To the Graduate Council:

I am submitting herewith a dissertation written by Kokkwang Lim entitled "The Relationship Between Emotional Creativity and Interpersonal Style." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy with a major in Psychology.

Robert Wahler, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:

Associate Vice Chancellor
and Dean of The Graduate School

THE RELATIONSHIP BETWEEN EMOTIONAL CREATIVITY AND INTERPERSONAL STYLE

A Dissertation

Presented for the

Doctor of Philosophy

Degree

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Kokkwang Lim

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DEDICATION

This dissertation is dedicated to my parents

Mr. Lim Poh Hua and Ms. Wong Len Yin.

You have educated me with your

courage, kindness, and passion for learning.

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ABSTRACT

This study reviewed the research literature on four aspects of creativity: processes, products, environmental influence, and personality traits. Creativity research has indicated that creativity is domain specific and that creative persons generally have a paradoxical interpersonal style. This study assumed that the reports of creative persons' paradoxical interpersonal style may have in part resulted from the fact that most studies on creativity have not appropriately specified their domains. This study selected the specific domain of emotional creativity, which is defined as the ability to experience novel emotions and to express them in ways that enhance one's personal growth and one's interpersonal relationships. In selecting the domain of emotional creativity, this study explores whether less paradoxical or more predominant interpersonal styles would emerge as characteristic of people with higher emotional creativity. Based on Rogers's and Maslow's theories of creativity, this study's working hypotheses were that (1) people with higher emotional creativity have more openness to experience in their interpersonal style and that (2) people with higher emotional creativity have more autonomy in their interpersonal style. In this study, a total of 91 undergraduate students completed three questionnaires and two take-home writing tasks. Multiple regression analysis was employed to analyze the data. The results, which reflected marginal levels of significance and small effect sizes, supported the first hypothesis but not the second hypothesis. Different relationships were found between selected components of emotional creativity and selected aspects of interpersonal style. The results

suggested four general relationships between emotional creativity and interpersonal style: (1) A person who is likely to become emotionally creative is less concerned with dominating others; (2) a person who adaptively applies her or his emotional creativity perceives herself or himself as a sociable person; (3) when a person is exploring new emotions, the person encounters a basic dilemma of wanting to both communicate with and separate from others; and (4) emotionally creative persons express various degrees of social autonomy. Emotionally creative persons do not appear to have a markedly predominant interpersonal style. Future research on emotionally creative persons could further investigate whether emotionally creative persons' apparently paradoxical interpersonal style is perhaps more indicative of maladaptive instability or healthy flexibility.

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CHAPTER 1

Introduction and Literature Review

Despite the complex, cryptic, and often contradictory writings on creativity, psychology has steadily expanded its interest in the study of creativity after Guilford's parting address as the president of the American Psychological Association in 1950 (Barron & Harrington, 1981).

Research on creativity has generally identified four different foci (Stein, 1969; Sternberg, 1988): the creative process, the creative product, the creative environment, and the creative person. The conceptual and empirical distinctions among these four research foci are not always clear. For instance, the operation of certain cognitive processes implies the presence of certain personality traits, e.g., in Wallas's (1926) four stage theory of the process of creativity, the "incubation" stage (where one has gathered necessary information and is not deliberately striving to resolve one's questions) may involve the personality trait of tolerance of ambiguity, while the "verification" stage (where one seeks emipirical confirmation or disconfirmation for one's creative ideas) may involve the personality traits of self-confidence and ambitiousness. Therefore, these four common foci in the research literature on creativity would be more accurately treated as four major, interacting components or aspects of any creative phenomenon.

Creative Processes

Creativity can be seen as a cognitive process, activity, or operation that the creator performs. Torrance (1965) defined creativity as the process of becoming sensitive to problems, deficiencies, gaps in knowledge, missing elements, disharmonies, and so on; identifying the difficulty, searching for solutions, making guesses, or formulating hypotheses about deficiencies, testing and retesting these hypotheses and possibly modifying and retesting them; and finally, communicating the results. This definition highlights the pragmatic, problem solving function of creativity.

By contrast, problem finding or "sensitivity to problems" (Guilford, 1950) has also been regarded as a distinctively creative process. Problem finding refers to the process of searching for or developing questions that need to be answered. Rather than simply exploring alternative solutions to a presented problem, the creator questions the way the problem has been presented and attempts to creatively modify the perception of the situation. Getzels and Csikszentmihalyi (1976) undertook a longitudinal study of the problem finding aspect of creativity in prospective artists. The subjects were presented with 27 objects; each subjects was free to select whatever ones, arrange them in whatever way, and complete a drawing of them. Each subject received a total problem finding score, which was based on various observations by the experimenters, e.g., how many objects the subject had handled, how thoroughly the subject had examined the objects, whether the selected objects were rearranged, whether the paper was changed, and how

much the selected objects were transformed in the process of being drawn. Both the behavioral observations and the interview responses indicated that subjects with low problem finding scores readily adopted familiar approaches to the task, whereas subjects with high problem finding scores wanted to construct something new in their approaches. The problem finding scores correlated with evaluations of the drawings' originality and aesthetic value by artist-critics and art teachers, indicating at least short-term criterion validity of the problem finding scores as one component of artistic creativity. Furthermore, the problem finding scores significantly predicted the subjects' success as artists seven years, suggesting relatively long-term predictive validity of the problem finding concept. At the end of this logitudinal study, the criteria for judging the artists' subsequent levels of success were considerably related to social recognition, e.g., number of competitions or prizes won and number of shows (of their own works) that they had presented to the public.

From a more comprehensive theoretical tradition of associationism Koestler (1949) developed his theory of creative processes. Koestler defined creativity as "any mental occurence simultaneously associated with two habitually incompatible contexts" (p. 37). This is Koestler's concept of bisociation, which refers to the linking of ideas that normally do not go together thus generating an unusual experience or perspective. By contrast, in the context of psychoanalytic psychotherapy, Rothenberg (1988) spoke of the janusian process of simultaneously conceiving opposite experiences or multiple antitheses. The term, janusian process,

is derived from the name of the Roman god, Janus, whose mutiple faces looked in opposite directions simultaneously. Janusian thinking may be considered as an active expression of the capacity to tolerate ambiguity, which in this context does not represent vagueness but rather the uncanny situation where logically contradictory cognitions are intuitively and simultaneously experienced as valid. Rothenberg (1979, 1988) interviewed more than 125 subjects, including Nobel Prize laureates in science and literature, other eminent awardees, and also neophytes. Rothenberg reported the very common theme that the creative moment involves the act of juxtaposing apparently discrepant thoughts and feelings.

A more elaborate theory of the mechanism of creativity was offered by Wallas (1926), who proposed a sequence of operations involved in creative production. He suggested four stages of creativity: preparation, incubation, illumination, and verification. Preparation is the phase of information gathering, studying, analyzing the information collected, and consciously thinking about the issue at hand. Incubation is a time to consciously leave the problem, a temporary distraction from or relaxation of the previous deliberate effort to produce something. The third stage, illumination, occurs when new ideas, connections, and insights emerge in the creator. Finally, verification is enacted when the creator evaluates the appropriateness or utility of the new ideas or products. Later Hadamard (1949) drew on Wallas's theory to discuss the process of makng discoveries in the scientific domain.

More psychometrically oriented researchers have typically conceived of the process of creativity in terms of divergent thinking. Divergent thinking is seen as the mental process of generating different responses to a given situation in a way that is imaginative and open-ended and that allows the subject to change her or his perspective between responses The operationalized measures of divergent thinking include fluency (i.e., the frequency of the responses), flexibility (i.e., the number of different categories of responses), and the originality or uniqueness of the responses to a given problem (Mumsford & Gustafson, 1988). Barron and Harrington (1981) gave a careful assessment of the validity of divergent thinking as a measurement of creativity. In their extensive review of empirical studies, they found more than 70 studies that reported significantly positive relationships between divergent thinking scores and nontest indices of creative behavior or achievement. However, Barron and Harrington also cautioned that divergent thinking scores often do fail to correlate with other apparently reasonable indices of creativity. To explain this apparent inconsistency in existing research, Barron and Harringon suggested that the ability to engage in divergent thinking may be considerably domain specific such that a person's divergent thinking ability in one domain may not be correlated with the person's creativity in other domains. Another critique of divergent thinking tests as tests of creativity is that the divergent thinking process itself is not elucidated by the divergent thinking test scores (Barron & Harrington, 1981). In particular, Eysenck (1979), Hocevar (1980), and Wallach (1971, 1986) suggested that responses to divergent thinking tasks could be highly suscepible to the subject's

extroversion, obsessiveness, compliance with experimenter demands, suggestibility, tendency toward overachievement, and persistence.

In a more integrative fashion, Sternberg and Lubart (1995, 1991) proposed a theory of creativity based on the metaphor of the process of financial investment. This investment theory of creativity attempts to capture the entire process of creative production, i.e., from cognitive and personality factors within the individual creator to social factors that determine the creative value of the product in the relevant field. Using the investment principle of "buy low, sell high," Sternberg and Lubart argue that the creative process is analogous to taking risks by capitalizing out-of-favor ideas that later result in substantial returns. Sternberg and Lubart suggest that "an individual who generates and advances a new idea in science or a new style in art may originally be seen as out-of-touch or even as foolish. But if others come to recognize the value of that work, the individual will be seen as highly creative" (p. 1-2). Sternberg and Lubart also postulated that "creativity does not stem from some single, general ability, nor a totally domain specific ability, but rather from a confluence of resources, with differential contributions across [different knowledge] domains" (p. 5). Sternberg and Lubart enumerated six such resources, which interact with each other, as a basis for integrating various research studies into a more comprehensive theoretical model. The six resources are (1) processes of intelligence, (2) knowledge, (3) thinking styles, (4) personality, (5) motivation, and (6) environmental context. According to this investment theory, these six resources can be thought of as representing different sources of income,

which the creator appropriates and selectively invests in (i.e., "buying") different creativity projects. The relative success of each project then depeneds on the amount of creative abilities the creator has that are specific to the relevant domain (e.g., mathematics or music) and how effectively the creator could influence the authorities in the field to evaluate the creator's products favorably (i.e., "selling"). This investment theory of creativity appears to be quite parsimonious and can serve as an accomodating framework for integrating different aspects of creativity. It also is an ambitious theory in that it attempts to account for both the individual creators' endeavors and the sociological and historical contexts. While no creativity researcher would disagree that all the six resources are relevant, the investment theory appears to be very general and mainly descriptive, and it does not seem to provide predictive hypotheses about the process of creative investment.

The cognitive role of intelligence in the creative process has been controversial. The first resource for creative activity in Sternberg and Lubart's (1995, 1991) investment theory is intelligence, which Sternberg and Lubart did not identify as traditionally measured intelligence. Studies on the relationship between creativity and general intelligence have yielded mixed results. In general, correlations between traditionally tested intelligence and creative acccomplishments or eminence seem to be positive but not to any significant extent (Davis & Belcher, 1971; Frederiksen & Ward, 1978; Helson & Crutfield, 1970; Hocevar, 1980; Milgram, Yitzhak, & Milgram, 1977; Rossman & Horn, 1972; and Rotter, Langland, & Berger, 1971). Creativity and intelligence have frequently been

described as having a curvilinear relationship, i.e., as creativity increases, formal intelligence has progressively decreasing influence on creativity (Barron & Harrington, 1981). Ten years after Gardner (1983) advanced his theory of multiple intelligences, Gardner (1993) stated that "psychometric [i.e., relying on standardized and quantitative tasks and measures] creativity is independent of psychometric intelligence, once a threshold IQ of 120 has been reached" (p. 20). However, rather than speaking about traditional measures of intelligence, Sternberg and Lubart (1991) theorized about processes of intelligence that are expressed in specific information-processing capacities, principally, the ability to define and redefine problems and to produce insights based on selective encoding, selective comparison, and selective combination of concepts. However, the above distinctions among the processes of intelligence seem to be basically speculative and not yet sufficiently validated by empirical studies. There appears to be a sense of optimism that often underlies studies on creative processes, since--for the people who aspire to greater creativity--it is generally easier to think of enhancing and mastering certain cognitive operations rather than certain environmetal factors or personality traits.

Creative Products

Fox (1963) stated that "creativity has no meaning except in relation to the creative product" (p. 140). This assertion seems reasonable when one considers the creative "product" as any observable, formal or informal, outcome of a creative

process. In general, one has to somehow identify some tangible data in order to study the creative process, situation, or personality.

A creative product has been defined in various ways, most of which are variations of the themes of originality or novelty (Amabile, 1983a; Barron, 1965; Getzels & Jackson, 1962; Ghiselin, 1963; MacKinnon, 1970; Newell, Shaw, & Simon, 1962; Tang & Leonard, 1985; and Young, 1985; Torrance, 1964; Wallach & Kogan, 1965; Welsh, 1975) and appropriateness or usefulness (Amabile, 1983a; Arnold, 1959; Barron, 1965, 1969; Cropley, 1968; Flanagan, 1963; MacKinnon, 1970; Mednick, 1962; Newell, Shaw, & Simon, 1962; Tang & Leonard, 1985; and Young, 1985; Welsh, 1975). For example, Lasswell (1959) stated that a creative product is "an innovation [that] must be essential; and it must elicit a certain degree of recognition as valuable" (p. 205). Similarly, Amabile (1983a) defined a creative product as "both a novel and appropriate, useful, correct or valuable response to the task at hand" (p. 33).

The demands of both novelty and effectiveness set up an essential tension (Kuhn, 1963), which is reflected in the creative product. According to Kuhn, a creative product in the scientific domain reflects both traditional and iconoclastic characteristics. However, this essential tension is definitive of creative products practically in any domain. In addition to the general characteristics of novelty and appropriateness, more elaborate characteristics of a creative product were suggested by Jackson and Messick (1964), who believed that a creative product has the qualities of (1) unusualness, (2) appropriateness, (3) transformation, and (4)

condensation. Transformation refers to the fact that the product has achieved a radical breakthrough from the tradition and has thereby created a fresh perspective. While unusualness is equivalent to novelty, transformation may be seen as a high-order synthesis of unusualness or novelty and appropriateness. Finally, condensation generally refers to the quality of meaningfulness in a product. A product is said to have a high degree of condensation when it embodies complex meanings, which stimulate multiple interpretations and questions. One would require an extended period of time to savor the surprising depth and richness of such a product.

The evaluation of creative products has been a thorny topic because it is difficult to provide objective standards for assessing creativity. Amabile (1983a) observed that although people have difficulty agreeing on or specifying what makes something creative, they could easily agree on what is creative. Consequently, to solve the problem of assessing creativity Amabile has offered a consensual definition of a creative product:

> A product or response is creative to the extent that appropriate observers independently agree it is creative. Appropriate observers are those familiar with the domain in which the product was created or the response articulated. Thus, creativity can be regarded as the quality of products or responses judged to be creative by appropriate observers, and it can also be regarded as the process by which something so judged is produced. (p. 31)

With this consensual definition of creativity, Amabile has highlighted the intersubjective or social nature of the perception of creativity which is ultimately

implied in even the most apparently objective criteria for the evaluation of a creative product. Finally, it would seem that appreciating a creative product is itself a creative process (Averill, 1995), since it is probably inevitable that in one's encounter with the creative product, one must allow her or his perceptual set to remain flexible and to alter in some way.

