I voice disagreement without creating unnecessary conflict.
9. I respond to others in a timely manner.
10. I avoid reaching quick conclusions and making snap decisions.
11. I communicate a clear rationale for my decisions.
12. I consider the long-term implications of a decision before taking action.
13. I come well prepared for meetings.
14. I monitor delegated responsibilities.
15. I present my thoughts and ideas clearly in one-to-one, small group, and formal presentations.
16. I generate enthusiasm in the workplace.
17. I express my ideas and thoughts clearly in writing.
18. I successfully manage resources to improve student and staff learning.
19. I motivate others to change behaviours that inhibit professional and organizational growth.
20. I respond to technological change in a positive manner.
21. I keep abreast of new developments in my profession.

### 7.2.2 Supervisor Rater and Staff Rater Questionnaires

Participants' immediate supervisors, as well as staff members, were also asked to rate the participants on overall leadership ability using a 10-point scale from no leadership ability to highest level possible. Supervisors and staff members also rated participants from 1 (very seldom true) to 5 (very often true) on the following 21 items:

1. Conveys a clear vision for the school.
2. Encourages innovation in the workplace.
3. Clearly articulates performance expectations to staff.
4. Encourages ideas from staff members when solving problems.
5. Assists the staff in maintaining the direction needed to complete a task.
6. Seeks consensus among staff members.
7. Is sensitive to the needs of people from different backgrounds.
8. Voices disagreement without creating unnecessary conflict.
9. Responds to others in a timely manner.
10. Avoids reaching quick conclusions and making snap decisions.
11. Communicates a clear rationale for his/her decisions.
12. Considers the long-term implications of a decision before taking action.
13. Comes well prepared for meetings.
14. Monitors delegated responsibilities.
16. Generates enthusiasm in the workplace.
17. Expresses ideas and thoughts clearly in writing.
18. Successfully manages resources to improve student and staff learning.
20. Responds to technological change in a positive manner.
21. Keeps abreast of new developments in his/her profession.