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# THE EMOTIONAL INTELLIGENCE OF MANAGERS: ASSESSING THE CONSTRUCT VALIDITY OF A NONVERBAL MEASURE OF "PEOPLE SKILLS"

David A. Morand
*Pennsylvania State University*

*ABSTRACT:* Researchers have long been interested in managerial socio-emotional competency —"people skills." One problem has been that many such competencies are properly categorized as nonverbal in nature, yet researchers typically utilize paper and pencil, verbal, measures to assess these. The present research draws upon emerging literature on emotional intelligence, as well as upon psychological research on cross-cultural universals in the display and recognition of facial expressions of emotion, combining these streams of research to develop a nonverbal measure of skill at nonverbal communication—particularly, of the ability to recognize emotional expressions displayed by others. Applications to leadership, human relations skills, and communication in organizations are discussed.

**KEY WORDS:** Emotion; intelligence; leadership; nonverbal communication.

## INTRODUCTION

The ability to get along with, to develop trusting relations with, and to communicate effectively with others comprises a set of skills long deemed central to the task of management. Such social or "people" skills have been variously referred to as "leader consideration" (Fleishman, 1957), as a "socio-emotional" (as opposed to "task") orientation (Bales, 1950), or as "human relations skills" (Whyte, 1955; Likert, 1967). Taken as a whole, this set of interpersonal communicative competencies deals

Address correspondence to David A. Morand, PhD, School of Business Administration, Pennsylvania State University, Middletown, PA 17057; e-mail: dam9@psu.edu.



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with managers' ability to establish warm, empathic, non-directive, trusting relations with subordinates. Much as such interpersonal competencies are deemed central to the task of management and leadership, insufficient attention has been paid to their construct definition and validation, particularly with respect to the "softer" aspects of such socio-emotional competencies—that is, empathy, listening skills, and so on.

This research study undertakes to develop and to test the construct validity of a measure one particular facet of managers' socio-emotional competence—or "emotional intelligence." The research specifically focuses upon individual differences in the ability to recognize facial displays of emotion in others. In contrast to the cognitively oriented paper-and-pencil instruments typically used in organizational research (e.g., Graham, 1991), this project explicitly seeks to develop a non-verbal measure. To devise the measure the study draws upon recent research in psychology, on the concept of emotional intelligence, as well as on research investigating the existence of cross-cultural universals in emotional expression. The study is important insofar as it provides more precise conceptual and operational definition to a heretofore loosely bunched constellation of interpersonal attributes. Moreover, the resultant measure should prove of utility both for practicing managers and researchers, for purposes of understanding an important dimension of leadership skill, of assessing the communicative and socio-emotional competencies of managers, of providing feedback regarding accuracy of perception of non-verbal expressions of others, as well as with respect to applications in organizational selection and training.

### *The Concept of Emotional Intelligence*

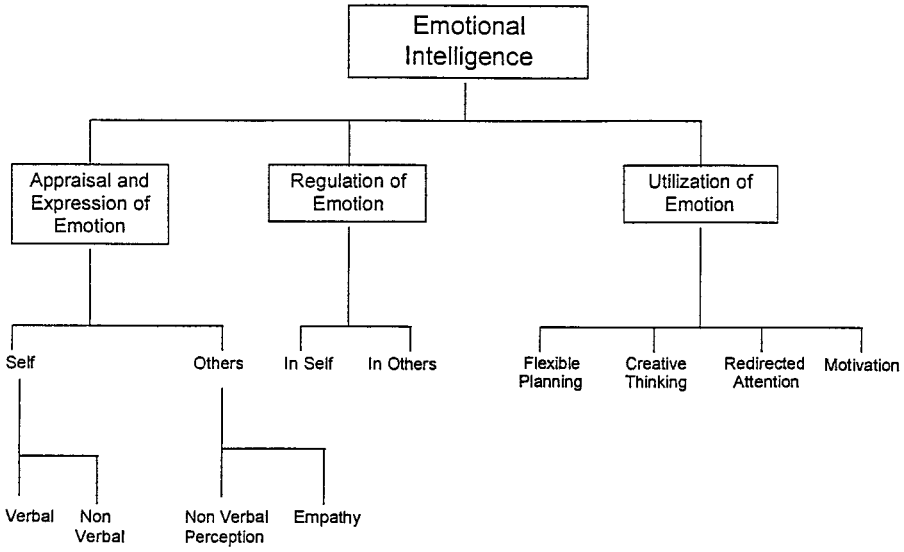
Recent work in the field of psychology has focused on the concept of "emotional intelligence" (Goleman, 1995; Mayer & Salovey, 1993, 1995). Whereas intelligence was once presumed to comprise a single factor, more recently psychologists have suggested that intelligence is multi-factorial—that there exist a number of independent facets to intelligence. For example, evidence suggests that mathematical, verbal, spatio-temporal, musical, and social/emotional intelligences all exist as independent dimensions (Gardner, 1985). It is likely that these "intelligences" correspond to information processing capabilities of different areas of the brain.