Environmental Influence on Creativity

By environmental factors of creative production, researchers have variously referred to the physical environment, the organizational climate, surveillance, the presentation of rewards or punishments, time or task constraints, the availability of role models, culture, and historical epochs (Woodman & Schoenfeldt, 1989).

Amabile (1983a) reviewed extensively the literature on social influence on creativity and noted that the perception or expectation of evaluation is detrimental to creativity. Amabile also concluded that creativity is enhanced by intrinsic motivation, i.e., the motivation to engage in an activity because of the pleasure that the activity can provide rather than some other rewards that are separate from the activity. Amabile, Hennessey, and Grossman (1986) conducted three experiments involving children and adults on the effects of external rewards on creativity. The subjects of the first two experiments were five-year-old to eleven-year-old boys and girls and of the third experiment undergraduate women. For the children, the creativity tasks were of an artistic nature (e.g., making a collage), of a verbal nature (e.g., making up a brief story), or of a problem solving nature (i.e., manipulating

various geometrical shapes). The experimental reward was the opportunity to use a camera. For the third study, the main task involved was making a collage and the experimental reward was money. The results supported the experimenters' hypothesis that "explicitly contracting to do an activity in order to receive a reward will have negative effects on creativity, but receiving no reward or only a noncontracted-for reward will have no such effects" (p. 14). Amabile, Hennessey, and Grossman postulated that an external reward could undermine creativity by changing potentially intrinsic motivation to extrinsic motivation; consequently, engaging in the task would be perceived as performing a means to a different end (rather than enjoying the task itself) or as simply work (rather than play). Furthermore, Amabile, Goldfarb, and Brackfield (1990) offered their own experimental evidence that evaluation generally decreases creativity and that surveillance decreases creativity when the task is of an artistic nature. With regard to empirical literature on creativity in the workplace, Amabile (1983a) noted that "work environments most conducive to the fulfillment of creative potential may include: a high level of worker responsibility for initiating new activities, a low level of interference from administrative superiors, and a high stability of employment" (p. 184).

Consistent with Amabile's general findings and derived from a more theoretically complex, humanistic tradition is the theory of creativity put forward by Rogers (1954), who proposed that creativity is enhanced by the three inner conditions of openness to experience, internal locus of evaluation, and ability to toy

with elements and concepts. These internal conditions for creativity could be fostered by two external conditions, namely, psychological safety and psychological freedom. Psychological safety can be facilitated by communicating acceptance to the individual for the individual's unconditional worth, minimizing external evaluation of the individual, and providing to the individual empathic understanding. Likewise, psychological freedom is provided to the individual by giving the individual permission to symbolically express anything (as opposed to straightforwardly through the individual's behavior). In a similar vein, Crutchfield (1962) reported that a supportive and nonevaluative environment would be conducive to creativity. Harrington, Block, and Block (1987) conducted a longitudinal study to test the theory proposed by Rogers (1954). This longitudinal study recruited 106 families, 53 boys, and 53 girls. The children were assessed from the time when they were about 3.5 years old to the time when they were about 14.5 years old. The results supported Rogers's theory in that the children who had received more psychological safety and freedom showed greater creativity.

Similarly, from a developmental-systems perspective Gardner (1993) studied the lives of seven eminently creative people (i.e., Sigmund Freud, Albert Einstein, Pablo Picasso, Igor Stravinsky, T. S. Eliot, Martha Graham, and Mahatma Gandhi), who had expressed their creativity in different domains. Gardner suggested that although the creators were often socially marginalized--by choice or by circumstances--they had usually been exposed to "positive models in their childhood of a creative life" (p. 368), and "at the time of their greatest isolation, these creators

needed, and benefited from, a special relation to one or more supportive individuals" (p. 369). By contrast, Kroeber (1944) studied creative patterns over a large time span but from a more sociocultural vantage point. Kroeber also observed that innovations have the tendency to appear in waves, because people are more likely to become creative when they could find role models for creativity to emulate. Applying quatitative analysis to historical data, Simonton (1984) substantiated this sociocultural observation. Simonton noted the number of eminently creative people in a particular generation seems to correlate strongly with the number of such people in the subsequent generation. There exists considerable empirical evidence based on different conceptual approaches that points to the significance of environment for creative activity.

Traits of Creative Persons

Traits of creative persons are reviewed separately for general personality traits (i.e., how creative individuals tend to respond to various tasks and situations) and, more specifically, interpersonal styles (i.e., how creative individuals tend to relate to other individuals).

Personality Traits

Although apparently inconsistent findings have been reported for different aspects of creativity, there exists a basic consensus among researchers on the characteristics of a creative person. After reviewing 15 years of empirical studies on correlates of creative achievement and activity in different domains, Barron and

Harrington (1981) stated: "a fairly stable set of core characteristics (e.g., high valuation of esthetic qualities in experience, broad interests, attraction to complexity, high energy, independence of judgment, autonomy, intuition, self-confidence, ability to resolve antinomies or to accomodate apparently opposite or conflicting traits in one's self-concept, and, finally, a firm sense of self as 'creative')" (p. 453).

In an attempt to classify the existing research strategies in the study of creative persons, Woodman and Schoenfeldt (1989) observed that these strategies tend to reflect the following three variations: (1) biographical or other personality studies of selected creative persons, (2) focusing on particular personality dimensions that appear to be relevant to creativity, and (3) explaining creativity in the context of a comprehensive theory of personality. Research on the traits of creative persons will be reviewed according to the above three main research strategies.

Studies Focused on Selected Individuals. Simonton (1977, 1986, 1988), developed a historiometric approach to the study of creative persons. Simonton accessed massive archival data on creative individuals and operationalized his hypotheses regarding creativity such that the hypotheses could be tested with quantitative data. Therefore, while Simonton utilized a quantitative approach, he favored the use of copious historical record rather than conducting (contemporary) experiments. Also using the case study method are Gruber and his team (Gruber & Davis, 1988), who, for instance, carried out an elaborate study on the unfoldment of

Charles Darwin's creative endeavors. Gruber identified his methodology as the "evolving systems" approach, i.e., monitoring both the evolution of the creator's internal experiences (e.g., emotions and purposes) as well as the evolution of external circumstances in the appropriate domains and fields. Expanding on the individual case study method employed by Gruber, Gardner (1993) selectively studied seven creative thinkers in different domains within a specified historical period (i.e., approximately the half century from 1885 to 1935). Studying individuals who have been established as creative in their respective domains has the advantage of having clear targets of investigation, i.e., one could efficiently focus one's energy and resources on a much smaller group of subjects.

Similarly, MacKinnon (1961) studies selected creative architects and observed that they tend to be flexible, self-accepting, self-confident, independent, strongly motivated to achieve, aggressive, and having little concern for social restraints as shown in their responses to the California Psychological Inventory. Barron (1963) reported that, compared to scientists, creative writers seem to have greater originality and a greater emphasis on fantasy, while there exist common characteristics such as self-acceptance, independence, introversion, intuitiveness, and impulsivity.

However, a potential difficulty with the method of studying selected creative persons is that in the selection of creative persons for study, the criterion of creativity could be considerably influenced by the criteria of eminence and achievement. Like Csikszentmihalyi (1990), many researchers contend that a

creator always operates in the context of the influence of the rules of the relevant domain and the authorities in the relevant field, so that the perception of being "creative" involves some degree of social recognition. However, stressing the criteria of eminence and achievement may give more emphasis to the "product" aspect of creativity (i.e., creativity as expressed in formal products) than to the "person" aspect of creativity (i.e., creativity as a personality characteristic or attitude that is expressed through everyday experience and behavior).

Studies Focused on Selected Personality Traits. Rather than idiographically focusing on studying selected creative individuals, another research approach is to explore the personality characteristics in a relatively more nomothetic manner. Researchers have also explored personality characteristics that (based on theoretical inference or prior empirical research) appear to be likely to correlate with creativity. Tegano (1990) reported that tolerance of ambiguity and playfulness are each significantly related to a creative personality. From the premise that tolerance of ambiguity and playfulness facilitate the capacity for problem finding and intrinsic motivation respectively, Tegano's study utilized three psychometric instruments. Creativity was measured with the Myers-Briggs Creativity Index, ambiguity tolerance was measured with the AT-20 test, and playfulness was measured with the Adult Behavior Inventory, which was adapted for adults from the Child Behaviors Inventory of Playfulness.

Consistent with Tegano's (1990) findings, Taylor (1964) in a literature review pointed out tolerance of ambiguity, femininity of interests, independence,

and self-confidence as characteristics that are associated with creativity. Similarly, Harrington (1975) and Gough (1979) reported that creative persons describe themselves as curious, enthusiatic, ambitious, self-confident, and egotistical.

In addition to highlighting tolerance of ambiguity as a critical trait of creative persons, Sternberg (1988) concluded that other personality attributes that are conducive to creative performance are willingness to surmount obstacles (i.e., perseverance), willingness to grow (i.e., willingness to change one's opinions), intrinsic motivation, moderate risk-taking (i.e., having a realistic sense of what is accomplishable), desire for recognition, and willingness to work for recognition; recently, Sternberg (1995) also highlighted the paradoxical pair of qualities of both being open to experience as well as having the courage of one's own convictions. Gardner (1993), too, wrote that all of the eminently creative individuals in his case studies realized the importance of self-promotion regarding their work. These personality characteristics capture a recurrent, paradoxical finding on creative persons: On the one hand, they possess an intrinsic motivation for their own creative pursuits, and, on the other hand, they possess a strong desire and willingness to work for others' recognition.

The paradoxical personality or motivational traits of creative persons that Sternberg (1988) pointed out--i.e., having both strong intrinsic motivation as well as strong extrinsic motivation--are perhaps consistent with their high tolerance of ambiguity and may be understood in terms of another trait that characterize creative persons, namely, their preference for complexity. Barron (1953) and MacKinnon

(1962) reported that creative persons prefer more complex, asymmetric, or ambiguous visual designs. Using psychiatric interviews and eight standardized instruments (e.g., Rorschach, Thematic Apperception Test, and "Unusual Uses" test), Barron (1955) tested 100 captains in the United States Air Force on their ability to produce original (i.e., unusual and adaptive) responses. Barron concluded that people who engage in original thinking prefer complex experiences, are more independent in their judgments, are more self-assertive and dominant with others, and do not rely on suppression to control their impulses. By self-assertivenss, Barron meant not only self-confidence but also having a strong motivation for self-regulation and for mastery over one's experience. Barron indicated that the relative lack of use of suppression to control one's impulses provides opportunities for an integration of one's (conflicting) experiences on a higher level, while one's strong need for mastery directly promotes that creative integration. This strong need for mastery over one's experience is supported by the finding that creative people also have a high need for order (Barron, 1958).

In discussing writers and painters, the observation that creative persons are generally less cognitively, emotionally, and behaviorally inhibited is made by Barron (1961), who pointed out that creative persons are less compliant in laboratory tasks that measure conformity. The adjectives that highly creative people choose for themselves include gloomy, loud, unstable, bitter, dissatisfied, pessimistic, and irritable (Barron, 1952), while highly creative high school students tend to be autonomous and dominant (Barron, 1963). Further, creative people are

reported to be more ready to enact risk-taking behavior (Anderson & Cropley, 1966; Pankove & Kogan, 1968; Williams, 1971). On the other hand, Stein (1962) noted a much repeated theme in research literature that although creative people exhibit emotional instability, they are able to make effective use of this instability in various ways.

Therefore, while the paradox that creative persons have strong intrinsic motivation as well as strong extrinsic motivation may be understood in the context of their high tolerance of ambiguity and their strong preference for complexity, this conceptualization is embedded in yet another paradoxical finding, i.e., creative persons have strong preference for complexity and also strong need for order and for mastery over their own experience. With regard to the complex and apparently contradictory observations on creative persons, McMullan (1976) commented that highly creative individuals are often best described by paradoxical combinations of concepts.

Studies Based on Personality Theories. In addition to case studies of specific publicly recognized creative persons and investigations into specific personality attributes, a third major approach in the research on creative persons has been the attempt to explain their personality traits with respect to comprehensive theories of personality (Woodman & Schoenfeldt, 1989). In particular, humanistic theorists have identified creativity with not only psychological health but also a release of human potential; in this theoretical context, creativity is viewed more as a distinctive attitude toward life and personal growth. Fromm (1959) noted: "To be

creative means to consider the whole process of life as a process of birth, and not to take any stage of life as a final stage" (p. 53). Rather than focusing on the mechanisms of the relevant cognitive processes, the qualities of a formal product, or the influence of the creator's environment, humanistic researchers emphasize the subjective experience of one's participation in a creative act.

Rogers (1959) defined the creative process as "the emergence in action of a novel relational product, growing out of the uniqueness of the individual on the one hand, and the materials, event, people, or circumstances of his life on the other" (p. 71). Rogers proposed that the source of creativity is inherent in each human being: "man's tendency to actualize himself, to become his potentialities. ...the urge to expand, extend, develop, mature ...to the extent that such activation enhances the organism or the self" (p. 72). Creativity is thus viewed as a natural aspect of self-actualization. Rogers further speculated on three conditions or traits within a person that would promote the person's creativity, namely, (1) openness to experience (i.e., the opposite of psychological defensivenss), which could be expressed in tolerance of ambiguity; (2) an internal locus of evaluation, indicating that the creator's work is based on a sense of authenticity and personal satisfaction; and (3) the ability to toy with elements and concepts, including qualities such as flexibility, spontaneity, and playfulness. According to Rogers, the creator also experiences the intense anxiety of being separate from others (because of the individuality of her or his creative experience) and a desire to communicate the creative experience to others, even though the creator does not necessarily create

with the purpose of communicating something to others. Rogers's theory of creativity is substantially informed by his clinical experience with the emotional changes made by clients in psychotherapy.

Consistent with Rogers's theory of creativity and self-actualization, Maslow (1954) advanced a conceptualization of creativity based on his own theory of motivation, which involves hierarchical needs. According to Maslow, human beings are required to meet the following hierarchical order of needs: (1) physiological, (2) safety, (3) belongingness and love, (4) esteem, and (5) self-actualization; the above order of needs is hierarchical in the sense that higher levels of needs do not become important to a person until the person has satisfied lower levels of needs in the hierarchy. Like Rogers, Maslow interpreted creativity as a component of self-actualization, the highest level of needs. In contrast to Rogers, Maslow (1954) derived most of his data from his interviews with and archival studies of people who had exhibited notable self-actualizing qualities. Maslow reported the following holistic impressions of his self-actualizing subjects: more accurate in perceiving reality and more comfortable with reality; accepting of oneself, others, and nature; spontaneous, simple, and natural; problem-centered (as opposed to self-centered); needing privacy; autonomous; having encountered mystical or peak experience; having a democratic character; having a strong sense of morality; having a philosophical, unhostile sense of humor; creative; and resistant to enculturation.

Maslow (1959), like Rogers, emphasized openness to experience as a fundamental characteristic of creativity. Maslow (1962) proposed a distinction between special talent creativeness and self-actualizing creativeness. Special talent creativeness refers to creativity that is demonstrated through formal products, e.g., novels and paintings, whereas self-actualizing creativeness refers to creativity that is expressed as in a person's characteristic perceptions, attitudes, or emotions in relation to everyday events and experiences. People who have marked self-actualizing creativeness "live far more in the real world of nature than in the verbalized world of concepts, abstractions, expectations, beliefs, and stereotypes that most people confuse with the real world" (p. 137). These people, according to Maslow, are also characterized by "a special kind of perceptiveness that is exemplified by the child in the fable who saw that the king had no clothes on" (p. 129). In sum, Maslow was admittedly more interested in self-actualizing creativeness, a basic and pervasive stance toward life that, in essence, emphasizes freshness of experience. Moreover, Maslow (1959) noted that people who have high self-actualizing creativeness are attracted to the unknown, are self-accepting, and thus have a substantial capacity for integrating and synthesizing the conflicting thoughts and feelings within themselves.

