THE EFFECTS OF CREATIVITY ON SUPERVISOR/SUBORDINATE RELATIONS

By
Mark Lewandowski

M.B.A. Oral Roberts University, 1992
B.S. Oral Roberts University, 1988

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Dissertation Submitted for the Partial Fulfillment of
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The purpose of this study is to analyze the effects of creativity on supervisor/subordinate relations. Because it has become increasingly important to understand and develop creativity in the workplace to compete in an ever-changing market, creativity has been studied from many angles. The existing research points to a lack of understanding of how creativity effects workplace relations. Two existing tests were used to generate the results for this research. The *How Creative Are You* test (Raudsepp, 1988) was used to test the level of creativity in each observation. The *Multi-dimensional Measure of the Leader Member Exchange* (Liden and Maslyn, 1994) tests subordinates and determines in-groups and out-groups.

This research hypothesized that those who test similarly in their creativity will most often be in the in-group in their relationship with their supervisor. To develop and understand these findings, a Statistical Analysis System computer program was used to compute t-test for independent

means, one-way frequency table, cross-frequency tables, Chi square, and factor analysis. The researcher discovered in the study that no significant relationship exists between creative similarity and in-group status.

The research did develop, however, a method for the analysis of creativity testing in relative sample groups. And also served to demonstrate the limitations of a previous work in creative testing. Finally, the research demonstrated the underlying factorial structures apparent in the engineering-related subordinates in this study.

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It is for all of you that I struggle to achieve.

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LIST OF ABBREVIATIONS

HCAY	How Creative Are You
MDM-LMX	Multi-dimensional Measure of the Leader-Member Exchange
LMX	Leader-Member Exchange
SAS	Statistical Analysis System
IQ	Intelligence Quotient

GLOSSARY OF TERMS

Absolute value. The numerical value or magnitude of a quantity, as of a vector or of a negative integer, without regard to its sign.

Chi-square. Test to establish variable relations.

Creative. Having the ability or power to create things.

Creativity. The action associated with creating things.

Cross-frequency table. A table comparing two variables for the purpose of examining relationships.

Factor Analysis. The determination of actively contributing elements.

Individual. Of or relating to a single person.

Parametric. A variable or an arbitrary constant appearing in a mathematical expression.

Relative. Having pertinence or relevance.

Satterthwaite's Approximate t-test. Tests the hypotheses that the means of the groups of observations in the data sets are equal.

Satisficing. Acceptance of solutions that are "good enough".

Subordinate. Subject to the authority or control of another.

Supervisor. A person who supervises.

Variables. Liable or likely to change, vary.

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CHAPTER I

INTRODUCTION

Introduction to the Study

The modern organization today is faced with unique challenges that require modern approaches to understanding and managing individuals. Never before has there been such a need for innovation, research, and creativity to be able to compete in the marketplace. Rosabeth Moss Kantor (1983) stated in her book, The Change Masters, that American companies can return to economic leadership through an optimal utilization of personnel and the encouragement of innovation.

Organizations all over America and the world are trying to remain in the race for corporate survival by generating significant portions of their income from new developments. The 3M Corporation, based in Minneapolis, recently reported that employees are required to generate 25 percent of their annual net income from new product revenue, those created within the past five years (Mitchell, 1989). Companies like 3M are focusing goals and corporate culture on creative development and creative people. However, many companies have had little experience dealing with a market that

requires creativity and little experience supervising creative individuals.

It is not uncommon for a corporate CEO or President to have advanced up the corporate ladder by hard work and attention to the bureaucratic, political nature of the organizational structure. In fact, business schools study traditional organizational structures that encourage promotion of finance or production executives as chief executive officers. Because many of today's corporate leaders have traditional backgrounds that stem from attention to detail and structure, it is not unusual for traditional managers to have little or no experience dealing with individuals who are by nature creative. These creative individuals often pose unique challenges to traditional management.

Creative individuals can often make significant contributions to the corporation, and the challenge for management is to understand enough about the natural characteristics of these creative individuals to be effective supervising them. Many creative individuals are not motivated by the same rewards which motivate the traditional business person. Many creative individuals

could be described as self-actualizers. Abraham Maslow spoke of the self-actualized adult as one who is in part "healthy and creative." Maslow (1954) also comments that one of the exceptions to his "Hierarchy of Needs" theory is the individual who acts as an artist in a craft. These creative individuals are often willing to starve both physically and socially to express themselves in their art. The truly creative in the work force have many of the same characteristics as the creative artist. The most common trait is the need for intrinsic reward. Creative individuals are motivated by personal contribution to their work. Therefore, the creative individual acts in the interest of their personal perception of what is best, often at the expense of other individuals and sometimes corporate profits. The supervisor, who is often a traditional thinker with few of the same personal characteristics as the creative individual, must find a way to understand the creative individual enough to know how to motivate and supervise that unique individual.

This study seeks a deeper understanding of the elements of creative individuals. The study also seeks an understanding of how the levels of creativity and the

elements of creativity effect the relationship an individual has with the supervisor. The findings of this nature can assist in both understanding and managing individuals with various levels of creativity, and these findings can direct supervisors in efforts to change supervisory techniques exercised on creative individuals.