Broadly defined, emotional intelligence references the "ability to monitor one's own and others' feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and action" (Salovey & Mayer, 1990). This definition encompasses a number

of distinct but interrelated subdomains, represented in Figure 1. Accordingly, emotional intelligence can itself be conceptualized relative to individuals' awareness of their own emotions and their ability to express those emotions, to individuals' perceptions of and awareness of emotions expressed by others, to the regulation of emotion both in oneself and in others, and to the utilization of emotion (for example, utilization of emotion for purposes of motivation, for creative acts, etc.).

The present research focuses on one branch of Figure 1, specifically on the appraisal of emotion in others. That is, the ability to recognize emotional expressions of others. Sensing others' emotional states is obviously a skill central to the whole notion of interpersonal communicative competency. Communication theory, for example, analyzes communicative processes relative to the basic distinction between messages encoded (sent) and decoded (received) (Axley, 1984). Accordingly, this research thus focuses on managers' ability to decode messages sent by others, specifically focusing on messages existing at a non-verbal, emotional level. This appraisal of expressed emotion in others is a crucial facet of socio-emotional communicative competence broadly conceived.

**Figure 1**
**Conceptualization of Emotional Intelligence***




*From Mayer and Salovey (1993).

*Cross-Cultural Universals in Emotional Expression*

Few actual measures of emotional intelligence have been developed. The emotional intelligence literature is at this stage largely conceptual in nature. Those measures of social intelligence which do exist are predominantly paper-and-pencil measures (Mayer & Salovey, 1995). Yet emotional intelligence is at heart a non-verbal, right brained activity. Thinking and feeling are two distinct types of mental activity, each deriving from the differential information processing capabilities of the left and right hemispheres of the brain (Ornstein, 1986). Thus standard questionnaire measures—techniques mediated by individual cognitive ability and attitudinal predispositions—are intrinsically less valid. It is for this reason that the specific orientation of the present research is upon the development of a non-verbal measure.

While emotion is displayed through many channels—including kinesics (such as bodily posture and hand gestures) or prosodics (such as vocal intonation and pitch, Brown & Levenson, 1987)—the focus of the present research is upon the expression of emotion through faces. Facial expressions are heavily laden with emotional information, perhaps far moreso than any other channel. Indeed, evidence from the field of physiological psychology indicates that there exist discrete areas of the brain devoted to specialization at facial recognition, and that individuals with damage to these areas are unable to recognize any faces whatsoever (Ornstein, 1986). Further, an additional domain of psychological research, one not directly tied to the body of research on emotional intelligence, focuses on cross-cultural universals of facial expression of emotion. This research is drawn upon as a basis for developing a measure of skill at perception of nonverbal facial expression.

Since the time of Darwin (1872/1955) there has been speculation among anthropologists, and more recently among cross-cultural psychologists, as to whether and to what extent human expressions of emotion are universal. A stream of research indicates that there indeed exist six universal facial expressions (Ekman, 1973, 1982; Ekman & Friesen, 1984; Matsumoto, 1992; Ekman, 1994). These expressions are happiness, fear, sadness, surprise, anger, and disgust. Research shows individuals from both modern and primitive cultures, representing a number of highly disparate cultural traditions, to be remarkably alike in their ability to recognize these six basic expressions.

The extension of research on cross-cultural universals in facial expression, toward the development of a measurement of socio-emotional competency, is premised upon several assumptions. For one, it seems reasonable that the six specified universal emotions form a valid basis for developing a measure of emotion broadly conceived. That is, while

discrete emotions outside of the six known universals certainly exist—such as shame, embarrassment, or contempt (e.g., Matsumoto, 1992)—a reasonable starting point would seem to lie in the six basic universal expressions. Indeed, because the six treated here are proven universals this enables experimental control of confounding that might arise due to individual differences in emotional makeup, or due to disparate socialization among research subjects. That is, while some emotions are universal, others are to a degree socially constructed (Hare, 1986). A further assumption is that use of the six universal emotions will result in a measure applicable to cross-cultural research contexts, for example, for assessment of managerial skill at recognizing emotional expressions in diverse cultures. The ability to extend the research in this direction represents an important advantage given recent trends toward cross cultural research in organization studies.