Empirical research for the relationship between creativity and self-actualization has produced mixed results. Working with a sample of 106 college students, Schaefer, Diggins, and Millman (1976) noted that for males, creativity correlated most strongly with openness to theoretical and aesthetic

experience, whereas for females, creativity was correlated with openness to inner experience and with sensation-seeking. Using two different instruments for measuring self-actualization (i.e., Personal Orientation Inventory and Lafferty's Life Style checklist) and two different instruments for measuring creativity (i.e., Torrance Tests of Creative Thinking and Similes Preference Inventory) for 177 graduate and undergraduate students, Murphy, Dauw, Horton, and Fredian (1976) observed no strong relationship between creativity and self-actualization; they explained that the negative finding could be due to the homogeneity of the subjects and the lack of markedly self-actualized subjects. Similarly, Mathes (1978) pointed out that self-actualization, based on the Personal Orientation Inventory scores, is nonsignificantly correlated with two different cognitive measures of creativity. The two cognitive measures are derived from the Remote Associates Test and the Generation Test. In the Remote Associates Test, the subject is asked to think of unconventional words that could link three different words that are presented in groups, whereas the Generation Test requires the subject to form as many different words as possible with the letters of the word "generation" within a 10 minute period. Mathes suggested that it may be necessary to differentiate "creative living from the cognitive ability to create" (p. 221). From Maslow's perspective, the distinction between creative living and the cognitive ability to create would parallel the distinction between self-actualizing creativeness and special talent creativeness (Maslow, 1962).

On the other hand, there also exists empirical evidence for the relationship between creativity and self-actualization. Runco and Ebersole (1991) administered to 84 college students three questionnaires: the How Do You Think Test, containing statements describing preferences, interests, and attitudes indicative of a creative personality and lifestyle; Adjective Check List; and Short Index of Self-Actualization. Runco and Ebersole reported a positive relationship between creativity and self-actualization, emphasizing that they had selected more appropriate measures of creativity which are measures of creative personality traits and attitudes rather than creative products. Based on self-ratings and peer-ratings on adjective checklists and questionnaires, McCrea (1987) found that openness to experience was positively correlated with creativity. Using questionnaire measures, Kalliopuska (1992) found that self-actualization is associated with being empathic and having a creative way of living. i.e., the capacity to exercise one's creativity in everyday activities and experiences rather than in only one limited field. Focusing on the aged population, Landau and Maoz (1978) found a very high correlation between creativity and self-actualization and that the more creative-actualizing persons had less denial of death and were more effective in coping with the aging process. Generally, the understanding of the empirical relationship between creativity and self-actualization has remained in an exploratory stage.

Interpersonal Style

There has been very limited research done specifically on the interpersonal style of creative persons. Empirical studies done on the interpersonal style of

creative persons have produced paradoxical findings that resemble creative persons' traits in general.

One of the early theorists of interpersonal experience and behavior was Sullivan (1953), who argued that an individual should be understood in the context of the history of the interactions between the individual and others. Following Sullivan's premise, Leary (1957) defined a healthy interpersonal style as one that is responsive to unique situational demands: "In the adjusted, well-functioning individual, the entire repertoire of interpersonal reflexes is operating spontaneously, flexibly, and appropriately--and when the survival demands aggression, he can aggress; when it calls for tenderness, he can be tender" (p. 118). Similarly, Anchin and Kiesler (1982) reviewed studies done on interpersonal behavior from a clinical perspective and proposed that a dysfunctional interpersonal style is one that regularly expresses a rigid and extreme self-presentation that tends to attract a rigid and constricted relationship from others. In general, researchers have considered the ability to effectively monitor and respond to other people's perceptions and needs as a basic quality of a healthy interpersonal style.

Tardif and Sternberg (1988), based on their extensive review of theoretical and empirical literature on the interpersonal style of creative persons, concluded that creative persons are characterized by a conflict between or a paradoxical synthesis of socially withdrawn and socially integrated tendencies. On the one hand, "what distinguishes creative individuals is their lack of fit to their environment. ...need to maintain distance from peers, an avoidance of interpersonal contact, and resistance

to societal demands" (p. 436). On the other hand, it has been noted that creative persons "have a drive for accomplishment and recognition, ...a need to form alliances, ...desire attention, praise, and support, ...are charismatic, ...are ethical, empathic, and sensitive to the needs of others" (p. 436). An example of such an integration of apparently conflicting tendencies is Einstein, who was notably kind to others, had an enormous social conscience, and did not have much social interaction with others (Storr, 1972).

Maslow (1954) reported a similarly paradoxical observation from his interviews with self-actualizing subjects. The subjects were able to resolve within themselves dichotomies such as "kindness-ruthlessness, ...detachment from others-identification with others, ...introverted-extraverted, ...[and] masculine-feminine" (p. 179). Nevertheless, Maslow (1959) did seem to characterize creative persons more in terms of autonomy: "[creative persons] had less need of other people and therefore, depending on them less, could be less afraid of them, and less hostile against them" (p. 88). Bloom (1963) found that distinguished scientists had difficulty establishing warm relationships with others and had a tendency to retreat into a world of objects and ideas rather than a personal and social world. In addition, creative persons have also been identified as rebellious, self-centered, exhibitionistic, and prone to retreat to the role of an observer (Barron, 1963, 1969; Drevdahl, 1956; Drevdahl & Cattel, 1958; MacKinnon, 1960, 1962).

Recently, Gardner (1993) in his intensive, archival case studies of seven creative individuals indicated that their self-confidence could often be exaggerated into egocentrism, such that they seem "highly self-absorbed, not only wholly involved in [their] own projects, but likely to pursue them at the cost of other individuals" (p. 364). In addition, commenting on how his creative subjects had been marginalized by circumstances, Gardner stated that each of the seven creators "used his or her marginality as a leverage in work. Not only did they exploit their marginality in what they worked on and how they worked on it, more important, whenever they risked becoming members of 'the establishment,' they would again shift course to attain at least intellectual marginality" (p. 368). Nabi (1979) also found that creative persons tend to be independent and autonomous, whereas Williams, Poole, and Lett (1977) reported that creative persons value obedience and cooperation; these contrary findings may be related to the distinction made by Torrance (1962) between talented conformists and talented nonconformists, who would have the ability to bring about breakthroughs to new knowledge.

Thus, a major theme in the research findings on the interpersonal style of creative persons is that they are distinguished by the tension between, and often the integration of, socially oriented and socially withdrawn tendencies.

Emotional Creativity

The equivocal or paradoxical findings on creativity may in part be related to the hypothesis that creativity is domain specific, i.e., there are different forms of

creativity that could require different processes, result in different products, respond to different environments, and be enhanced by different personality characteristics. However, past and current research has inconsistently taken into account the domain specificity of creativity. Therefore, the absence of clear selections of domains for study could have contributed to the apparently contradictory data on creative persons' interpersonal styles. Recently, emotional creativity as a specific domain has been explored theoretically and empirically (Averill & Nunley, 1992; Averill & Thomas-Knowles, 1991).

Domain Specificity

In 1950, Guilford proposed in his American Psychological Association address that "there is much room for different types of creative abilities" (p. 451). Amabile (1983b) and Sternberg and Lubart (1991) theorized that a creative activity involves domain relevant skills in addition to general capacities that are related to almost all creative activities. Getszels and Csikszentmihalyi (1976) even suggested that there could be further differences within a conventionally defined domain (e.g., fine artists versus applied artists). Other researchers have also acknowledged the importance of domain specificity in their studies (MacKinnon, 1962a; Parloff, Datta, Kleman, & Handlon, 1968; Rossman & Horn, 1972). Contrasting scientific and artistic creativity, Cattell (1971) pointed out that creative scientists are more emotionally stable, venturesome, and self-assured, while creative aritists and writers are more guilt prone. Simialrly, Gardner (1993) stated that "the domain level

constitutes the crucial location for the most telling differences across the creators [in his case studies]" (p. 372).

In sum, there are a considerable number creativity researchers who advance the guideline that creativity is domain specific and that empirical studies on creativity need to take into account domain specificity.

Emotional Creativity: Creativity in the Domain of Emotions

Finding support in the work on emotions by Zajonc (1980) and the theory of multiple intelligences advanced by Gardner (1983), Salovey and Mayer (1990) proposed the concept of emotional intelligence, which refers to the ability to process emotional information accurately and efficiently, including the information relevant to the recognition, construction, and regulation of emotions in oneself and others. In other words, emotional intelligence is the capacity to monitor and utilize one's own and others' emotions effectively. Recently, Goleman (1995) reported neurological observations related to emotional intelligence and highlighted the practical importance of emotional intelligence in everyday life. One's emotional capacities have thus been identified as resources that can be flexibly managed and utilized rather than simply consisting of stereotypical reactions determined by one's biological or social history.

By contrast, from a social constructionist perspective on emotions, Averill coined the term, emotional creativity (Averill, 1988, 1994; Averill & Nunley, 1992; Averill & Thomas-Knowles, 1991), referring to a person's capacity to be creative in the domain of emotions. There have been only a limited number of studies on

emotional creativity during its currently exploratory stage, while psychometric and qualitative evidence of the construct of emotional creativity has been reported (Averill & Thomas-Knowles, 1991).

Averill and Nunley (1992) suggested that emotional experience can be flexible and creative because it more closely resembles a form of social interaction than a product of biological forces. Averill and Nunley proposed that meaningful participation in any social activity requires the person to have mastered three levels of social rules: (1) constitutive, (2) regulative, and (3) procedural. Constitutive rules define an act as a particular category of social act (e.g., the rules that distinguish writing novels from writing poetry). Without compliance with certain constitutive rules, the act would seem senseless to the society. Regulative rules govern the perception of the appropriateness of the act relative to a given context. Finally, procedural rules help determine the quality or effectiveness of the act. These three levels of social rules are arranged in an increasing order of sophistication--whether a certain act makes sense, is appropriate, and is effective.

According to Averill and Nunley (1992), roughly corresponding to the three levels of social rules (i.e., constitutive, regulative, and procedural) are three increasing levels of emotional creativity, i.e., (1) acquisition, (2) refinement, and (3) transformation. First, acquisition is the "development, cultivation, or mastery of an emotion that is already standard in the culture" (p. 8). A person needs to have internalized the customary definitions of certain emotions; otherwise, confusing communication would result, e.g., if the person attempts to convey love, it might be

misconstrued as jealousy. On this level, some creativity is necessitated for the person to learn and expand her or his emotional repertoire. Second, refinement is the process of effectively modifying acquired emotional responses in relation to new and unusual situations, e.g., differentiating among fear, anxiety, and panic. A person needs to refine and personalize certain standard emotions, so that, when expressed, these emotions would be recognized as appropriate and genuine. Finally, a person may attain a transformation of certain standard emotions, such that the person experiences new kinds of emotions which defy standard categories within the person's individual history or within the culture in general. Examples of these transformational emotions that the person have no conventional descriptions for can be found in the mystical or peak experience reported by Maslow (1954, 1971) and the janusian process, in which logically opposite thoughts and feelings are experienced simultaneously, described by Rothenberg (1988).

A poignant illustration of a transformational experience can be found in one of the main themes in Giuseppi Verdi's *La Traviata*, with libretto by Francesco Maria Piave (Weaver, 1983): In the first act, Alfredo Germont, in disclosing to Violetta Valery his long-standing, and until then secret, passion for her, declares, "The love that brings us together. ...Mysterious, unattainable, the delight and torment of the heart." Violetta Valery, a prostitute, astonished and moved by Alfredo Germont's love, begins to confront her own extremely complex inner world: "This is madness. I must be delirious. A poor, lonely woman, abandoned in this crowded desert called Paris. What can I hope for? What can I do? Enjoy

myself, and die in a whirlwind of pleasure." His inner synthesis of "delight" and "torment," her (janusian) experience of being "abandoned" in a "crowded desert," and her sorrowful hedonism implied in "[dying] in a whirlwind of pleasure" all reflect tranformational experiences characterized by the act of integrating a paradoxical configuration of powerful emotions, which are conventionally perceived as perhaps mutually exclusive.

Furthermore, Averill and Nunley (1992) specified three dimensions on which emotional creativity is assessed, namely, (1) novelty, (2) effectiveness, and (3) authenticity. The closer an emotional experience is to the level of transformation (rather than the levels of refinement and acquisition), the more novel is the emotional experience. The effectiveness of an emotional response, by contrast, involves "vitality and a sense of aliveness; fullness and complexity of life; and integration and harmony, both within the self and between the self and others. ...[and] an emotionally creative response should help expand personal horizons and enhance interpersonal relationships" (p. 118). In other words, the effectiveness of an emotional creativity is evaluated not so much in the usual sense of solving a formal problem, but in the sense of how effective an emotional response is in promoting personal growth. Finally, the authenticity of an emotional response refers to the congruence between one's external expression and internal experience, the extent to which "the individual's own values and beliefs about the world [are reflected]" (p. 119). Morgan and Averill (1992) found that one of the most common characteristics in their subjects' reports of their own experiences of

authenticity is that they have learned from these experiences "something about themselves, their values, and their relationships" (p. 106). In his discussion on the conditions for a creative attitude, Fromm (1959) also highlighted the importance of authenticity: "This is what it means to be original. Not primarily to discover something new, but to experience in such a way that the experience originates in me" (p. 50). Likewise, Rogers (1959) underlined the significance of personal, experiential involvement in creative production: "Reality exists in a multiplicity of confusing facts, but 'I' bring a structure to my relationship to reality; I have 'my' way of perceiving reality, and it is this (unconsciously?) disciplined personal selectivity or abstraction which gives to creative products their esthetic quality" (p. 77). Putting it all together, Averill and Nunley (1992) gave the following definition:

> Emotional creativity is expressing oneself (authenticity) in new and unique ways (novelty), such that one's personal horizons are expanded and interpersonal relationships enhanced (effectiveness). (p. 121)

Averill and Thomas-Knowles (1991) obtained several measures of emotional creativity (i.e., Emotional Creativity Inventory or ECI, Emotional Consequences Test, and Emotional Triads Test) and general emotional ability (i.e., Affect Intensity Measure and Affect Communication Test), and these measures demonstrated convergent validity. In addition, Averill and Thomas-Knowles found discriminant validity for emotional creativity from cognitive creativity (as measured by Cognitive Consequences Test; Intelligence Inventory; Wisdom Inventory; Scholastic Aptitude Test, Mathematics and Verbal; and Grade Point Average). Averill and

Thomas-Knowles constructed the self-report scale, ECI, which consists of items measuring how "prepared" a person is for emotionally creative experiences as well as the novelty, effectiveness, and authenticity of the person's responses in the domain of emotions. Drawing on the four stage theory of creativity described by Wallas (1926), Averill and Thomas-Knowles proposed that the more a person engages in the "preparation" stage for emotional creativity (e.g., putting in considerable time and effort to explore the person's own emotions), the more likely the person would experience emotional creativity.