Background of the Problem

Management theories are often the basis for philosophies adopted by supervisors and often break subordinates into categories that allow for a minimal level of understanding about the nature of workers. The most basic categorization of the worker is the differentiation between blue and white-collar employees (Robbins, 1991). This differentiation is too broad to allow for any in-depth understanding of workers and the workers are sometimes ignored altogether by focusing on the task alone. The theoretical focus on tasks, as opposed to workers, might best be credited to Frank and Lillian Gilbreth. The Gilbreths were best remembered for their detailed study of the motion of workers, which ignored the individuals being studied (Gilbreth, 1911). Even the father of modern day management, Henry Fayol, in his book, General and Industrial

Management (1949), theorized about the significance of the supervisor's responsibilities regardless of the situation. He characterized these theories as "Planning, Organizing, Leading and Controlling." Fayol's theory has significance in that it tries to determine the roles of the supervisor but assumes that all supervisory situations are relatively stable and all subordinates relatively homogenous. Douglas MacGregor's work, The Human Side of Enterprise, grouped workers into categories that were described as Theory X and Theory Y (McGregor, 1960). The Theory X workers are basically lazy and have little motivation of their own while the Theory Y workers are self-motivated and require only support and a general direction to accomplish goals. This theory did focus on some differences in workers, but the categorization was too broad in scope to detail useful information. Not only have theories characterized workers in too broad a category, but the theories have assumed a level of cooperation on the part of the subordinate that is often broad and inaccurate. The theory of the "perfect bureaucracy" stated, in its third premise, that the subordinate is given impartial rules and regulations that tell him or her how to act on the job (Weber, 1947).

Although, according to Weber, that is the perfect way to run an organization, subordinates often have their own ideas and opinions. Some subordinates will act outside of the rules and regulations knowing full well the penalties for doing so. These actions are illogical, contradicting management theories which are based on the logical nature of humans and systems.

Supervisors have also been taught to understand and supervise individuals according to the relative position on the hierarchy of needs (Maslow, 1954) while other theories have suggested a method of motivating individuals according to meeting needs or the next best alternative, satisfycing [sic] (Simon, 1965). The theories established by the great thinkers in management have concentrated on motivation, rewards, satisfaction, and dissatisfaction, but little has been written about the unique nature of the non-traditional, creative individual in the organization and what a supervisor must do to motivate and understand the creative individuals. Creativity on the part of the subordinate has too often been seen as an irritation to supervisors as much as an opportunity.

This irritation may have stemmed from those who have studied management philosophy from the early American theorists. One of the most important works in the history of the science of management was the development of "scientific management" by Frederick Winslow Taylor. Taylor believed as did McGregor that the responsibilities of thinking and planning were to be completed by supervisors and not by workers on the shop floor. Taylor (1911) went so far as to state, "In my system the workers are told what to do and how to do it. Any improvements that they make on the system are fatal to success." Taylor believed that the workers' opinions meant nothing. It is possible that this kind of thinking began with the founders of the science of management and continued to the current generations of supervisors.

It could be argued that supervisors are intimidated by the creative individuals in the organization because they are uncomfortable with the uncertainty that accompanies creative actions. Daniel Wren (1987) proposed that the supervisor cannot supervise others according to how they would supervise themselves. The supervisor must respect the unique nature of individuals. Wren argued with the

traditional thinkers that one cannot learn from one's self how to supervise others. Those who think they can learn from themselves how to supervise others, believes Wren, incorrectly believe that the human is by nature rational. Wren believes that the human is by nature instinctual and, therefore, acts on instincts. The creative individual, quite similarly, often lives on instincts.

Although all individuals have the inherent ability to be creative (Ray & Myers, 1986), the highly creative individuals are often difficult to supervise because creative job requirements, as well as creative personalities and instincts, lead creative individuals to independent thinking, rule breaking, and paradigm shifting (Barker, 1992). Because creative individuals are encouraged to break the norms or rules to develop new products or procedures, they are often found breaking the rules of standard business practices and traditions.

In Peter Drucker's book (1985), Innovation and Entrepreneurship, creative individuals are characterized as those who are involved in "creative destruction." Creative individuals are paid to break the paradigms of certain thoughts. These paradigm breakers are often found breaking

the paradigms in other areas of their lives. No theory has been found that will tell a traditional supervisor how to understand the nature of individual categories of creativity. Nor has any theory been found that will explain how to motivate those creative individuals in positive ways for the completion of organizational goals, while staying in the realms of good business practice.

The Leader-Member Exchange (LMX) theory (Graen, 1975) predicts a significantly positive relationship between the supervisor and the immediate subordinate when the two have similar natural characteristics. This theory proposes the concept that supervisors may best understand and work with those individuals who are similar to themselves. Those subordinates who are similar are called the "In-Group." This group represents subordinates who seem to work the most closely with the supervisor although their job description fails to indicate a close relationship. The LMX demonstrates that the "In-Group" more often receives promotions than the "Out-Group," those who are not similar to the supervisor. According to the LMX, a "non-creative" supervisor would have a difficult time understanding and supervising creative individuals. If this is indeed true

supervisors would need to arrive at an understanding of the differences between themselves and the creative individuals to be optimally effective.