A final premise underlying the utilization of the six cross cultural universals is that individual differences in ability to recognize emotional displays are presumed to exist. That is, a basic finding of prior research has been that with more or less unlimited exposure times individuals from diverse cultures readily recognize the six universal expressions. But the premise underlying the present research shifts. Here it is presumed that by manipulating exposure times so as to create quite brief exposures to the stimulus expressions, it will be possible to ascertain whether certain individuals are more or less adept at recognizing facial displays of emotion communicated by others. The presumption is that individuals better at recognizing brief emotional displays in a laboratory situation will prove more adept at "reading" other people in real life contexts.

### *Assessing the Construct Validity of Facial Recognition*

Construct validity is concerned with the extent to which a particular measure "relates to other measures consistent with theoretical derived hypotheses concerning the concepts that are being measured" (Carmines & Zeller, 1979:23). To test the construct validity of the proposed measure of faces relative to the basic notion of social intelligence, several conceptually related variables are proposed: the Meyers-Briggs Type Indicator (MBTI) (Meyers, 1980, 1987), Mehrabian and Epstein's (1972) questionnaire measure of empathic tendencies; a leader consideration scale developed by Fleishman (1957).

Mehrabian and Epstein (1972) define empathy as the ability to take the role of another, to be able to understand anothers' feelings, and to become actively involved in expressed emotions of others. Their empathy

scale has proven to be both a reliable (alpha = .84) and valid measure of empathy (Mehrabian & Epstein, 1972). High empathy is predicted to be significantly and positively correlated with skill at facial recognition.

The MBTI, Form G, is a self-report, personality type indicator widely used in the behavioral science and organizational literatures (Gardner & Martinko, 1996). The inventory, consisting of 166 forced-choice questions, operationalizes Jung's (1921/1971) theory of psychological types. Prior work shows the test to have satisfactory split-half as well as test-retest reliability scores (repeatedly exceeding .75), and also supports the overall validity of the MBTI's constructs (Carlyn, 1977; DeVito, 1985; Carlson, 1989). One of four dimensions along which personalities are assessed is a "thinking-feeling" dimension. It is predicted that scores of individuals tending toward the "feeling type" anchor of this dimension (as opposed to thinking) will be positively correlated with skill at recognition of facial displays of emotion.

The leader consideration scale measures individuals' propensity toward more participative styles of leadership, toward attending to feelings and concerns of subordinates, and so forth. While the standard leader consideration scale measures subordinates' perceptions of their superior's behavior (Fleishman, 1957a), the present study employs a variant that enables individuals to make a self-assessment of their dominant leader behavior style (Fleishman, 1957b). Prior research indicates that this scale is both valid and reliable (alphas ranging from .70 to .89). It is predicted that high scores at facial recognition will be positively correlated with scoring high on the leader consideration scale.

It is also predicted that females are more likely than males to exhibit skill at emotional intelligence. Females are thus more likely to accurately perceive the six emotions. This prediction is based on the notion that females, at least in American culture, are considered more emotive, intuitive, feeling oriented.

## METHODS

### *Participants and Procedure*

Subjects were 41 in number, 24 male and 17 female, with a mean age of 32.1 years (SD = 6.5). All subjects were Master of Business Administration students attending evening classes at a small university in a northeast U.S. metropolitan area. All were employed full time, thus having considerable prior experience in the world of work (mean = 8.7 years)

*Measures*

*Faces.* Photographs of 17 faces displaying the six universal emotions were taken from Ekman and Friesen's (1975) *The Face of Emotion*. The total number and distribution of photographs used was constrained by the number available in Ekman and Friesen's work. Two photographs represented subjects posing the emotion of anger, 3 happiness, 2 surprise, 3 fear, 2 disgust, and 4 sadness. One additional photograph of a face with a neutral expression was also included, for a total of 17.

The emotions depicted in the photos were composed by Ekman and Friesen not through asking subjects to portray said emotion, rather by having subjects manipulate specific facial muscles in conformity with predetermined patterns. This was determined to be a more reliable method. Emotional displays can be decomposed into the discrete positioning of various facial muscles, for example, surprise is expressed by raised eyebrows and parted lips, disgust through a wrinkled nose, pursed lips, and so on. Thus, because Ekman and Friesen had studied the physiology of emotional expression, the photographed subjects were posed using known scientific benchmarks previously established in the literature. The resulting photographs were then coded using Ekman and Friesen's Facial Action Coding System (1978), which indicated that the finished photographs represented the intended emotions. In a further test of the content validity the faces were exposed for an unlimited length of time to a group of subjects, who correctly identified the posed emotion almost 100 percent of the time.