According to Averill (1995), the version of ECI that Averill and Thomas-Knowles (1991) administered is the fourth and most updated version of the scale, after three previous studies with large samples of college students to refine the scale's internal consistency and test-retest reliability. Currently, the ECI is the only psychometrically derived scale of emotional creativity.

Summary and Conclusions

Research on creative processes, products, environments, and persons has generated a basic consensus on some of the mechanisms of creativity. On the other hand, different critiques have been advanced on studies on creativity. Dowd (1989) commented that disparate definitions and criteria of creativity--and thus methods of studying creativity--have been used, leading to difficulties in comparing studies from different sources. In addition, Dowd pointed out that many of the studies are one-shot projects which overall lack a programmatic thrust. In a similar vein,

Brown (1989) reported that studies on creativity frequently use introspective and retrospective data, the validity and reliability of which are dubious. Brown added that other limitations in the existing research literature include the prevalence of cryptic writing, the failure to describe methodology in detail, and the use of inappropriate comparison groups.

However, even in the midst of various methodological and theoretical critiques of the empirical literature on creatvity, two findings have been repeatedly reported and are now generally accepted by researchers: (1) creative activity is domain specific, and (2) creative persons, in general, have paradoxical personality traits, especially in the interpersonal sphere. As a specific domain of creativity, the construct of emotional creativity is supported by psychometric evidence. For the traits of creative persons from different domains, three sets of paradoxical traits have repeatedly been noted: (1) empathy for others versus/and self-absorption, (2) autonomy versus/and desire for others' recognition, and (3) tolerance of ambiguity and preference for complexity versus/and need for order and for mastery. Creative persons have been reported as people who are almost continually struggling with and attempting to integrate these apparently contradictory characteristics within themselves.

Statement of Purpose

While researchers have begun to acknowledge the domain specificity of creativity and the paradoxical findings on the interpersonal style of creative persons,

there appear to be no published studies that focally examine the relationship between these two currently acknowledged elements in creativity research. The reports of paradoxical interpersonal styles may have in part resulted from the studies' not having appropriately specified their domains. Moreover, a number of researchers (e.g., Berscheid, 1987; Bowers, Metts, & Duncanson, 1985) reported that there have been remarkably few studies on the interface between interpersonal communication and emotions, even though interpersonal communication may be a primary source of emotional experience.

In selecting the domain of emotional creativity, the present study explores whether less paradoxical and more specific and clear-cut interpersonal styles would emerge as characteristic of people with greater emotional creativity. Based on current research and more specifically Rogers's and Maslow's theories of creativity, the working hypotheses of the present study are that (1) people with higher emotional creativity have more openness to experience in their interpersonal style and that (2) people with higher emotional creativity have more autonomy in their interpersonal style.

CHAPTER 2

Method

Subjects

Recruitment of Subjects

The subjects were students recruited from six undergraduate classes in the department of psychology at the University of Tennessee at Knoxville. The subjects participated in the present study on the basis of extra credits. The instructors of the six classes were told an estimate of the amount of time required from each subject in this study. Each instructor then individually decided the appropriate amount of extra credits available to a subject from his or her class.

Characteristics of Subjects

The subjects were 91 undergraduate students at the University of Tennessee at Knoxville, a major southeastern state university. The range of their ages was from 16 to 42 years (mean = 23.5, median = 20, and SD = 6.36). There were 58 females, 32 males, and 1 subject who did not write down her or his gender. The subjects were not asked to report their majors, and the six classes (which the subjects came from) ranged from the freshperson to the senior level.

Measures

The present study consists of two phases. In the first phase, three self-report questionnaires were administered, assessing interpersonal styles, emotional creativity, and social desirability. For the second phase, the subjects were instructed to complete two take-home writing tasks, which provided performance measures (in contrast to self-report measures) of the subjects' emotional creativity.

Phase 1: Questionnaires

Element B. Schutz (1987, 1992) developed Element B (called "Element Behavior") as a self-report scale that measures the subjects' interpersonal behavior and perception (Appendix B). The copies of Element B used in this study were purchased directly from their publisher. Element B is the improved, latest version of FIRO-B (i.e., Fundamental Interpersonal Relations Orientation--Behavior). Based on a survey of 75 psychological tests employed in human relations training and group development in educational, mental health, and organizational settings, Pfeiffer, Heslin, and Jones (1976) stated that FIRO-B is the "most generally useable instrument in training" (p. 2) for nonclinical subjects. Element B consists of 54 statements that describe the subjects themselves, e.g., "I strongly influence other people's ideas." Each statement requires two ratings: (1) how much the subjects agree with the item and (2) how much the subjects want the item to be true. Both ratings are based on a six-point scale (i.e., from "Disagree" to "Agree" and, separately, from "Want" to "Don't Want").

Element B is founded on the theory that interpersonal behavior has three basic dimensions (Schutz, 1958, 1987, 1992): (1) inclusion (i.e., the amount of contact in relation to others), (2) control (i.e., the amount of dominance in relation to others), and (3) openness (i.e., the amount of personal disclosure and intimacy in relation to others). In Element B, each of these 3 dimensions provides four measures: (1) expressed behavior (i.e., "what I do toward you"), (2) received behavior (i.e., "what I get from you"), (3) perceived behavior (i.e., "what I see"), and (4) wanted behavior (i.e., "what I want"). Therefore, each subject obtains 12 basic scores. In addition, each of the three dimensions yields a dissatisfaction score, which is the difference between the score for "what I see" and the score for "what I want." The dissatisfaction score reflects the extent to which "I don't have want I want" (Schutz, 1987, p. 4). A relatively high dissatisfaction score does not necessarily indicate psychological or emotional problems. One may recognize the disparity between what one has and what one wants and still feel basically satisfied with either the disparity or one's progress in ameliorating the disparity.

Reproducibility refers to the percentage of the total responses that is predictable from the scale scores. According to Schutz (1992), all of the 12 scales in Element B have reproducibility levels within the range of .89 to .93 (mean = .92). Based on Element B's psychometric similarity with FIRO-B, the test-retest coefficient of Element B over three weeks is estimated to be .76. Schutz (1987) reported that women outscore men on "I want to be open with people," on "people are open with me," and on all the inclusion scales (i.e., "I include people," "people

include me," "I want to include people," and "I want people to include me"). In addition, men score higher than women only on "I want to control people," and the other scales in the control dimension show no gender differences. It was also suggested that men more than women could have a desire to influence others but that it is not necessarily manifested in actual behavior.

Emotional Creativity Inventory (ECI). The ECI is a self-report scale (Averill, 1994; Averill and Thomas-Knowles, 1991) developed to measure the subjects' emotional creativity in the context of everyday life (Appendix C). The scale provides a total score for "Emotional Creativity," which is the sum of 4 subscores, i.e., "Preparation," "Novelty," "Effectiveness," and "Authenticity." The scale consists of 50 items. However, only responses to 30 of the items are used; since the other 20 items are included in the scale as merely fillers intended to mask the general purpose of the scale, responses to these 20 items are discarded in the actual process of scoring. Each item is a statement that describes the subjects themselves, e.g., "I think about and try to understand my emotional reactions." The subjects rate the degree to which each item accurately describes themselves on a five-point scale, i.e., from "1" for "strongly disagree" to "5" for "strongly agree."

According to Averill (1994), the coefficient alpha of the ECI is .90, and the test-retest reliability of ECI over the length of one semester is .91, thus indicating high internal consistency and test-retest reliability. Averill and Thomas-Knowles (1991) reported the ECI's convergent validity related to other measures of emotional ability and its discriminant validity related to measures of cognitive ability. In

relation to the NEO-PI, the "ECI total scores correlated moderately with openness to experience and modestly with agreeableness, but not with introversion-extraversion, neuroticism, or conscientiousness" (Averill, 1994, p. 47). In addition, "people who score high on the ECI report having more mysticlike experiences and higher self-esteem, but the basis for these relations differ; the relation to mysticism is due largely to the novelty facet of the ECI, and the relation to self-esteem, the effectiveness/authenticity facet" (p. 47). No gender differences have been detected for the novelty scores, whereas women have outscored men on the preparation and effectiveness/authenticity dimensions. Finally, the scores on ECI are reported to be independent of social desirability.

Marlowe-Crowne Social Desirability Scale (MCSD). To monitor the influence of socially desirable responding (i.e., the tendency to give answers that make the subjects themselves look good), the MCSD was administered (Crowne & Marlowe, 1964) (Appendix D). The items on the MCSD describe either desirable but uncommon behaviors or undesirable but common behaviors. The MCSD consists of 18 items that describe the subjects themselves, e.g., "I have never intensely disliked anyone." The subjects rate the degree to which each item accurately describes themselves on a "true"/"false" basis.

A number of alpha coefficients of the MCSD have been reported, ranging from .73 to .88 (Robinson, Shaver, & Wrightsman, 1991). Crowne and Marlowe (1964) reported that the test-retest correlation of the MCSD over 1 month is .88. A higher score on the MCSD indicates a higher degree of sensitivity to negative

evaluations from others, a greater tendency to avoid others' disapproval, perhaps also a stronger need for others' approval, and thus a greater degree of susceptibility to social influence.

Phase 2: Take-Home Writing Tasks

Emotional Consequences Test (ECT). The ECT was developed by Averill and Thomas-Knowles (1991) to measure primarily divergent thinking ability in the domain of emotional creativity (Appendix F). The ECT is a modified version of a subtest of the Torrance Tests of Creative Thinking (Torrance, 1962). In the ECT, the subjects are instructed to write down as many consequences as possible for each of four impossible situations of an emotional nature, e.g., what would be the consequences if people fell in love with a different person every other day? In the study by Averill and Thomas-Knowles (1991), the authors served as the raters of the responses. Each subject is given a "Fluency" score (i.e., the total number of relevant ideas), a "Flexibility" score (i.e., the total number of different categories of ideas used), and "Creativity" score (i.e., the overall creativeness of the ideas rated on a five-point scale in the increasing order). According to Averill and Thomas-Knowles (1991), Cronbach's coefficient alpha for the ECT is .71. In the present study, the author and a graduate student in the department of education served as raters for the responses from 25 randomly selected subjects (i.e., 27% of the total number of subjects) to establish the reliability of the scoring procedure. (See Appendix G.) The two raters met a total of three times to compare their ratings and discuss ways to improve the reliability of their ratings. The correlations

between the two raters for the "Fluency," "Flexibility," and "Creativity" scores are .99 ($p < .0001$), .97 ($p < .0001$), and .82 ($p < .0001$) respectively. The rest of the responses were then scored by the author only. See Appendix H for examples of the responses to the ECT with the highest and the lowest "Creativity" ratings.

Emotional Triads Test (ETT). The ETT was also developed by Averill and Thomas-Knowles (1991) Appendix I). In contrast to the ECT, the ETT requires the subjects to expand their imagination not only by exercising divergent thinking, but also by engaging in convergent thinking to integrate different emotions. The ETT consists of four items, each consisting of the names of three usually unrelated emotions, e.g., serene, bewildered, and impulsive. The subjects are asked to write a short story for each item (i.e., each triad) that integrates the three distinct emotions, such that in the story the emotions are not experienced sequentially or separately but rather simultaneously or in a coalesced manner. In the study by Averill and Thomas-Knowles (1991), the authors served as the raters also of these stories. Each subject is given five scores: "Novelty (P)," "Effectiveness (P)," "Authenticity (P)," "Integration," and "Overall Creativity." The first three scores have the same meanings as the "Novelty," "Effectiveness," and "Authenticity" scores respectively in the ECI, except that the "(P)" notation indicates that they are scores based on performance. "Integration" refers to the how well the three emotions are synthesized in a given story, whereas "Overall Creativity" refers to the creativeness of the story as a whole. Each score is based on a five-point scale in the increasing order. According to Averill and Thomas-Knowles (1991), the

coefficient alpha for the ETT is .66. In the present study, the author and the graduate student, who served as a rater for the ECT, again served as raters for the responses from 25 randomly selected subjects (i.e., 27% of the total number of subjects) to establish the reliability of the scoring procedure. (See Appendix J.) The two raters met a total of three times to compare their ratings and discuss ways to improve the reliability of their ratings. The correlations between the two raters for the scores of novelty, effectiveness, authenticity, integration, and overall creativity are .85 ($p < .0001$), .93 ($p < .0001$), .90 ($p < .0001$), .87 ($p < .0001$), and .95 ($p < .0001$) respectively. The rest of the responses were then scored by the author only. See Appendix K for examples of the responses to the ETT with the highest and the lowest "Overall Creativity" ratings.

Procedure

In the beginning of the summer 1994 semester, the subjects met in a classroom at the University of Tennessee at Knoxville and gave their written consents for their participation in the study. All of the students decided to participate in this study after reading the informed consent form (Appendix A). The subjects were run in groups--ranging from 2 to 12 persons in each group. They completed untimed the three questionnaires in the following order: the Emotional Creativity Inventory, the Marlowe-Crowne Social Desirability Scale, and Element B. The three questionnaires took approximtely one hour for the subjects to complete. After handing in their responses to the three questionnaires, the subjects

were given general instructions for the second part of their participation (Appendix E) as well as specific instructions on the Emotional Consequences Test and on the Emotional Triads Test. The subjects were then instructed to take home with them the two writing tasks, which the subjects were encouraged to take the entire summer semester to complete. The subjects were reminded at different times not to rush through the writing tasks. In addition, suggestions were explicitly given to the subjects to be creative and to feel free to discuss the writing tasks with others, so long as the subjects felt that their final responses genuinely represented themselves. At the end of the semester, the subjects handed in their work on the two writing tasks to their respective instructors in order to complete their participation and receive the extra credits for their classes.

CHAPTER 3

Results

This chapter reports the psychometric results of the three self-report questionnaires and the two performance tasks administered in the present study. To recap, there were a total of 91 subjects: 58 females, 32 males, and 1 subject who did not record her or his gender. However, some subjects did not complete the entire series of activies. Gender differences were not statistically significant for the raw scores of all of the measures. Only on one composite measure (i.e., "Perceived Affiliation") were gender differences found to be marginally significant.

Emotional Creativity Measures

Emotional Creativity Inventory (ECI)

The ECI has four subscores and a total score. The four subscores are "Preparation," "Novelty," "Effectiveness," and "Authenticity." The sum of these four subscores is the total score, "Emotional Creativity." For the ECI as a whole, the Cronbach's coefficient alpha for the total sample was .84. The means and standard deviations for the total sample are presented in Table 1.

Table 1

Means and Standard Deviations of ECI

	M	SD
Preparation	27.07	4.52
Novelty	47.45	8.35
Effectiveness	17.14	3.41
Authenticity	13.23	2.98
Emotional Creativity	104.89	14.47

Note. n = 91.

For the ECI as a whole, the Cronbach's coefficient alphas for the females and males were .83 and .84 respectively. The means and standard deviations are presented separately for the females and males in Table 2. Gender differences were not significant.

Table 2

Means and Standard Deviations of ECI by Gender

	Females		Males			
	M	SD	M	SD	t-value (2-tailed)	p
Preparation	27.38	4.55	26.69	4.45	-.70	.49
Novelty	47.90	8.77	46.72	7.74	-.64	.52
Effectiveness	17.66	3.31	16.41	3.38	-1.70	.09
Authenticity	13.36	2.83	13.06	3.29	-.45	.65
Emotional Creativity	106.29	14.67	102.88	13.96	-1.08	.28

Note. Females, n = 58; males, n = 32.