Statement of the Problem

The current research problem is that measures of creativity have been determined to be impotent in many aspects. There is no examination between creativity and work relationships, and validity is questioned in many of the methods of determining creativity. The knowledge of creativity as it deals with leadership, management, development, and effectiveness focuses attention on the need for more creativity instead of the possible solutions for developing and supervising the current creativity in an organization. No research instrument exists that determines a relationship between creativity and supervisor/subordinate relations. There is a need for supervisors to understand the difference between themselves and the individuals they supervise. Thus, a tool needs to be developed that allows supervisors and subordinates to determine the differences in individual levels of creativity as well as how those differences affect their working relationships. Using existing creativity tests that are believed reliable and

valid, a tool needs to be developed that compares an individual's creativity with their supervisor's creativity. Once the creative relationship is established, the data can be analyzed as it relates to supervisor/subordinate relations. Such a tool would allow for a better understanding of the elements that keep the supervisor/subordinate relationship from flourishing to its potential.

Objectives of the Study

The purpose of the study is to examine relationships in the workplace as they deal with creativity. An instrument has been developed that seeks to reveal unexamined elements that may effect creative relationships in the workplace. This instrument allows the researcher to better understand the relationships between various levels of creativity and supervisory support. The researcher develops an instrument that will assist supervisors to better understand and manage subordinates.

Research Questions

This research seeks to unveil the answers to several questions that current studies and knowledge have failed to answer. The researcher seeks to understand the following:

1. Can creativity be measured?
2. What is the best way to measure creativity?
3. Can similarity of creative levels be established between supervisors and subordinates?
4. Can "In-Groups" and "Out-Groups" be determined?
5. Is there a relationship between the level of creativity inherent in individuals and those individuals' relationships to their supervisors?
6. Do supervisors tend to support subordinates who are similar to themselves in their creative levels?
7. Are there underlying factorial structures of relationships between supervisors and subordinates?
8. Can underlying factors be determined that allow subordinates to have a positive relationship with their supervisors both in and out of the workplace?

When these questions have been answered, the researcher as well as supervisors of creative individuals should be able to better understand and manage creative subordinates.

Rationale for the Study

The science of management and the theories about workers have evolved over the years. The first management theories were built on the concept of the individual as part of the great production machine. Later thoughts focus on the common motivational needs of the employee as well as the employee's basic attitudes toward work. The employee has been characterized in large segments, but little has been developed to try to understand the nature of unique individuals in the organization.

Many theorists have established their focus on the supervisor and their theories are concerned with the natural characteristics of only one individual in a complicated relationship. The supervisors's job has been segmented into responsibilities and roles, which have been described as interpersonal roles, informational roles, and decision-making roles (Mintzberg, 1973). Supervisors have also been categorized as relationship leaders or task leaders (Hersey & Blanchard, 1982), while others have categorized them as either participative leaders or authoritative leaders (Robbins, 1993). Significant time and effort has been devoted to the supervisor as an individual and human, but

insufficient time has been spent understanding the hidden elements of the subordinate's nature.

Understanding the subordinate is difficult and often complex and is magnified by the necessity of understanding the effects on the organization of the relationship between the supervisor and the subordinate. The LMX was developed to assist management understand more about the supervisor and subordinate relationship. However, the LMX only categorizes subordinate into either the "Out-Group" or the "In-Group" but does not determine the cause of the interference or the catalyst in the relationship. One of the differences that is beginning to be observed in many organizations is the breakdown of the relationships between supervisors and subordinates in the highly creative areas.

It is not difficult to assume that supervising creative individuals could be a challenge to some supervisors. Leading, directing, and controlling creative individuals can be a challenge because of the need for patience and understanding. The supervisor must learn to deal with each situation, and each individual as an isolated case. Many theories fail to observe the work force as a collection of many individuals because many of the theories are based on a

production orientation and a focus on short-term corporate objectives.

The strategic management process (Stevens, 1994) does not guide the strategist through the process of adjusting supervisory styles to fit the needs of the project or the individuals working on the project. An individual who supervises creative individuals must be willing to change traditional production time frames and see through to completion the creative development of projects and the ideas of the creative individuals in the organization. Because of the relationship between supervisor and subordinates, the complexity of the production and strategy processes and the traditional teachings of supervisory techniques, there is a need for supervisors to come to an understanding of creative individual's unique natures. Once the supervisor better understands the creative subordinates, they should be better prepared to motivate and direct such individuals.

CHAPTER II

REVIEW OF LITERATURE

Introduction to the Literature

This chapter provides a theoretical background upon which this research project is based. To accomplish this task, a review of literature is presented which addresses the growth of the development of research and theories over the past century. The review segments sections according to the unique nature of the theory provided by those authors.