As noted, the 17 photographs described above were initially developed and used to test the existence of emotions as cross-cultural universals. In the present study individual differences in discriminative abilities were assessed by limiting the exposure time of each photograph to only one second. Such exposure times mirror real life contingencies surrounding the display and recognition of emotions; emotional displays in everyday face-to-face encounter are often quite fleeting and nuanced (Goleman, 1995). Whereas all or almost all faces can be correctly identified with lengthy exposures, in one second exposures many subjects are predicted to be less able to accurately discern and label the given emotion. The photos were accordingly scanned using an optical character scanner, then integrated into a "slideshow" presentation on a computer, such that a given face appeared on the computer screen for an exposure time of 1 second. Subjects were presented with a list of the six emotions (plus neutral), and for each numbered photograph appearing on the computer screen they were asked to circle the emotion they thought corresponded to that displayed. Subjects had 5 seconds in between the display of each photograph to record their choice. During this time the screen was blank.

A sound cue, integrated into the computer program, sounded just prior to the display of the next photograph, so functioning to alert subjects to be ready to view the next stimulus face. A pretest showed that this method of presentation—including all instructions, the sound cue, and the 5 second interval—was clearly understood by the subjects, and that sufficient time existed for subjects to view each face, note their response, then redirect their attention to the screen in time for the next stimulus. Subjects were first exposed to the faces, they then completed the other survey instruments mentioned above. Each subjects' score on the faces measure was calculated as the total number correctly identified out of 17. Subjects were initially informed only that they were participating in a study of managerial perception.

Out of the 17 faces displayed to subjects, the average number correctly identified was 13.09 (SD = 2.32). The reliability of subjects' ability to identify faces at one second exposures was calculated using Kuder Richardson formula 20. This statistic represents a special case of Cronbach's Alpha, appropriate for use when the items are binary variables (Novick, 1968; Traub, 1994). The resulting statistic was .73, indicating that misses were not randomly distributed, and that the instrument was relatively successful at distinguishing among individuals who were better or worse at facial recognition.

*Other Measures.* Merabian and Epstein's empathy scale consisted of 33 items scored on a Likert-type scale ranging from 1 to 9, half of which items were reverse scored. Sample items include: "It makes me sad to see a lonely stranger in a group"; "I become very involved when I watch a movie." Items were scored such that higher scores signified greater empathy. The reliability of the empathy scale was .77, the mean score was 186.9, standard deviation 21.9.

As noted, the leader consideration scale was a variant of the original used by Fleishman, this variant tapping into individuals perceptions of their own propensities, as there were no subordinates' perceptions available using the current subject pool. The scale consisted of 20 items. Scores could range from 0 to 80, with higher scores indicating a greater propensity toward consideration. The reliability of this scale was .73, the mean score was 43.5 (standard deviation = 6.21). Sample questions here included: "I do personal favors for people in the work group"; "I treat all people in the work group as my equal" (using a Likert scale, with agreement being scored as high on leader consideration).

The reliability score on the Myers Brigs feeling-thinking subscale was .64. Sample questions here included: "Do you more often let a) your heart rule your head, or b) your head rule your heart?"; "Are you more

careful about a) people's feelings, or b) their rights?" (with answers of "a" being used to derive high scores on the feeling subscale).

## RESULTS

The correlation between scores on the faces measure and empathy was .33 ($p < .05$, one-tailed), between the faces measure and leader consideration .20 (not significant), between the faces measure and the Meyers Briggs feeling/thinking score .36 ($p < .05$, one-tailed). A t-test indicated that females were more likely than males to score high on the faces test ($t = 2.3$, $p < .05$, one-tailed). The mean score for females on this measure was 14.17 ($SD = 1.95$), for males 12.48 ($SD = 2.34$).

Thus, the results supported three out of the four predicted relations, and as well supporting the reliability of the measure of facial recognition itself. These preliminary results indicate positive support for the overall validity and reliability of the proposed instrument. The lack of a significant relation between leader consideration and the faces measure is discussed below.

## DISCUSSION

The fields of management and organizational studies at the outset derived from the confluence of existing social scientific research streams, primarily psychology and sociology. As the field of management has gained recognition as a discipline in its own right, it has perhaps evidenced some degree of insularity relative to emerging work from other social science disciplines. Yet organizational researchers should continue to examine and to draw upon streams of research from outside of organizational studies. By engaging in such interdisciplinary cross-fertilization they can continue to shed creative light on phenomena of central interest. Indeed, this paper illustrates such a cross-fertilization; psychological theory and research on emotional intelligence, and on cross-cultural universals in emotional expression, can be usefully integrated into the study of communication in organizations, enhancing our understanding of the socio-emotional facets of managerial work, and of communicative competency at work in general.