Emotional Consequences Test (ECT)

The ECT has three scores. They are "Fluency," "Flexibility," and "Creativity." To obtain a measure of interrater reliability, the two judges compared their ratings for 25 randomly selected subjects (i.e., 27% of the total sample). The Pearson correlation between the two judges' ratings for "Fluency," "Flexibility," and "Creativity" were .99 ($p < .0001$), .97 ($p < .0001$), and .82 ($p < .0001$) respectively. For the ECT as a whole, the Cronbach's coefficient alpha for the total

sample was .91. The means and standard deviations for the total sample are presented in Table 3.

For the ECT as a whole, the Cronbach's coefficient alphas for the females and males were .91 and .93 respectively. The means and standard deviations are presented separately for the females and males in Table 4. Gender differences were not significant.

Emotional Triads Test (ETT)

The ETT has five scores: "Novelty (P)," "Effectiveness (P)," "Authenticity (P)," "Integration," and "Overall Creativity." To obtain a measure of interrater reliability, the two judges compared their ratings for 25 randomly selected subjects (i.e., 27% of the total sample). The Pearson correlation between the two judges' ratings for "Novelty (P)," "Effectiveness (P)," "Authenticity (P)," "Integration," and "Overall Creativity" were .85 ($p < .0001$), .93 ($p < .0001$), .90 ($p < .0001$), .87 ($p < .0001$), and .95 ($p < .0001$) respectively. For the ETT as a whole, the Cronbach's coefficient alpha for the total sample was .93. The means and standard deviations for the total sample are presented in Table 5.

For the ECT as a whole, the Cronbach's coefficient alphas for the females and males were .94 and .88 respectively. The means and standard deviations are presented separately for the females and males in Table 6. Gender differences were not significant.

Table 3

Means and Standard Deviations of ECT

	M	SD
Fluency	22.25	17.70
Flexibility	12.10	6.11
Creativity	8.87	4.28

Note. n = 69.

Table 4

Means and Standard Deviations of ECT by Gender

	Females		Males			
	M	SD	M	SD	t-value (2-tailed)	p
Fluency	23.19	20.44	20.23	9.67	-.82	.42
Flexibility	12.64	6.60	10.95	4.83	-1.07	.29
Creativity	9.43	4.26	7.68	4.19	-1.59	.12

Note. Females, n = 47; males, n = 22.

Table 5

Means and Standard Deviations of ETT

	M	SD
Novelty (P)	7.21	2.78
Effectiveness (P)	9.54	4.18
Authenticity (P)	8.84	3.91
Integration	10.35	4.37
Overall Creativity	8.67	4.01

Note. n = 57.

Table 6

Means and Standard Deviations of ETT by Gender

	Females		Males			
	M	SD	M	SD	t-value (2-tailed)	p
Novelty (P)	7.02	2.82	7.69	2.73	.81	.42
Effectiveness (P)	9.41	4.30	9.88	3.95	.37	.71
Authenticity (P)	8.73	4.06	9.13	3.59	.34	.74
Integration	10.20	4.42	10.75	4.36	.43	.67
Overall Creativity	8.66	4.18	8.69	3.66	.02	.98

Note. Females, n = 41; males, n = 16.

Relationships among Emotional Creativity Measures

The three methods of assessing emotional creativity in the present study elicited different kinds of participation from the subjects. The ECI, a self-report questionnaire, relied on the subjects' self-awareness, while the two performance tasks (i.e., the ECT and the ETT) accessed relatively distinct aspects of creative production. The ECT emphasized divergent thinking ability, whereas the ETT emphasized the ability to integrate and unify diverse emotions. To determine the reliability of the three instruments in measuring emotional creativity as a

psychological construct, Pearson correlations among all of the 13 measures from the 3 instruments were obtained. For the emotional creativity measures as a whole, the Cronbach's coefficient alpha for the females, males, and total sample were .86, .76, and .85 respectively. The Pearson correlations between each of the emotional creativity measures and the total sample of the emotional creativity measures for the total sample of subjects are presented in Table 7.

Interpersonal Style Measures

Element B

Element B contains a total of 12 scores on 3 main dimensions: inclusion, control, and openness. Each of these three dimensions has four scores that measure different aspects of interpersonal experience. Take for instance the inclusion dimension: There were a score for the level of inclusion "perceived" (in one's actual interactions with others), a score for the level of inclusion "wanted" (in one's interaction with others), a score for the level of inclusion "expressed" (to others), and a score for the level of inclusion "received" (from others).

The dissatisfaction scores, which were derived from the 12 basic scores, were not included in the analyses that follow because of their lack of direct theoretical relevance to the present study. Only the 12 basic scores were used, since they contained the essential data on interpersonal style. The means and standard deviations for the total sample are presented in Table 8.

Table 7

Pearson Correlations between Emotional Creativity Measures and Total Sample of Emotional Creativity Measures

	Correlation with Total	Alpha
Preparation	.43	.84
Novelty	.35	.85
Effectiveness	.31	.85
Authenticity	.28	.85
Emotional Creativity	.53	.84
Fluency	.56	.83
Flexibility	.58	.83
Creativity	.60	.83
Novelty (P)	.52	.84
Effectiveness (P)	.48	.84
Authenticity (P)	.54	.84
Integration	.64	.83
Overall Creativity	.74	.82

Note. * $p < .05$

Table 8

Means and Standard Deviation of Element B

	M	SD
I include people.	5.26	2.18
I want to include people.	6.46	1.88
People include me.	5.13	3.16
I want people to include me.	6.95	2.58
I control people.	3.29	2.43
I want to control people.	4.54	2.69
People control me.	5.43	2.59
I want people to control me.	3.36	2.10
I am open with people.	4.04	2.29
I want to be open with people.	5.18	2.53
People are open with me.	5.93	2.43
I want people to be open with me.	6.65	2.40

Note. n = 91.

Composite Measures

The 12 basic scores represented a large number of measures of interpersonal style, and it was necessary to achieve a more parsimonious way of grouping them as predictors of emotional creativity. Various ways of forming composite measures of interpersonal style were explored based on results of factor analysis and theoretical rationale. Subsequently, 2 dimensions of interpersonal style (which constitute the main dimensions in many of the existing scales of interpersonal style) were employed to categorize the 12 basic scores more parsimoniously. These two main dimensions were "affiliation" and "influence." Accordingly, the dimensions of inclusion and openness in Element B were interpreted as social affiliation and personal affiliation respectively, and they were thus subsumed under the main dimension of affiliation. On the other hand, the dimension of control in Element B was simply renamed as influence to increase the clarity of its meaning. The renaming of control as influence was consistent with the contents of the items for the control dimension in Element B. Four composite measures were consequently formed: "Perceived Affiliation," "Wanted Affiliation," "Expressed Influence," and "Received Influence."

"Perceived Affiliation". "Perceived Affiliation" represented the degree of affiliation that the subject perceived as existing between herself or himself and others. It was the sum of the "perceived" scores in the affiliation dimension (i.e., the inclusion and openness dimensions in Element B). Each subject's scores on "I include people," "People include me," "I am open with people," and "People are

open with me" were converted into z-scores and added up to form the subject's score on "Perceived Affiliation." In the context of emotional creativity, a high score on "Perceived Affiliation" indicates that one has a high degree of openness to interpersonal experience. To examine the "Perceived Affiliation" score's representiveness of the four raw subscores, Pearson correlations among these five scores were obtained. The Cronbach's coefficient alpha for all of these five scores for the total sample was .85. The mean and standard deviation of "Perceived Affiliation" for the total sample were .01 and 2.95 respectively.

For the "Perceived Affiliation" score and the four raw subscores altogether, the Cronbach's coefficient alphas for the females and males were .86 and .84 respectively. The mean and standard deviation of "Perceived Affiliation" for the females were .49 and 3.00 respectively. The mean and standard deviation of "Perceived Affiliation" for the males were -.76 and 2.67 respectively. Gender differences on "Perceived Affiliation" were marginally significant (2-tailed, $t = -1.97$; $p = .05$).

"Wanted Affiliation". "Wanted Affiliation" represented the degree of affiliation that the subject wanted to have between herself or himself and others. It was the sum of the "wanted" scores in the affiliation dimension (i.e., the inclusion and openness dimensions in Element B). Each subject's scores on "I want to include people," " I want people to include me," "I want to be open with people," and "I want people to be open with me" were converted into z-scores and added up to form the subject's score on "Wanted Affiliation." In the context of emotional

creativity, a high score on "Wanted Affiliation" indicates that one has a high degree of desire for openness to interpersonal experience. To examine the "Wanted Affiliation" score's representiveness of the four raw subscores, Pearson correlations among these five scores were obtained. The Cronbach's coefficient alpha for all of these five scores for the total sample was .85. The mean and standard deviation of "Wanted Affiliation" for the total sample were .00 and 2.95 respectively.

For the "Wanted Affiliation" score and the four raw subscores altogether, the Cronbach's coefficient alphas for the females and males were .87 and .80 respectively. The mean and standard deviation of "Wanted Affiliation" for the females were .18 and 3.16 respectively. The mean and standard deviation of "Wanted Affiliation" for the males were -.31 and 2.60 respectively. Gender differences on "Wanted Affiliation" were not significant (2-tailed, $t = -.74$; $p = .46$).

"Expressed Influence". "Expressed Influence" represented the degree of influence that the subject perceived herself or himself as expressing as well as wanting to express to others. It was the sum of the "expressed" scores in the control dimension in Element B. Each subject's scores on "I control people" and "I want to control people" were converted into z-scores and added up to form the subject's score on "Expressed Influence." In the context of emotional creativity, a high score on "Expressed Influence" indicates that one gives a low degree of importance to openness to interpersonal experience. To examine the "Expressed Influence" score's representiveness of the two raw subscores, Pearson correlations

among these three scores were obtained. The Cronbach's coefficient alpha for all of these three scores for the total sample was .87. The mean and standard deviation of "Expressed Influence" for the total sample were .00 and 1.67 respectively.

For the "Expressed Influence" score and the two raw subscores altogether, the Cronbach's coefficient alphas for the females and males were .85 and .91 respectively. The mean and standard deviation of "Expressed Influence" for the females were -.25 and 1.55 respectively. The mean and standard deviation of "Expressed Influence" for the males were .44 and 1.84 respectively. Gender differences on "Expressed Influence" were not significant (2-tailed, $t = 1.91$; $p = .06$).

"Received Influence". "Received Influence" represented the degree of influence that the subject perceived herself or himself as receiving as well as wanting to receive from others. It was the sum of the "received" scores in the control dimension in Element B. Each subject's scores on "People control me" and "I want people to control me" were converted into z-scores and added up to form the subject's score on "Received Influence." In the context of emotional creativity, a high score on "Received Influence" indicates that one gives a low degree of importance to autonomy in one's interpersonal experience. To examine the "Received Influence" score's representiveness of the two raw subscores, Pearson correlations among these three scores were obtained. The Cronbach's coefficient alpha for all of these three scores for the total sample was .86. The mean and

standard deviation of "Received Influence" for the total sample were .00 and 1.65 respectively.

For the "Received Influence" score and the two raw subscores altogether, the Cronbach's coefficient alphas for the females and males were .87 and .85 respectively. The mean and standard deviation of "Received Influence" for the females were -.14 and 1.69 respectively. The mean and standard deviation of "Received Influence" for the males were .19 and 1.57 respectively. Gender differences on "Received Influence" were not significant (2-tailed, $t = .94$; $p = .35$).

Response Bias Measure

Marlowe-Crowne Social Desirability Scale (MCSD)

To help detect and minimize the effects of a response bias on the data, the MCSD was included in the battery of questionnaires. Each subject obtained a single score for "Socially Desirable Responding" (i.e., SDR), which primarily indicated the subject's tendency to avoid others' disapproval. The mean and standard deviation for the total sample ($n = 90$) were 7.63 and 3.38 respectively. The mean and standard deviation for the females ($n = 58$) were 7.63 and 3.38 respectively. The mean and standard deviation for the males ($n = 32$) were 7.69 and 3.48 respectively. Gender differences were not significant (2-tailed, $t = .07$, $p = .94$).

To examine the relationships between SDR and the measures of emotional creativity and interpersonal style, Pearson correlations between SDR and the other

two groups of measures were obtained. The Pearson correlations between SDR and the emotional creativity measures for the females, males, and total sample are presented in Table 9. The Pearson correlations between SDR and the interpersonal style measures for the females, males, and total sample are presented in Table 10.

Relationships between Emotional Creativity and Interpersonal Style

The working hypotheses of the present study were that emotional creativity was positively related to openness to experience and autonomy. Since gender differences were not statistically significant for the raw scores of all of the measures (though one composite measure yielded marginal significance), the following analyses do not separate the total sample by gender and are for the total sample only. Further, to consistently minimize the effects of a response bias, SDR is controlled for in all of the analyses that follow.

A preliminary study of the possible relationships between the 13 emotional creativity measures and the 4 interpersonal style measures was based on the Pearson correlations between these 2 groups of measures. The Pearson correlations between the emotional creativity measures and the "affiliation" dimension (i.e., "Perceived Affiliation" and "Wanted "Affiliation") of interpersonal style for the total sample are presented in Table 11. The Pearson correlations between the emotional creativity measures and the "influence" dimension (i.e., "Expressed Influence" and "Received Influence") of interpersonal style measures for the total sample are presented in Table 12.

Table 9

Pearson Correlations between SDR and Emotional Creativity Measures

	SDR		
	Females	Males	Total
Preparation	.17	.11	.16
Novelty	.07	.01	.05
Effectiveness	.46**	.17	.35**
Authenticity	.32*	.31	.31**
Emotional Creativity	.26*	.15	.22*
Fluency	-.20	-.06	-.16
Flexibility	-.27	-.33	-.28*
Creativity	-.22	-.36	-.26*
Novelty (P)	.18	-.03	.14
Effectiveness (P)	.01	.46	.13
Authenticity (P)	-.02	.42	.10
Integration	.04	.45	.16
Overall Creativity	.04	.32	.11

Note. * $p < .05$
** $p < .005$
*** $p < .0005$

Table 10

Pearson Correlations between SDR and Interpersonal Style Measures

	SDR		
	Females	Males	Total
"Perceived Affiliation"	.38**	.41*	.38***
"Wanted Affiliation"	.16	-.26	.03
"Expressed Influence"	.00	.10	.04
"Received Influence"	-.07	-.10	-.09

Note. * $p < .05$
** $p < .005$
*** $p < .0005$

Table 11

Pearson Correlations (with SDR partialed out) between Emotional Creativity Measures and Affiliation Measures

	"Perceived Affiliation"	"Wanted Affiliation"
Preparation	.04	.07
Novelty	.17	.01
Effectiveness	.44**	.26
Authenticity	.31*	.13
Emotional Creativity	.29*	.12
Fluency	-.09	-.07
Flexibility	-.07	.11
Creativity	.08	.03
Novelty (P)	-.16	.18
Effectiveness (P)	-.15	.04
Authenticity (P)	-.09	.16
Integration	-.07	.24
Overall Creativity	-.07	.21

Note. * $p < .05$
** $p < .005$

Table 12

Pearson Correlations (with SDR partialed out) between Emotional Creativity Measures and Influence Measures

	"Expressed Influence"	"Received Influence"
Preparation	-.35*	.19
Novelty	-.13	.02
Effectiveness	-.13	-.13
Authenticity	.21	.19
Emotional Creativity	-.19	.08
Fluency	-.03	.13
Flexibility	-.13	.00
Creativity	-.07	-.20
Novelty (P)	-.02	-.03
Effectiveness (P)	.17	.01
Authenticity (P)	.01	.12
Integration	.07	.05
Overall Creativity	.04	.08

Note. * $p < .05$

To examine the relationships between each aspect of emotional creativity and each type of interpersonal style, multiple regression analysis was then employed to determine the magnitudes of the unique (partial) relationships between each emotional creativity measure and each interpersonal style measure. A multiple regression analysis was conducted for each of the 13 emotional creativity measures as the criterion variable and the 4 interpersonal style measures as the predictors in the same equation. Thus, 13 multiple regression analyses were performed to examine the statistical significance of each possible relationship between each emotional creativity measure and a specific interpersonal style measure (with the other 3 interpersonal style measures partialed out). The multiple regression results are presented with respect to each of the interpersonal style measures as follows.