At the conclusion of the literature review, one should have a broad understanding of the elements that make creativity a unique topic as well as the historical developments in the study of creativity. The great authors and theorists in the development of creativity are reviewed in a manner that demonstrates the conflicting theories and ideas about creativity that have made the study of creativity so intriguing.

Early Works in Creativity

It was not until Galton's studies of genius (1896) that the eyes of natural science were directed upon individuals of accomplishment. Galton did not seriously attempt to understand the mental operations by which distinguished leaders produce their novel ideas, but instead, he attempted

to understand the hereditary elements of their creative performances. His study became a classic, but he failed to reach indisputable conclusions.

The challenge of reaching an understanding of exceptionally creative individuals and of the mental operations by which creative productions are achieved should have been the responsibility of psychologists. But they were having great difficulty with the study of other mental events such as sensation, perception, and memory. They felt that they had neither the time nor the courage to tackle problems dealing with creativity.

Two writers (Guilford, 1939; Schoen, 1930) each devoted a chapter of their psychology books to the subject of creativity. While psychologists were doing little to attempt to understand creative people and creative production, others, not willing to wait for enlightenment from scholarly researchers, proceeded to do something about the matter. Researchers recorded instances of discoveries in science, literary productions, and other examples of output from recognized creative geniuses. Samples of this kind of investigation may be seen in the books by Wallas (1926), Hadamard (1945), and Chiselin (1952). Rossman

(1931) made a more systematic study of inventors, utilizing a questionnaire approach. Only a few investigators took seriously the creative process proposed by Wallas (1926). The Wallas process was "preparation, incubation, illumination, and elaboration."

Creativity Following World War II

The research and findings of creativity exploded in the 1950s, and a number of forces were undoubtedly at work. The Second World War had called for great efforts toward innovation in research and development. The effort toward creativity inspired less worker resistance in manufacturing and automation as well as the discovery of war-related advancements in radio, sonar, radar, and the atomic bomb. After the war, the facade of peace resulted in greater creative advancements and with the beginning of the Cold War, ever-accelerating developmental efforts were called for in a contest of intellects. Inventive thinkers were in high demand. The stage was set for the intervention of the psychologist who would try to understand the creative individual and the creative process. But a few writers were already on their way to capturing the world's eye on creativity. Osborn had written his book, Applied

Imagination, which was ready for publication in 1953. The book's immediate popularity helped to magnify the public's interest in creativity.

Because the study of creativity was so new, it generated research that had little testing or hypotheses. Roe (1952) and MacKinnon and Barron (1960) demonstrated this missing research when they each produced works that were highly theoretical. They emphasized the creative individual as one who is interested in esthetics and theoretical matters and who tends to be highly intuitive and introverted. As to intellectual status, most of the creative individuals studied were in the upper ranges of intelligence quotient (IQ). The research determined that within a specific upper range of IQ there were practically no relationships between extremely high IQs and extremely high levels of creativity observed in individuals. The first significant tests were completed by using factor analysis to attempt an explanation of the relationships between intelligence and creativity. These tests were given to people of diverse backgrounds and education levels because it was assumed at this time that creative talents were not merely confined to a favored few individuals

throughout the general population. Creative talents could, therefore, be investigated without being restricted to observation of the gifted few.

The initial factor analysis started with a prior hypothesis as to what distinctions in abilities were to be expected in creative performance. Most of the hypothesized abilities were demonstrated by this factor analysis (Wilson, 1954). But opposing opinions were common, and the next decade of research involved many attempts to prove different hypotheses and introduce different distinctions in creative theories.

A general theory of intelligence and its components known as the "structure of intellect" was developed. This theory forecasted many distinguishable abilities yet to be seen, many of which could be especially relevant for creative performance. Subsequent factor analysis has supported all the hypothesized abilities that have been investigated. The outcomes of these studies are summarized, and their implications are displayed in The Nature of Human Intelligence (Guilford, 1967). The major limitation of the Guilford factor analysis was the narrow list of

characteristics of creative individuals developed in the factors.

As the concept of creativity became more noticed and important to a growing nation and an inquiring group of scientists, the definition of creativity and the creative individual began to be in question. What was it exactly that these researchers were studying, and what was the importance of their studies?

The Creative Definition Challenge

The first historically notable definitions of creativity had a distinct person emphasis. Lombroso's "Degenerate Brain" definition (or theory) fit this description. Naming specific famous persons, Lombroso (1895) noted that the signs of degeneration in men of genius include stuttering, short stature, general emaciation, sickly color, and rickets which could have led to club-footedness, lameness, or being hunched-backed. Other signs included baldness, amnesia, sterility, and what was once thought of as a symptom of brain degeneration, left-handedness. These physical characteristics have not been proven to be related to creativity.

Rank (1945) described his "creative type" as the "artist" or the "man of will and deed." This individual has a strong, positive integrated personality and who Rank described as "one with himself". Rank believed that what he does, he does fully and completely in harmony with all his powers and ideals.