The concept of emotional intelligence provides theoretical grounding for a heretofore loosely connected cluster of concepts that management theorists have long suggested are important. Leadership styles, human relations skills, socio-emotional skills, people skills—all these variables

are acknowledged to be of central significance—yet have been accorded varying and often loose-knit definitions. Emotional intelligence theory holds the possibility of grounding at least some facets of managerial socio-emotional competency relative to an overall typeology of intelligences, and further provides a framework for identifying various subcategories of emotional competency—recognition of emotions in others, in self, regulation of emotion, and so on. In turn, emotional intelligence theory is biologically grounded, in that different areas of the brain are known to possess unique information processing capabilities. Perhaps most importantly, while prior measures of social intelligence and leadership competency—both in psychology and particularly in organizational behavior—have been operationalized using paper and pencil measures, this research measures such more validly, using a nonverbal measure to capture what is at heart a nonverbal phenomenon.

The results indicate that one facet of emotional intelligence, here operationalized as the accurate discernment of others' emotional states, can be reliably measured at a non-verbal level in a laboratory setting. Three out of the four predicted variables were significantly correlated with aptitude on the facial recognition task. That the leader consideration scale did not significantly relate to facial recognition may in retrospect derive from an insufficient correspondence between the questions making up the leader behavior scale, and the hypothesized interpersonal sensibilities of individuals good at recognizing faces. Indeed, the scale questions tend to treat "consideration" as a proactive and extroverted behavior, one of exhibiting friendly, helpful, consultative behaviors toward subordinates. In contrast an alternate conceptualization of consideration exists, one much more passive in connotation, entailing empathic understanding of, and involvement in, inner states of others.

Indeed, this insight suggests how the proficiencies of a "human relations" leadership style may be bifurcated. That is, a critical distinction may exist between expressing emotion versus perceiving it in others. The one set of leadership skills may be more expressive in nature, entailing the demonstration of consideration, camaraderie, friendship, and consultation. This may point to more effusive, outgoing, charismatic aspects of leadership. While important components of leadership, these are distinct from a set people skills entailing listening and understanding, empathy, correctly perceiving others' emotional states, etc. Given that prior literature has not clearly distinguished between these two facets of leadership, this avenue of thought warrants future exploration. There exists a viable argument that these dimensions are quite independent of one another, indeed, it is possible that being adept in one area may even be inversely related to skill in the other.

Future research on the present measure should move in two basic

directions. For one, it is important to refine the faces measure. A revised measure should include a greater number of photographs representing each of the six emotions (plus neutral). Recall that the stimulus material for the present study was constrained by those photographs available in a previously published work. Moreover, a revised measure should be sure to include a balanced repertoire of male and female faces. It should as well contain faces of individuals representing diverse ethnic backgrounds.

Future research should also carry the work to a field setting, to further validate the measure, but also to seek performance related outcomes of emotional intelligence. For example, it should be possible to choose a business setting where skill at socio-emotional work likely has some bearing upon performance. That is, a professional office or other service sector firm where a substantial amount of interpersonal interaction among employees, or between employees and clients, is requisite to the accomplishment of work itself. In such a field setting one could collect data not only on facial discrimination, but also on trust and friendship networks, on subordinates', co-workers', and superiors' perceptions of target individuals' people reading ability, on career success (e.g., operationalized as average number of promotions over X number of years), and so forth. By surveying coworkers and others who interact with a target individual we can obtain independent sources of data to triangulate evidence of emotional intelligence. This overcomes the weaknesses inherent in self-reported assessments of "considerate" or "empathic" behavior. Further, the social network data would enable one to derive quantitative measures of the extent to which an individual was particularly "well-connected" in trust and friendship networks. The specific prediction here is that there will be a positive correlation between emotional intelligence and centrality in such relational networks. The logic is that being perceived by others as well connected in a social network should be a function of one's people skills.

Finally, a valid instrument measuring ability to recognize emotional states of others has numerous other applications in organizational research and in work settings. With respect to employee selection, emotional intelligence may prove a variable useful in assessment of job-relevant aptitudes for positions such as counselors, concierges at hotels, or indeed for any other position requiring good communication skills, especially sensitivity to others' emotions. There also exist applications to leadership and communication training, for example an emotional intelligence measure could provide feedback in executive training sessions regarding aptitudes in this area. Negotiators who often heavily rely upon skill at reading—the sometimes partially cloaked—emotions of others, might also find such an instrument useful for training purposes. In over-

all terms, the instrument and conceptual development presented in this paper are of utility for gaining a better understanding of an important facet of the communication process.

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