Emotional Creativity and "Perceived Affiliation". To recap, a high score on "Perceived Affiliation" indicates that one has a high degree of openness to interpersonal experience. The predictive ability of "Perceived Affiliation" was significant for two emotional creativity measures: "Effectiveness" ($r = .22$; $r^2 = .05$; $p = .04$) and "Novelty (P)" ($r = -.28$; $r^2 = .08$; $p = .04$). While the r^2 values were small, it was noteworthy that these two significant relationships were in opposite directions (i.e., positive and negative).

Emotional Creativity and "Wanted Affiliation". To recap, a high score on "Wanted Affiliation" indicates that one has a high degree of desire for openness to interpersonal experience. The predictive ability of "Wanted Affiliation" was significant for three emotional creativity measures: "Novelty (P)" ($r = .29$; $r^2 =$

.08; p = .04), "Integration" (r = .30; r^2 = .09; p = .03), and, marginally, "Overall Creativity" (r = .27; r^2 = .07; p = .05). These 3 significant relationships were all in the positive direction.

Emotional Creativity and "Expressed Influence". To recap, a high score on "Expressed Influence" indicates that one gives a low degree of importance to openness to interpersonal experience. The predictive ability of "Expressed Influence" was significant for a single emotional creativity measure: "Preparation" (r = -.22; r^2 = .05; p = .05). This relationship was marginally significant and was in the positive direction.

Emotional Creativity and "Received Influence". To recap, a high score on "Received Influence" indicates that one gives a low degree of importance to autonomy in one's interpersonal experience. The predictive ability of "Received Influence" was significant for none of the emotional creativity measures.

CHAPTER 4

Discussion

The present study attempted to determine what particular interpersonal styles, if any, were consistently related to what aspects of emotional creativity. Since emotional creativity is a relatively new concept in psychology, there has apparently been no research reported on the relationship between emotional creativity and interpersonal style. Therefore, the present study was largely exploratory; however, based on Rogers's and Maslow's theories of creativity it was guided by the testing of two working hypotheses: (1) Emotional creativity is positively related to openness to interpersonal experience, and (2) emotional creativity is positively related to autonomy. The results supported the first hypothesis when various aspects of emotional creativity were selectively examined, and the results did not support the second hypothesis. All of the statistically significant multiple regression results were in the area of openness to interpersonal experience rather than the area of autonomy. The results are summarized with respect to the two working hypotheses as follows.

Emotional Creativity and Openness to Interpersonal Experience

The three interpersonal style measures that were related to different aspects of openness to interpersonal experience were "Perceived Affiliation," "Wanted Affiliation," and "Expressed Influence."

"Perceived Affiliation" and "Effectiveness"

A high score on "Perceived Affiliation" suggested that the subject perceived herself or himself as actually having a high degree of mutual inclusion and openness between herself or himself and others. Presumably, one who perceives oneself as, in fact, being inclusive of and open to others and successful in eliciting inclusiveness and openness from others toward oneself is also more open to experiencing various possibilities and nuances of interpersonal interaction. Thus, it was predicted that emotional creativity in general would have a positive relationship with "Perceived Affiliation."

"Perceived Affiliation" was found to be significant for predicting "Effectiveness." The present relationship did not appear to be strong (i.e., $r^2 = .05$). "Effectiveness" was a self-report measure for the extent to which one perceived oneself as being able to adaptively solve one's everyday emotional problems such that one's interpersonal relationships would be enhanced. A performance measure that was related to "Effectiveness" was "Effectiveness (P)" (which was not significantly related to any of the interpersonal style measures). "Effectiveness (P)," because of the structured nature of the performance task from which the score was derived, was relatively less representative of everyday situations. On the other hand, "Effectiveness," because of the contents of the items of the scale from which it was derived, was directly focused on one's emotional creativity in everyday situations.

The present result was consistent with Rogers's and Maslow's theories on creativity and with the first working hypothesis at a more differentiated level: The more a person experiences mutual inclusion and openness with others, the more the person would be likely to solve her or his emotional problems adaptively and efficaciously (though not necessarily with remarkable originality). This result may be understood in terms of the subjects' interpersonal skills. Presumably, the ability to maintain a high degree of mutual affliation with others suggests that presence of effective interpersonal skills, which would include the ability to solve interpersonal problems adaptively, i.e., in ways that acknowledge other people's needs (e.g., compromising and negotiating). Becoming aware of and discovering ways to accomodate others' and one's own needs are indeed practical components of emotional creativity. In other words, to solve a problem with emotional creativity requires one to be able to expand one's own perspective (or increase one's "openness to experience") to include other people's concerns and to construct solutions that can be mutually satisfying.

In addition, to explain the association between emotional creativity and social affiliation, it may be speculated that people who have more interactions with others are exposed to more opportunities to develop their own emotional creativity. Berscheid (1987) reported that interpersonal communication is probably a primary source of emotional experience. Consequently, people who experience more affiliation with others could have more "material" (from the interpersonal

exchanges) to be emotionally creative about, have more opportunities to practice their emotional creativity, and thus have higher levels of emotional creativity.

The present result was consistent with the previous research findings on creative persons' general tendency to value interpersonal relationships. For example, creativity was reported to be positively related to a lack of hostility toward others (Maslow, 1959), cooperation (Williams, Poole, and Lett, 1977), a need to form alliances (Sternberg, 1988), and charisma that attracts followers (Gardner, 1993). On the other hand, the present result appeared to be in disagreement with some previous research findings which indicated that creative individuals are often egocentric (Gough, 1979) and resistant to social demands (Sternberg, 1988).

However, the present study attempted to clarify whether creative persons have stable and thus less paradoxical interpersonal styles by selecting a specific domain of creativity. Thus, within the limits of its marginal significance and small effect size, the present result suggested that, in the specific domain of emotional creativity, the more a person affiliates with others, the more likely the person is able to resolve emotional issues with others and within herself or himself.

"Perceived Affiliation" and "Novelty (P)"

"Perceived Affiliation" was also found to be significant for predicting "Novelty (P)" in the negative direction. The present relationship did not appear to be strong (i.e., $r^2 = .08$). "Novelty (P)" was a performance measure for the extent to which the subject was able to give imaginative and unusual responses in the domain of emotions. The self-report measure of "Novelty" was directly related to everyday

creativity; by contrast, as a score that was derived from an experimental task, "Novelty (P)" was conceivably less directly related to one's emotional creativity in everyday situations. However, compared to "Novelty," "Novelty (P)" could be a more accurate measure of the full capacity of a person's emotional imaginativeness, because the subjects were likely to have expressed their imaginativeness more fully in the experimental tasks than in their everyday exchanges with others for two reasons: (1) The subjects were explicitly encouraged to be imaginative for the experimental task, and (2) knowing that it was an experimental task (rather than a personal, real-life situation), the subjects did not have to be concerned about possible consequences of their imaginative responses.

The present result was consistent with Rogers's and Maslow's theories on creativity and with the first working hypothesis at a more differentiated level: The more a person engages in affiliative behavior with others, the less the person would be likely to experience unusual and unique emotions. This result may be understood in terms of one's willingness to take the risk of losing a certain amount of social affiliation in order to reduce the distraction from producing something original. Presumably, a person who affiliates with others strongly may feel more inhibited in approaching unusual experiences, because such unique experiences could accentuate the differences (rather than the similarities) between the person and others and thus threaten the person's membership in certain social groups.

Usually, in the assessment of cognitive creativity (where the tasks are less personal), the degree of novelty of a subject's performance is accepted as most

representative of the subject's creative capacity. In the context of emotional creativity, however, the expression of novel emotions could involve much more personal risk, because emotions (compared to thoughts with less emotional content) are more personal expressions, and the person may become more likely to anticipate rejection from others for her or his unusual emotional responses. Therefore, it might be merely realistic for one to be more selective in one's interaction with others, if one is to feel safe about expressing one's novel emotions. Similarly, it may also be speculated that emotionally creative persons have learned to limit their affiliative behavior because their past attempts to communicate their unconventional experiences to others had been met with bewilderment, misunderstanding, or rejection.

The present result was consistent with the previous research findings on creative persons' ability to maintain their individuality in their social existence. For example, creativity was reported to be positively related to a need for privacy (Maslow, 1954, 1959), tolerance for the anxiety of being separate from others (Rogers, 1959), and capacity to embrace one's "marginalized" status in society (Gardner, 1993). To be sure, research studies do not indicate that creative individuals rigidly withdraw from social interaction but rather that they have the ability to retreat into their own private worlds for their inner explorations, especially during critical periods in their lives when they are likely to be making significant discoveries.

The present result was not logically contradictory to the positive relationship reported earlier between "Effectiveness" and "Perceived Affiliation." These two results together illuminated the multifaceted nature of emotional creativity: One needs to be able to restrain one's own mingling with others in order to generate original ideas, while one relies on one's interaction with others to distinguish the ideas that are socially useful. In the present context, the negative meaning of social affiliation did not necessarily refer to avoidance of or hostility toward others but simply to the capacity to effectively restrain one's own affiliative behavior with others.

Thus, within the limits of its marginal significance and small effect size, the present result suggested that, in the specific domain of emotional creativity, the more a person engages in affiliative behavior with others, the less likely is the person to have unique emotional experiences.

"Wanted Affiliation" and "Novelty (P)"

A high score on "Wanted Affiliation" suggested that the subject desired a high degree of mutual inclusiveness and openness between herself or himself and others. In contrast to "Perceived Affiliation," which referred to the amount of physical (or behavioral) affiliation, "Wanted Affiliation" referred to the amount of affiliation desired by the subject, who may or may not--in fact--engage in affiliative behavior. Presumably, one who highly values being inclusive of and open to others and also receiving the same from others is more open to experiencing various possibilities

and nuances of interpersonal interaction. Thus, it was predicted that emotional creativity in general would have a positive relationship with "Wanted Affiliation."

"Wanted Affiliation" was found to be significant for predicting "Novelty (P)," although this relationship did not appear to be strong (i.e., $r^2 = .08$). The present result was consistent with Rogers's and Maslow's theories on creativity and with the first working hypothesis at a more differentiated level: The more a person has access to fresh and unique emotional experiences, the more the person yearns for mutual inclusion and openness with others.

The present result may be understood in terms of a person's natural urge to share her or his creative experiences with others. From a humanistic perspective, Rogers (1959) described this phenomenon in the following way: "It is doubtful whether a human being can create, without wishing to share his creation. ...He does not create in order to communicate, but once having created he desires to share this new aspect of himself-in-relation-to-his-environment with others" (p. 78). The present result was also consistent with the previous empirical findings on creative persons' responsiveness to social rewards. For example, Sternberg (1988) and Gardner (1993) noted that creative people are, in part, motivated by their desire for social recognition.

However, the present result needs to be integrated with the negative relationship obtained between "Novelty (P)" and "Perceived Affiliation." The following is a speculative attempt to integrate these two results: Although emotionally creative persons are partly motivated by the desire for greater social affiliation (i.e.,

"Wanted Affiliation"), they maintain a certain basic distance from others (i.e., negative "Perceived Affiliation") in order to be able to generate original products (i.e., "Novelty (P)"); however, after they have succeeded in their creations (i.e., "Novelty (P)"), they have an enormous urge to share their experiences with others (i.e., "Wanted Affiliation"), but they continue to refrain from affiliating with others too closely (i.e., negative "Perceived Affiliation"), perhaps because their experience of having been marginalized by others in the past for their unconventional perspectives continues to leave them feeling cautious about any social display of acceptance.

Thus, within the limits of its marginal significance and small effect size, the present result replicated the paradoxical observations regarding creative individuals' personalities in general (McMullan, 1976; Sternberg, 1988). It suggested that emotionally creative persons have a difficult and persistent interpersonal dilemma: At some level they seem to be both yearning for and refraining from affiliation with others.

"Wanted Affiliation," "Integration," and "Overall Creativity"

"Wanted Affiliation" was also found to be significant for predicting "Integration" (i.e., $r^2 = .09$) and "Overall Creativity" (i.e., $r^2 = .07$). These two relationships did not appear to be strong. The measures of "Integration" and "Overall Creativity" were performance measures from the same experimental task (i.e., the ETT), which was primarily a test of the subjects' ability to integrate apparently disparate emotions. Theoretically, thus, "Overall Creativity" was a

measure of an integrative form of creativity (in contrast to divergent production) and should closely resemble the measure of "Integration"; indeed, these two measures, with "Socially Desirable Responding" partialed out, correlated with each other highly ($r = .94$, $p = .0001$). The present two significant relationships shall therefore be discussed together.

The present results were consistent with Rogers's and Maslow's theories on creativity and with the first working hypothesis at a more differentiated level: The more a person is able to creatively integrate different emotions, the more the person yearns for mutual inclusion and openness with others. The present findings could be explained with the same reasons that were used earlier to explain the signifcant relationship between "Novelty (P)" and "Wanted Affiliation," because to creatively integrate different emotions does require one to be able to imagine novel configurations of feelings. In essence, it is understood from the humanistic standpoint simply as an inherent impulse for a person to want to share with others the person's creative experiences (Rogers, 1959).

Thus, within the limits of their marginal levels of significance and small effect sizes, the present results indicated that emotionally creative persons have a basic yearning for connecting with others, whether or not this desire is disclosed in their behavior.

"Expressed Influence" and "Preparation"

A high score on "Expressed Influence" suggested that the subject perceived herself or himself as actually exerting and wanting to exert a high degree of

influence on others. Presumably, one who values having control over others would be less open to experiencing various possibilities and nuances of interpersonal interaction. Thus, it was predicted that emotional creativity in general would have a negative relationship with "Expressed Influence."

"Expressed Influence" was found to be significant for predicting "Preparation" only. "Preparation" was a self-report measure for the extent to which the subject believed that she or he reflected on issues that involved emotions. The present relationship did not appear to be strong. Its level of significance was marginal (i.e., $p = .05$), and its predictive relationship was not very substantial (i.e., $r^2 = .05$). Further, being 1 out of a total of 13 regression analyses involving "Expressed Influence," this statistically significant relationship might have emerged by chance. On the other hand, the small sample size in the present study could have considerably limited its statistical power.