Studying artists and artistic creativity, Jung (1976) separated creative individuals into the psychological type and the visionary type. The psychological type is consciously involved in the creative process. This individual lives and breathes any problem faced until a solution is found. Jung, describing what he calls the "visionary creative type," assumes the existence of an inherited "collective unconscious" whose "primordial images" or "archetypes" are the common heritage of humankind. Due to dissatisfaction with present circumstances, the visionary creative individual is said to "reach out" to his collective unconscious.

Torrance's (1977) definition of creativity describes a process that resembles the scientific methods. Torrance has chosen to define creativity as the process of sensing problems or gaps in information, forming ideas or

hypotheses, testing and modifying these hypotheses, and communicating the results. Torrance's definition is unique in including the entire creative episode, from detecting a problem to presenting the results. Interestingly, Torrance's definition includes the creative individual and the creative product.

Idea Combination

The most eloquent statement of the idea-combining definition of creativity is found in Koestler's "biasociation of ideas" concept. Koestler (1964) states, "creativity is the amalgamation of two realms as wholes, and the integration of the laws of both realms into a unified code of greater universality." The more unlikely or more "far-fetched" the idea combination, the more unexpected and impressive the achievement.

Much earlier, Hadmard (1945) had confidence in the knowledge of what Koestler called biasociation. He believed that it is obvious that invention or discovery takes place by combining ideas. Seidel (1962) believed that the creative process, regardless of the focus, stemmed from the deep use of the mind.

Other theories proposed that our experience coupled with a combination of elements generated creativity. Fabum believed creativity to be the marvelous capacity to grasp two distinct realities without going beyond our experience and to draw a "spark" from their combination (Preface in the catalog for the exhibition of Max Ernst's work, cited in Fabum, 1968). The true relationship in the elements of creativity may come from the combination of the process and the product. Brunnel (in Fabum, 1968) proposed that the product and the process are both important. Without the process there would be no product. Anderson (1965) agreed with the complexity of the idea of creativity in that the definition of creativity is a prerequisite for its study.

Social Value as an Element of Creativity

Many of the theorists in creativity emphasize an importance of originality. Creative ability appeared simply to be a special class of psychological activity characterized by novel events believed Nowell, Shaw, and Simon (1962). May (1975) believed creativity to be the process of bringing something new to birth and creativity was believed by Rhodes (1961) as the phenomenon in which an individual communicates a new concept.

Some of the creativity theorists have chosen to add a bit of practicality, value, or social worth to their definitions of creativity. Manson (1960) proposed creativity to require two elements: an original concept and a benefit to someone. Murray (1968) suggests creativity as the occurrence of a composition which is both new and valuable. Lasswell (in Fabum, 1968) suggests creativity to be the recognition of valuable innovations. Fox (in Fabum, 1968) defines creativity as any thinking process which solves a problem in an original and useful way.

Paul Torrance (in Bailin, 1988) proposed that if creativity and its growth are to be viewed scientifically, creativity must be defined in a way that permits objective observation and measurement. This measurement could require an understanding of the social worth of an idea or project. Edgar Hardy (1975) suggests that the creative equation is "action + originality + value = creativity."

Creativity is not just thinking but should be demonstrated in concrete action and as a result provide value. There are several connotations that go with the word "value," but value in this sense means that the creative action must contribute somehow to society or oneself.

Social value includes the value that is contributed to the success or accomplishment of the individual as well as society.

The Mystery of Creativity

There are also creative theorists who believe creativity to be something that is beyond comprehension or explanation. Jung (1933) believed that many reactions to stimuli are accidental, and the creative act which often comes from accidents will forever elude human understanding. Jung believed that the creative act stemmed from reactions that are based on inherent gifts. Lawrence (in Fabum, 1968) also described the creative artist as one of instinct. Ronald Finke (1990) stated a similar view that by taking an instinctual approach to inventing one can more easily discover new ideas and concepts. Finke believes that instead of finding a need and trying to fill that need by creating something, one should simply study some general objects or groups of objects and try to find uses for them. The basic concept behind this idea is that society uses the things that are created instead of creating things that are used.

Plato is known for crediting muses for creative inspiration. Martindale (1975) also described another consort of creative people whose creativity mystified even themselves. William Blake reported writing poetry from immediate dictation, sometimes against his will. Beethoven and Mozart heard symphonies in their respective heads and had only to scribble out the notes. The mathematician, Poincare (1952), who later expanded the thoughts on the now famous process of preparation, incubation, illumination, and verification as a process of creativity, reported that after some stiff coffee, ideas rose in his head in crowds. He felt them collide until pairs interlocked, making a stable combination. By the next morning, he had established the existence of a class of Fuchsian functions and had only to write down the results. The poet A. E. Housman said that after drinking a few beers he would go along thinking nothing in particular when suddenly and with unaccountable emotion a line or two of verse, sometimes a whole stanza, would flow into his mind.

However, these people, it could be argued, had something special about them that made them outstanding creators. Boden (1990) gives two widespread approaches to

creativity including the inspirational and the romantic. The inspirational approaches creativity as essentially mysterious, even superhuman or divine. Boden believed Mozart to be an individual shown to be coarse, vulgar, lazy, and undisciplined in almost every aspect of his life, but apparently empowered by a divine spark when composing. Boden believed that creative individuals like Plato are endowed with special talents which others lack. Plato (in Boden, 1990) would tend to agree with Boden, for he thought the poet became inspired and creative at the point when he went out of his mind. Rothenberg (1990), however, disagrees with the thought that creativity can just pop into someone's mind. He suggests that creativity is a result of an intense effort. The creative process, according to Rothenberg, always results from direct, intense, and intentional effort on the creator's part.

Encountering Creativity

Some give credit for creativity to the child-likeness in the adult. Freud (in Getzels and Jackson, 1962) considered fantasy and creative thinking to include a regression to more childlike modes of thought. To Freud,

creativity was a continuation of and substitute for the free play of childhood.

This regression to childlike thinking, believes Erickson, is "primary process thinking", which contrasts with "secondary process thinking" (Erickson et al., 1990). Primary process thinking, which occurs developmentally before secondary thinking, happens during relaxation. It includes the chaotic realm of dreams, reveries, free associations, and fantasies. Secondary process thinking is logical, analytic, and oriented toward reality. Erickson agrees with Freud's concept of the creative individual being one who is able to have free play. She believed that people live all too often in molds and tight grooves. To find the freedom necessary to break out of these restrictions, one needs a sense of playfulness which allows experimentation and change.

The process of creating is characterized by what can best be described as an encounter, according to May (1975). Before painting, an artist may first encounter what is going to be painted, look at it, observe it, and then absorb it. This encounter does not have to be voluntary. Like a child who becomes totally absorbed in play, absorption requires a

strong degree of voluntary intensity. False creativity can be described by the concept which this voluntary encounter is lacking. Talent can also be set apart by this encounter approach. An individual may have talent, but never uses it. On the other hand, creativity can only be seen in the voluntary act. An encounter brings about creativity through an intensity of awareness.

A psychoanalyst, Kris (1952), presented a view which was similar to Freud's creativity theory. To Kris the fantastic, freely wandering thought processes tend to discharge libido and aggression. That is, creativity is the result of both id urges: the sex impulse and the aggressive instincts. According to Kris, creative fantasies occurs in the preconscious mind. The "preconscious" can most easily be understood in terms of idle fantasies or daydreaming, which often occurs on the fringes of consciousness. Davis (1986) proposed that the shift of creative thought from the preconscious to the conscious is experienced as a sudden "Eureka!" or illumination experience following the preconscious incubation of the problem.

Freud and Kris differ in the views of the role of creativity and the unconscious mind. To Freud, the acts of

creativity are the result of id responses. Kris is confident that the creative energies are servant to the ego since the ego exercises some voluntary control over regression and over the shifting of preconscious ideas to the conscious mind.

A third psychoanalytic theory of creativity is that of Kubie (1958). Kubie ignores ids, egos, and libidos and emphasizes preconscious mental activity. Kubie describes creativity like a continuum of conscious symbolic processes such as language. With these conscious symbolic processes one communicates, thinks, examines thinking, and rearranges experiences into logical categories. Such conscious processes have their roots in learning and experience. Since these processes are anchored in reality, there is little flexibility or imaginative free play.

At the other end of the continuum are unconscious, symbolic processes. According to Kubie, the unconscious symbolic meanings are hidden, lost, or repressed, and can only be made conscious by psychoanalysis, hypnosis, or drugs. This unconscious system of symbols, meaning, and relationships is said to be even more fixed and rigid than the conscious system. This rigidity in the unconscious

leads the artist, composer, or poet to repeatedly use the same recognizable style and content in different works. Creative activity takes place between the conscious and the unconscious; that is, it is in the preconscious. The preconscious is free from the everyday mundane nature of the conscious mind. It is also not tied to the rigid nature of the unconscious mind. The flexibility of the preconscious mind allows it to engage in the process of free thought, brainstorming, and all sorts of idea generation. Kubie also believes that our traditional educational process restricts our minds so that our preconscious symbolic processes are prematurely tied to conscious realities resulting in paradigms of processes and values. Of course, these theories are not completely accepted by all those studying the elements of creativity. May (1975) believes creativity is the encounter of the intensively conscious human being within one's own world.

Rewards and Responses

There is little question that the foremost behaviorist is Skinner. Skinner (1971) creatively argues that there is no such thing as creativity. In Beyond Freedom and Dignity, Skinner argues that one has no freedom since all behavior is

controlled by those who dispense reinforcements and punishments. Parents, teachers, peers, and social expectations are the basis for accomplishments. Since individuals are not responsible for their behavior, they cannot accept the dignity which comes from personal accomplishment because those achievements were determined by the individual's history of rewards and punishments. Paulo Friere (1970), in his book, Pedagogy of the Oppressed, agrees that if individuals cannot free themselves either through revolution or revolt, then they are not free. Therefore, they have been trapped by the false belief that they are no longer oppressed.