In general, however, the result was consistent with Rogers's and Maslow's theories on creativity and with the first working hypothesis at a more differentiated level: The more a person is concerned with having control over others, the less the person would be likely to reflect on her or his emotional life in such a way as to facilitate emotionally creative experiences. This result may be understood in terms of the apparently incompatible attitudes of (a) dominating others and (b) being open to having new experiences with others; in other words, engaging in one of these approaches to others would considerably constrain one's ability to engage in the other approach. Presumably, to increase one's control over another person requires

one to limit the variety of ways in which one perceives and interacts with the other person such that one could efficiently dominate the other person. It may be speculated that when one attempts to dominate others, one's general attitude becomes more focused and firm, whereas reflecting on one's own emotions requires one's attitude to be more receptive and flexible. Thus, it is possible that one's focalized concern with dominating others would inhibit one's responsiveness to complex stimuli, tolerance of ambiguity, openness to experience, and, consequently, capacity to explore and reflect on one's own emotional life.

The present result was consistent with the previous research findings that showed that creative persons have strong preference for complexity (Barron and Harrington, 1981) and tolerance of ambiguity (Sternberg, 1988; Tegano, 1990). Creative people have also been noted to have an accepting (as opposed to controlling) attitude toward others, e.g., creativity was reported to be positively related to empathy and sensitivity to others' needs (Sternberg, 1988) and playfulness (Maslow, 1959; Rogers, 1959; Tegano, 1990). On the other hand, the present result appeared to be in disagreement with a few previous research findings which reported that creative individuals are often dominant with others (Barron, 1963) and manipulative with others (Gardner, 1993). However, the small effect size of the present result could suggest that although people who are reflective of their inner experience are indeed capable of manipulating others, they are not predominantly manipulative in the way they interact with others.

Thus, within the limits of its marginal significance and small effect size, the present result replicated in the specific domain of emotional creativity (in relation to interpersonal style) the finding that the more a person is accepting of others and open to having new experiences with others, the more likely is the person to be emotionally creative.

Emotional Creativity and Autonomy

The interpersonal style measure that represented the opposite of autonomy was "Received Influence." A high score on "Received Influence" suggested that the subject perceived herself or himself as actually receiving as well as wanting to receive others' influence. Humanists in general assert that creative people are more autonomous, e.g., Maslow (1954, 1959) noted that creative persons are relatively unconcerned with social expectations, and Rogers (1959) described a fundamental condition of creativity as having an internal locus of evaluation. Thus, it was predicted that emotional creativity in general would have a negative relationship with "Received Influence."

However, this second working hypothesis was not supported by the data. "Received Influence" was not significantly related to any of the emotional creativity measures. This lack of any significant relationship linked to autonomy could mean that the sample size was too small to have sufficient power to detect existing relationships or that emotionally creative persons are not consistently autonomous (across individuals or across situations).

A possible explanation for the absence of support for the second hypothesis could be related to openness to experience and the nature of the particular external influence, i.e., whether that influence is actually conducive to the development of one's emotional creativity. In light of the positive relationships reported earlier between emotional creativity and openness to interpersonal experience, it may be assumed that emotionally creative individuals are willing to relinquish some of their autonomy when that is required in the process of fully experiencing certain events or, indeed, certain external influence. In other words, a trade-off can exist between openness to experience and autonomy. Everyday life involves many situations where one needs to surrender some autonomy in order to expand one's experience in a certain domain. Consider the learning of a new skill from others, falling in love, or even having a conversation; to fully experience these activities the participants need to give up some degree of autonomy and to be receptive to feedback and influence from others. Thus, depending on the occasion, openness to experience could be facilitated by asserting one's autonomy (so that one is not unnecessarily restricted by others' influence) as well as by selectively diminishing one's autonomy (so that one is optimally responsive to others' feedback). In sum, the lack of evidence for a direct relationship between emotional creativity and autonomy may suggest that an emotionally creative person can flexibly respond to various situations with an optimal (and variable) proportion of autonomy for expanding her or his openness to experience in that situation.

The present study involved a number of limitations in its internal and external validity. First, its small number of subjects limited its ability to detect some significant relationships between emotional creativity and interpersonal style that might in fact exist. Second, two of the main measures (i.e., the ECI and Element B) were of a self-report nature, which therefore relied on the subjects' self-awareness or self-image. Third, the homogeneity of the subjects or the small number of subjects with markedly high levels of emotional creativity could also have contributed to the lack of highly significant findings. Finally, given the homogeneity of the subjects, the generalizability of the results of the present study to populations with different ages and levels of educational background and socioeconomic status was conceivably also limited.

Summary

The present study was conducted on the empirically based premise that creativity was domain specific. Interestingly, an important finding in the present study was that emotional creativity itself was a multifaceted phenomenon and that different components of emotional creativity could have different relationships to different aspects of interpersonal style. The results, which reflected marginal levels of significance and small effect sizes, supported the first hypothesis that emotional creativity is positively related to openness to interpersonal experience but did not support the second hypothesis that emotional creativity is positively related to autonomy. The results could suggest four general relationships between emotional

creativity and interpersonal style: (1) A person who is likely to become emotionally creative is less concerned with dominating others; (2) a person who successfully applies her or his emotional creativity perceives herself or himself as a sociable person; (3) when a person is exploring new emotions, the person encounters a basic dilemma of wanting to both communicate with and separate from others; and (4) emotionally creative persons express various degrees of social autonomy.

It is important to note that the exercise of emotional creativity also involves various risks. Primarily, because of its emphasis on one's inner exploration, it could disrupt a person's healthy sense of belonging within an appropriate social group and could threaten a group's cohesion and productiveness. In principal, emotional creativity was defined by Averill and Nunley (1992) as beneficial to one's own mental health as well as one's interpersonal relationships; however, in practice, it is often difficult to decide whether a so-called emotionally creative act is motivated by moral intentions or expressed judiciously.

In future investigations, one could consider forming interpersonal style measures from descriptions of the subjects from other people close to the subjects in order to help prevent the limitations of a self-report measure. The lack of very strong statistical relationships in the present study might suggest that, in general, emotionally creativity persons do not seem to have a distinctive, predominant interpersonal style; this outcome replicates the common observation among researchers that creative people have a paradoxical interpersonal style. However, future research on emotionally creative persons could further investigate whether

emotionally creative persons' apparently paradoxical interpersonal style is perhaps more indicative of maladaptive instability and disorganization or healthy flexibility and integration.

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APPENDICES

Appendix A: Informed Consent Form

Informed Consent Form

You are invited to participate in this project whose main purpose is to study your emotional responses and how they may be related to the way you experience your interaction with other people. Your participation will be on a voluntary basis and will involve no foreseeable personal risks, and you may discontinue it at any time with no penalty apart from the loss of the extra credit opportunity. Your identity will remain confidential, except only for the assignment of your extra credits--otherwise, you will be given a randomized number for identification. Your participation will consist of five paper-and-pencil activities and will complete in approximately one month when you turn in all your materials.

Please print and sign your name and also print your instructor's name below only if you understand the above information and consent to participate in this study.

_____ _____

Your Name Your Signature

_____ _____

Instructor's Name Date

Appendix B: Element B

1. I seek out people to be with.
2. People decide what to do when we are together.
3. I am totally honest with my close friends.
4. People invite me to do things.
5. I am the dominant person when I am with people.
6. My close firneds tell me their real feelings.
7. I join social groups.
8. People strongly influence my actions.
9. I confide in my close friends.
10. People invite me to join their activities.
11. I get other people to do things I want done.
12. My close friends tell me about private matters.
13. I join social organizations.
14. People control my actions.
15. I am more comfortable when people do not get too close.
16. People include me in their activities.
17. I strongly influence other people's actions.
18. My close friends do not tell me all about themselves.
19. I am included in informal social activities.
20. I am easily led by people.
21. People should keep their private feelings to themselves.

22. People invite me to participate in their activities.

23. I take charge when I am with people socially.

24. My close firneds let me know their real feelings.

25. I include other people in my plans.

26. People decide things for me.

27. There are some things I do not tell anyone.

28. People include me in their social affairs.

29. I get people to do things the way I want them done.

30. My closest friends keep secrets from me.

31. I have people around me.

32. People strongly influence my ideas.

33. There are some things I would not tell anyone.

34. People ask me to participate in their discussions.

35. I take charge when I am with people.

36. My friends confide in me.

37. When people are doing things together I join them.

38. I am strongly influenced by what people say.

39. I have at least one friend to whom I can tell anything.

40. People invite me to parties.

41. I strongly influence other people's ideas.

42. My close friends keep their feelings a secret from me.

43. I look for people to be with.

44. Other people take charge when we work together.

45. There is a part of myself I keep private.

46. People invite me to join them when we have free time.

47. I take charge when I work with people.

48. At least two of my friends tell me their true feelings.

49. I participate in group activities.

50. People often cause me to change my mind.

51. I have close relationships with a few people.

52. People invite me to do things with them.

53. I see to it that people do things the way I want them to.

54. My friends tell me about their private lives.

Appendix C: Emotional Creativity Inventory

Instructions

This questionnaire contains 50 statements concerning the way you think, feel, and react in a variety of situations and your opinions on a variety of issues. For each statement fill in the answer sheet according to the following scale:

Fill in "1" if the statement is **much less** true of you than of the average person or if you **strongly disagree** with the statement.

Fill in "2" if the statement is **somewhat less** true of you than of the average person or if you **disagree** with the statement.

Fill in "3" if the statement is **about the same** of you as of the average person, if you are **neutral**, or if you **cannot decide.**

Fill in "4" if the statement is **somewhat more** true of you than of the average person or if you **agree** with the statement.

Fill in "5" if the statement is **much more** true of you than of the average person or if you **strongly agree** with the statement.

Read each statement carefully. Be particularly careful when reponding to negatively worded statements (e.g., "I do **not** like working alone"), for they can be especially confusing. If a statemnt seems confusing to you, it may be helpful to prefix it with the phrase, "Compared to the average person, ..." Then, indicate your degree of disagreement or agreement.

There are no "right" or "wrong" answers. Simply describe yourself and state your opinions as accurately as possible. Your first intuitive response is usually the best. If you change your mind, erase your first answer completely. Answer all the questions, and check frequently (after each group of 5 items) to **be sure each answer is in the correctly numbered space.**

1. I like news magazines, such as "Time" and "Newsweek".

2. My emotional reactions are different and unique.

3. When I have strong emotional reactions, I search for reasons for my feelings.

4. I would not like the job of a computer programmer.

5. I try to be honest about my emotional reactions, even when it causes me problems.

6. I keep my belongings neat and tidy.

7. I respond well in situations that call for new or unusual emotional responses.

8. I believe people should work on their emotional development as hard as they work on their intellectual development.

9. I approach problems in a methodical and systematic way.

10. I can imagine myself being lonely, angry, and joyful all at the same time.

11. I think about and try to understand my emotional reactions.

12. I do not mind following orders or being told what to do.

13. I sometimes experience feelings and emotions that cannot be easily described in ordinary language.

14. I am good at expressing my emotions.

15. When I start a job, I finish it on time.

16. I do not enjoy reading about politics and world affairs.

17. I have felt combinations of emotions that other people probably have never experienced.

18. I am not particularly interested in the emotional aspects of my life.

19. I like the logic and rigor of mathematics.

20. The way I experience and express my emotions helps me in my relationships with others.

21. My emotions are almost always an authentic expression of my true thoughts and feelings.

22. Because of my interests, people consider me an intellectual.

23. I like music, dance, and paintings that arouse new and unusual emotional reactions.

24. I think about emotional experiences to help me cope with current emotional problems.

25. I think personal relationships should be guided more by logic and less by sentiment.

26. On television, I prefer news and documentary programs.

27. I have emotional experiences that would be considered unusual or out of the ordinary.

28. My emotions help me achieve my goals in life.

29. For exercise, I like to go for a walk.

30. When in emotionl situations, I tend to respond in a unique manner.

31. I like to imagine situations that call for unusual, uncommon, or unconventional emotional reactions.

32. I am on time for appointments.

33. After an intensely emotional experiences, I try to step back and examine my reactions objectively.

34. When responding emotionally,I can be quite inventive and innovative.

35. When given an assginment, I follow instructions.

36. I am more interested in ideas than people.

37. My outward emotional reactions accurately reflect my inner feelings.

38. I would have to be a poet or novelist to describe the kinds of emotions I sometimes feel; they are so unique.

39. Once I make a promise, I can be depended upon to keep it.

40. I can experience a number of different emotions at the same time.

41. My emotions are a major source of meaning in my life; without them, my life would lack significance.

42. I consider all sides of an issue before I form a judgment.

43. I prefer movies and books that depict complex and improbable emotional situations.

44. I pay attention to other people's emotions so that I can better understand my own feelings.

45. If I have an evening free, I prefer to relax with a good book.

46. I would not like to be an accountant or bookkeeper.

47. The range and diversity of my emotional reactions sometimes exceed my ability to describe how I feel.

48. I try to disguise and hide my emotions.

49. I would find the job of a forest ranger interesting.

50. I am able to exprience a large number of different emotions.

Answer Sheet

1. _____	11. _____	21. _____	31. _____	41. _____
2. _____	12. _____	22. _____	32. _____	42. _____
3. _____	13. _____	23. _____	33. _____	43. _____
4. _____	14. _____	24. _____	34. _____	44. _____
5. _____	15. _____	25. _____	35. _____	45. _____
6. _____	16. _____	26. _____	36. _____	46. _____
7. _____	17. _____	27. _____	37. _____	47. _____
8. _____	18. _____	28. _____	38. _____	48. _____
9. _____	19. _____	29. _____	39. _____	49. _____
10. _____	20. _____	30. _____	40. _____	50. _____

Appendix D: Marlowe-Crowne Social Desirability Scale

Instructions

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally.

		True	False
1.	Before voting, I thoroughly investigate the qualifications of all the candidates.	( )	( )
2.	I never hesitate to go out of my way to help someone in trouble.	( )	( )
3.	It is sometimes hard for me to go on with my work if I am not encouraged.	( )	( )
4.	I have never intensely dislike anyone.	( )	( )
5.	On occasion, I have had doubts about my ability to succeed in life.	( )	( )
6.	I sometimes feel resentful when I don't get my way.	( )	( )
7.	I am always careful about my manner of dress.	( )	( )
8.	My table manners at home are as good as when I eat out in a restaurant.	( )	( )
9.	If I could get into a movie without paying for it and be sure I was not seen, I would probably do it.	( )	( )
10.	On a few occasions, I have given up doing something because I thought too little of my ability.	( )	( )
11.	I like to gossip at times.	( )	( )
12.	There have been times when I felt like rebelling against people in authority even though I knew they were right.	( )	( )

		True	False
13.	No matter who I'm talking to, I'm always a good listener.	( )	( )
14.	I can remember playing "sick" to get out of something.	( )	( )
15.	There have been occasions when I took advantage someone.	( )	( )
16.	I'm always willing to admit it when I make a mistake.	( )	( )
17.	I always try to practice what I preach.	( )	( )
18.	I don't find it particularly difficult to get along with loud mouthed, obnoxious people.	( )	( )

Appendix E: General Instructions for Take-Home Tasks

General Instructions

The last two activities (i.e., the Emotional Consequences Test and the Emotional Triads Test) are opportunities for you to express your emotions as creatively as you can. Different people conceive of creativity differently and are creative in different ways. We are interested in your unique and meaningful responses. You are free to expand your perspectives by discussing the tasks with others, while you hand in only those responses that ultimately represent your own experience accurately. Therefore, the responses you eventually hand in may be rather different from your initial ones.