Experimental psychologist Maltzman (1960) earlier confirmed the work of Skinner, and theorized that one can increase original behavior simply by rewarding it. In reviewing his own research, he proved to himself beyond a doubt that when original word associations were rewarded, the frequency of original word associations increased. Another scientific study (Pryor, Haag, & O'Reiley, 1969), entitled "The Creative Porpoise," showed that if porpoises were given a dead fish only when they performed a new, creative stunt, but not when they repeated an old one, they

quickly learned to put a lot of variety and creativity into their act. The creative abilities are being forced on the porpoise, and the porpoise is not free to create based on desire, but upon the reward of food.

Lifestyle as an Element of Creativity

One of the best known theorists of human behavior in the history of humankind believed that the creative individual was a result of the stage in life in which one has ascended. Maslow (1954) stated that creative individuals are also self-actualized individuals, fully-functioning, mentally healthy, forward-growing human beings, who are using personal talents to become what they are capable of becoming. Maslow believed that creativity was a result of life and its experiences and choices. Kneller (1965) agreed with Maslow that to be creative is to fulfill oneself as an individual.

Similar to Maslow and Kneller, Gruber (1985) proposed that the creative individual made sacrifices and alterations in life and thought to be creative. Gruber believed that creativity is a result of lifestyle management. Some theorists believe that the struggles associated with the creative lifestyle improves the creative process. Osche

(1990) did not advocate poverty but believed that people who have never had to consider how they were going to live, eat, or survive many times have not had to exercise their creativity in one of the most basic ways.

There is little question, according to Gruber (1985), that the creative individual has personal challenges in life to overcome. The creative individual must not only organize the work itself but also manage the diverse demands of a creative life. Work and life go forward within the bounds of constraints that can be divided into two kinds: what can be done and what should be done. The two constraints can be expressed as the claims of ability and possibility on the one hand, and the claims of morality and desirability on the other hand. Gruber believed that part of the creator's task is to work out these sometimes conflicting demands of personal freedom and social responsibility. Anderson believed that creativity was a result of the happenings and experiences of life, just as Maslow had stated. Anderson (1965) believed that creativity is not a characteristic of the complacent, but is the questioning and challenging, by reflection and recreation, of reality and of life. Kafka (in Anderson, 1965) believed that creativity is the eternal,

unquenchable dissatisfaction with merely existing. Moore (1969) agreed with the relationship of creativity to lifestyle. Moore suggests that creativity involves a certain pressure, which urges one to adapt, change, and improve one's surroundings. Although all are creative, individual creativity can be either stifled or encouraged given the right circumstances.

Creativity as a Result of Intelligence

More than a few theorists have considered the possibility of creativity being a direct result of IQ. Kneller (1965) believed that creativity is in all people, but some have higher levels of it than others and those with a higher IQ tend to be more creative. This theory does not always prove to be correct. With different IQ levels come different views of the world. Kneller creates a scenario where the individual with a higher IQ may see a mathematics problem and solve it according to the rules while the lower IQ individual may see the problem and find a way to avoid it altogether and still accomplish what is needed.

Other theorists disagree that the creative individual is extraordinary. Moore (1969) proposed that contrary to popular belief, creative individuals are often quite normal.

More often than not, suggests Moore, creative individuals initiate change in their surroundings. This is not to say that they are not criticized for their ideas. Guilford concluded, as did Moore, that there is no correlation between a high IQ and high creativity. Guilford (1977) went on to declare that humans have believed that creative talent is to be accounted for in terms of high intelligence or IQ. This concept is both inadequate and could be responsible for the lack of progress in the understanding of creative individuals.

Disorder and Creativity

Regardless of whether one believes the intervention of divine powers or the common nature of creativity, there is no denying that many great creative accomplishments have occurred in individuals with severe emotional and physical disorders. Beeman (1990) believed that individuals who have disorder in their lives are driven to create. The intensity of the drive is affected by the disorder of the individual's life. Although individuals such as VanGough and Beethoven produced great works during their personal worst times, Rothenberg 1990) states that during the actual creation of the work, these men were complete in their senses.

Rothenberg states,

> The creative thought processes, I have discovered, are used by the creator when he is in a perfectly rational and conscious frame of mind; he or she is not undergoing what some have called an altered or transformed state of consciousness. Involved, however, are unusual types of conceptualizing, and I think it is precise to say that the processes transcends the usual modes of ordinary logical thought. Therefore, I refer to them as translogical types of thinking. Nothing is pathological about them, nor do they arise from pathological motivations; on the contrary, their roots are instead highly adaptive and healthy in their psychological nature and function. What does this mean in relation to creativity and psychosis? It means that key aspects of creative thinking have nothing really to do with psychosis. They consist of healthy thought processes that generally arise from healthy minds. In those cases in which a creative individual is suffering from a psychosis, it is still correct to say that while he is using these specific processes and engaged in the creative process, he is at those moments or periods time thinking healthily.