Depending on your instructor's specification, you have approximately one month to complete these two tasks. Please use all the available time to incubate or refine your creative responses. On the date they are due, please hand in your responses to your instructor.

Appendix F: Emotional Consequences Test

Instructions

This test will give you the opportunity to think creatively by presenting you with problems for which you will be able to think of many possible solutions. On the following pages, you will find four improbable situations. Imagine that each of the situations described has actually happened. What would be the consequences?

There are no right or wrong answers.

On a fresh piece of paper write down and number all of the things that might happen if EACH situation were to come true. You may use as many pieces of paper as you like. Do not worry about spelling, grammar, and the like, but try to be as ***creative*** as possible.

Items:

What would be the consequences, if

(A) people fell in love with a different person every other day?

(B) people could detect every emotion that others were feeling?

(C) people could only experience positive emotions in the morning and negative emotions in the afternoon?

(D) whenever people fell in love, they developed a terrible odor that became worse as their love got stronger?

Appendix G: Instructions to Judges for the Emotional Consequences Test

Instructions

Fluency

Fluency refers to the subject's capacity to generate ideas in the quantitative sense only. Judges should count the number of relevant, nonrepeated responses to each item. A high fluency may also suggest motivation and productiveness.

Flexibility

Flexibility refers to the subject's capacity to generate different categories of ideas or to use different strategies in generating ideas. A low flexibility score may also suggest low motivation and a limited range of life experience. Judges should count the number of different categories of ideas expressed in response to each item.

Creativity

Creativity refers to the subject's capacity to generate ideas that are uncommon and not obvious. Judges should rate the responses to each item using a 5-point scale in the increasing order (i.e., from 1=low to 5=high). Each judge should base her or his ratings on whatever criteria that are relevant to that judge in the rating of the overall creativeness of each response to each item.

Appendix H: Examples of Responses on the Emotional Consequences Test

For the following examples of responses, the high "Creativity" and low "Creativity" responses were randomly selected from the responses with the highest rating (i.e., "5") on "Creativity" and the lowest rating (i.e., "1") on "Creativity" respectively. The responses with the lowest rating on "Creativity" were very similar to each other largely due to their deficiency of content. Therefore, the low "Creativity" responses below were randomly selected among the shortest responses to show examples of extreme deficiency of content.

What would be the consequences, if

(A) people fell in love with a different person every other day?

High "Creativity": "There would be no small towns, because people would run out of lovers in their town and move elsewhere to seek more lovers."

"Interest in bearing children may decrease, because it would be difficult to remember the original father."

"It would be sad not to have more time to love one individual."

"It could become boring; having new loves would become routine--the routine would become boring."

"There would be less hatred and discrimination, because people could fall in love with people of a different race or sex."

Low "Creativity": "One's life would be very exciting."

"People would fight a lot."

(B) people could detect every emotion that others were feeling?

High "Creativity": "New laws would be passed against perverted thoughts in public."

"People would learn to block out others' emotions."
"People would learn to smoke screen their own emotions."

"People could get away with blaming emotions for arguments."

"People would be attracted to those of the same emotions, not necessarily for material objects or physical attraction."

Low "Creativity": "No more secrets among people."

"More people would get their feelings hurt."

(C) people could only experience positive emotions in the morning and negative emotions in the afternoon?

High "Creativity": "Individual tasks accomplished in the afternoon, and group tasks accomplished in the morning."

"People would go out on dates for breakfast rather than dinner."

"People who were happy in the afternoon would be considered as having a mental problem."

"People can research whether the positive or negative emotions were associated with the 'idea' that it is morning or afternoon. If this were the case, they could learn to change their ideas of whether a particular time of day is morning or afternoon."

"People would adapt and change habits to waking up earlier and sleeping in the afternoon."

Low "Creativity": "The day would end in the afternoon."

"People would commit crimes only in the afternoon."

(D) whenever people fell in love, they developed a terrible odor that became worse as their love got stronger?

High "Creativity": "People not in love could let it be known that they are available by not wearing fragrance."

"People would have to wear lots of fragrance to keep their partners from knowing when they do not love their partners anymore (and lose the odor)."

"Women would not complain that their husbands never tell them they love them."

"Crazed scientist would find a way to make humans learn not to love and only be with the opposite sex in order to mate."

"In public (restaurants) there would have to be "In-Love" and "No-Love" sections (such as we currently have for Smoking/Non-Smoking)."

Low "Creativity": "Fewer marriages."

"The population would decrease."

Appendix I: Emotional Triads Test

Instructions

This is a creativity test that examines the variety of ways in which people experience emotions. People vary greatly in the range and intensity of emotions that they experience. For example, at one end, we might find people like Mr. Spock, who could not experience any emotions, and at the other end, we might find people who are highly emotional and experience a wide range of emotions. Other people might be considered "emotionally creative," because they have unusual emotional experiences; they react to situations with emotions that are different from the typical emotions that most people would experience but that nevertheless allow them to cope effectively with the situation. These emotional responses might result from unusual combinations or blends of familiar emotions, that is, emotions that do not ordinarily occur together.

Many emotional combinations are not unusual and have been given labels. For example, disappointment is a mixture of surprise and sadness, and contempt is a mixture of disgust and anger. These combinations are referred to as "mixtures" or "blends," because the emotions occur simultaneously. In other words, the emotions are not experienced individually, one after another; instead, they are experienced together at the same time. Therefore, a person who is both surprised and sad about something is said to feel disappointed.

We are interested in finding out what unusual combinations of emotions feel like. However, since we do not have labels for unusual emotional combinations or blends, it is often hard to describe these experiences. Therefore, we will present you with a combination of 3 emotions that do not ordinarily occur together and ask you to write a brief story, in which you experience these three emotions.

There are no particular rules for making up your brief stories, but we will be looking at (1) how novel or original the overall emotional experience is, (2) how thoroughly you develop the emotions in your stories, (3) how well the 3 emotions are represented as simultaneous (rather than sequential) emotions in your stories, and (4) how emotionally genuine your narratives appears to be.

For example, the following is a shortened version of a story about an emotional experience, in which the person feels ***sad***, ***impatient***, and ***trusting***:

> "I am about to die in my sleep, and I can feel the life-force draining away. I sadly reflect on the faces of those whom I will not see again ...I am tired of breathing, impatient to see the after, and I know I'll be missed. My significant others are

crying tears of melancholy. I relax all the muscles in my body and allow myself to approach the point of no return. Suddenly, a slow sucking force pulls me into an abysm of warmth that is the end. The warmth comforts me and fills me with trust, and I surrender to my own mortality."

In writing your brief stories, try to be as ***creative*** as possible. You can imagine yourself in whatever situations that come to mind when you think about the 3 emotions, but remember to emphasize the emotional aspects of your stories. Do not worry about spelling, grammar, or writing style. You are free to revise your stories until you become satisfied with them.

Items:

Imagine that you are having an emotional experience, in which you simultaneously feel EACH of the following 4 triads. Write a short story that describes the situation, your actions, and how these emotions blend together.

(A) Serene, Bewildered, and Impulsive.

(B) Affectionate, Disgusted, and Hopeful.

(C) Lonely, Angry, and Joyful.

(D) Embarrassed, Jealous, and Amused.

Appendix J: Instructions to Judges for the Emotional Triads Test

Instructions

Judges should rate each response to each item using a 5-point scale in the increasing order (i.e., from 1=low to 5=high) for each of the following 5 dimensions:

Novelty (P)

Novelty refers to the degree to which the subject's story provides a perspective on emotions that is unusual and unique.

Effectiveness (P)

Effectiveness refers to the degree to which the subject's story reflects a constructive and efficacious effort to deal with an emotional predicament, such that the characters in the story end up having an enhanced ability to solve emotional problems and relate with other people effectively.

Authenticity (P)

Authenticity refers to the degree to which the emotions expressed in the subject's story, given the circumstances so depicted, are perceived as genuine, natural, justifiable, and believable.

Integration

Integration refers to the degree to which the 3 presented emotions are all included and holistically blended together in the subject's story. A high integration score indicates that the subject is able to experience the presented emotions simultaneously rather than sequentially or otherwise separately.

Overall Creativity

Overall creativity refers to the degree to which the subject's story contains ideas that are generally uncommon and not obvious. Judges should base her or his ratings on whatever criteria that are relevant to that judge in the rating of the subject's story as a whole. Judges' criteria may include, but are not limited, to the above 4 dimensions of rating.

Appendix K: Examples of Responses on the Emotional Triads Test

For the following examples of responses, the high "Overall Creativity" and low "Overall Creativity" responses were randomly selected from the responses with the highest rating (i.e., "5") on "Overall Creativity" and the lowest rating (i.e., "1") on "Overall Creativity" respectively. The responses with the lowest rating on "Overall Creativity" were very similar to each other largely due to their deficiency of content. Therefore, the low "Overall Creativity" responses below were randomly selected among the shortest responses to show examples of extreme deficiency of content.

(A) Serene, Bewildered, and Impulsive.

High "Overall Creativity": "I stepped out into the sunshine, the golden rays warming my chilled body. The fields rolled gently, dotted by clumps of trees, till they met the stately green mountains. The air was still. Gone were the sounds of traffic, telephones, civilization. All that remained was a pure, simple peace. I could not resist the sudden, overwhelming urge to run through the grass. I broke my stride only to attempt a few wobbly cartwheels. It puzzled me to think I could be so happy while only a few hundred yards behind me laid my lonely, impoverished existence."

"The afternoon sun is hot and dry on my body as I lazily float on an air mattress in this cool mountain lake. My thoughts drift slowly, serenely as I doze in and out of a summertime nap. Somewhere from the depths of my hazy musings surfaces a fleeting thought: Just how deep is the water? Before I'm fully aware of what I'm doing, I impulsively roll off the air mattress into the clear mountain water and begin swimming toward the bottom of the shallow lake. The chill of the water quickly brings me to acute consciousness that I'm bewildered by my sudden lurch into activity and wonder what could possibly have prompted such impulsive action to shatter the serenity of a summer's afternoon nap."

Low "Overall Creativity": "As we were walking home from shopping, we were both feeling serene and feeling the wind blowing on our faces. All of a sudden my wife got a bewildered look on her face as a car was coming in our direction out of control. Both of us had the impulse to run or to dive in the nearest ditch."

(B) Affectionate, Disgusted, and Hopeful.

High "Overall Creativity": "As I cradle the small dog in my arms, I'm flooded with affection for this animal who has been my faithful companion for the last six years and comforted me during my various illnesses. Now it's my turn to nurse him back to health after a hit-and-run car accident. The bandage covers an unsightly wound and slowly begins to seep a colorless fluid. My stomach quivers at the remembrance of the raw wound, and I'm filled with disgust for the driver who hit my dog and didn't stop. My dog slowly raises his head and nudges my chin, ever the giver of comfort even in his pain. I'm filled with hope at this gesture and ever so carefully cradle him a little closer to my wildly beating heart."

"When my 3-year-old daughter fell and cut her mouth on the door that I opened, I felt disgusted that it happened and that it hurt her. At the same time I felt affectionate toward her because I wanted her to know that I loved her and didn't want her to hurt, all along being hopeful that there was no damage to her mouth, teeth, and gums."

Low "Overall Creativity": "When I am with my boyfriend I always feel affection toward him, even as I was disgusted with him last night. I was disgusted with him because he would not take me to this hot new dance club. While being disgusted with him, I was feeling a hope that he would give me a big kiss because I was also feeling affectionate."

(C) Lonely, Angry, and Joyful.

High "Overall Creativity": "I was leaving my attorney's office, finalizing my divorce. As I signed the final paper, I felt a pang of loneliness. I felt I was completely alone with my

anger--angry that after 18 years of marriage I was alone and that my husband could do this to me. Alone with my anger, I also experienced a sigh of joy. I actually smiled to myself because I felt joy because it was final, and I was ready to go into a new chapter of my life."

"When I found out the unexpected news that I was expecting a child, so many things ran through my mind, and so many feelings overwhelmed me. I was angry that my husband did not react the way I had wanted. This in turn gave me a sense of loneliness along with the fact that my closest friends had not had children and therefore could only imagine what I was going through but did not really "know." The most prominent feeling I was having, however, was extreme joy. To know that a child was growing inside my body--a child that would forever be depending on me to give it love and nurturance, a child that would be a continuation of myself, and a child that would soon become the center of my universe."

Low "Overall Creativity": "It is the Christmas season, and I am experiencing the joy of the season as I shop for those perfect gifts. Suddenly I begin to feel angry at a woman who has snatched a long sought after gift out of my shopping cart. While chasing her all around the store, I have never felt so lonely and wished for the security guard."

(D) Embarrassed, Jealous, and Amused.

High "Overall Creativity": "I was at a truck stop surrounded by truckers and a few waitresses. I knew one of the truckers. I sat down beside him. He introduced me as a friend. I was embarrassed by the remarks made by his trucker buddies. They made comments to me such as "Take good care of him." I also felt jealous that I wasn't "his girl" and that the comments didn't apply to me. Though being embarrassed and jealous, I was amused by my reactions. It was amusing to see other people's perception of a situation as well as my desire to be what they assumed I was."

"The abrupt thud of two bodies colliding interrupts my daydreams as my packages spew in unison with the packages of the beautiful young woman I've just run into. Embarrassed, I mumble apologies while scrambling to recover and sort our packages, as people passing by navigate around the obstacle we created. Out of the corner of my eye, I noticed an equally handsome young man rushing to the young woman's (my co-collidee) aid. or a fleeting moment, I'm jealous that the young rescuer has chosen to assist the other woman--am I not sympathetic enough or pretty enough to merit his attention? But then I noticed the two are much closer in age and obviously seem very taken by each other's attention. I chuckle, amused by my sudden pangs of middle-age jealousy and pleased that two people were able to strike up an acquaintance based on my absentminded clumsiness!"

Low "Overall Creativity": "A lot of times I get so jealous about my boyfriend, and I jump to conclusions sometimes about his friends. This gets me all embarrassed. Then after we both cool down, we sit back and laugh about it and find it amusing."

VITA

Kokkwang Lim was born in Sabah, Malaysia on January 6, 1966. He moved to Singapore to continue his primary school education there when he was 10 years old. He later attended the Catholic High School, which was a secondary school designated by the Ministry of Education in Singapore for the top 8% of the nation's secondary school students. He served as the president of the English Language Society at the Catholic High School before he attended the National Junior College, where he served as the president of the Student Council, which organized a nation-wide conference on junior college education.

In 1985, he entered the University of Washington (Seattle). He later transferred to the University of California at Berkeley, where he received the Bachelor of Arts in psychology in 1989. While he was at the University of California at Berkeley, he performed research on attributional models and on childcare, and he designed and conducted research on suicide.

In 1990, he began his doctoral study in clinical psychology at the University of Tennessee at Knoxville, where he conducted research on creativity. He completed his clinical practica at the Psychological Clinic in the Department of Psychology at the University of Tennessee at Knoxville and also at the Ridgeview Psychiatric Hospital and Center in Oak Ridge, TN. In 1995 he completed his APA-accredited internship at the Mental Health Division of the University Health Services at the University of Massachusetts at Amherst. He received his Doctor of Philosophy in clinical psychology in December, 1995.