Depression, trauma, and mental breakdown may actually enhance an individual's creativity, argues Haynal (1985) who is confident that the work of mourning set in motion at the moment of death impels the individual to seize independence and rely only on one's own resources. This independence and reliance upon one's self seems to unleash the creative potential inside and causes one to leap into the unknown. This leap into the unknown is the essence of creativity. Haynal goes on to suggest that despair and the feeling that

one's world is falling apart causes individuals to work through pain. This "working through" leads individuals to having the capacity for more creativity because they have become sensitive to their inner world.

New Ways of Thinking

Going outside the rules or the stated way of doing something is definitely an element of creativity. Possibly the leading contemporary author and theorist in creativity is the developer of the concept of "Lateral Thinking," Edward DeBono. DeBono (1975) proposes a definite difference between the lateral and the vertical thinker. Vertical thinking is the traditional, analytical way of coming up with ideas and solving problems. This type of thought process is described as vertical because of its need for a step-by-step ascension to a solution. Vertical thinking is relied on most heavily in schools and businesses today whereas lateral thinking tries to solve problems and create ideas from a different perspective. The steps involved in the lateral mode of thinking are sometimes in conflict to vertical thought processes. Where vertical thinking begins with the process of finding the best solution by searching

for one possible solution, lateral thinking begins this process by searching for questions.

Comparable to Freud's thoughts on primary and secondary thinking, DeBono correlates secondary stage thinking with the concept of lateral thinking. There is another way to describe the difference between these two approaches. Many people have heard about first- and second-stage thinking but have not been able to understand them completely. First-stage thinking involves defining the problem while second-stage thinking involves the processing of that problem. Too often individuals have generated good solutions for the wrong problems. This is the main reason that first-stage thinking is so important. Lateral thinking seeks change for the sake of betterment. Vertical thinking seeks to judge and eliminate alternatives that do not correspond with specified parameters.

While vertical thinking seeks to prove something, lateral thinking seeks to explore and generate new ideas. Each step involved in the vertical thinking process must be justified and supported by the previous step. Vertical thinking is confined to this restrictive process whereas lateral thinking can succeed outside these confines. With

the lateral process, an individual will examine why an idea is incorrect, possibly harvesting useful information to shape something new and productive.

The crux of the comparison is not to belittle the process of vertical thinking but to reveal the missed opportunities when it is used without lateral aids. Vertical thinking seeks to establish a uniform and logical process by which a solution can be found but places constraints on the user by avoiding other options that might otherwise be considered. The lateral process strives to view the problem from a different perspective, allowing the individual to jump from one idea to the next without following a logical sequence. The individual is not required to make such jumps but has the freedom to do so. Where vertical thinking focuses on only relevant factors, lateral thinking encourages accidents and intrusions so that new ideas become visible.

Motivated to Create

Like Rothenberg (1990), who thought that the creative individual was one who was involved in intense effort, and Maltzman (1989), who thought creativity could increase by simply rewarding it, Amabile (1983) believes that creative

energy to accomplish comes from intrinsic motivation for personal rewards. Intrinsic motivation occurs when an individual is personally absorbed in something. The motivation comes from one's interest in the situation and the joy that comes from the satisfaction in completing a project, not from social or material rewards. Intrinsic motivation is naturally conducive to creativity, but extrinsic motivation can often be detrimental. Extrinsic motivation stems from a selfish source and limits the natural creative tendencies.

The proper motivation element as well as the proper environment are required in order to generate creative ideas. Rosenfeld (1977) clarifies the idea that creative individuals need freedom of movement, which is the degree to which the environment provides adequate resources, support, encouragement, reasonable targets, and goals. Rosenfeld proposes that it can also be difficult to work with top executives because they tend to have different view points than creative individuals. Top executives and managers too often do not understand the nature of creative individuals. These creative individuals are functioning by a different set of internal rules than many of their co-workers.

Stollman (in Rosenfeld, 1990), who is a manager of Creative Business Concepts, says it can be dangerous to use the reward and punishment methods with creative individuals. It can be harmful to criticize them too often while too much praise can inflate their egos like a balloon. Creative people can be moody people. You have to get to know them before you can begin to criticize their work or make suggestions for some new ideas (Rosenfeld, 1990). Setting deadlines for your thinkers can also create too much strain on them, limiting them from thinking of their best ideas. They should create their own deadlines. Stollman also suggest that you kidnap your thinkers and take them to a different environment so that they can increase brainstorming.

The Value of the Creative Individual

The creative individual is a unique and valuable asset to a company. Adamson (1989) believes that management is no longer a game of numbers, but that of names, talent, and individuality. Creative people have now become part of the product and the corporate resource base. Taylor (1989) considers the creative potential in individuals to be vastly untapped, leaving plenty of room for improvement. The brain

is the most complex, high-tech, computer around, but only if it is used. Adams (1986) believes that no business can survive in the long-term without some ingenuity. As in the saying "necessity is the mother of invention," today's bitterly competitive international marketplace requires elegant design and fresh ideas. Some say that research and idea development is costly and guarantees nothing, but Adams believes that creativity, although not the cheapest alternative, is the most cost efficient and predictable road to future profits and market dominance. To accomplish market dominance, the right people must be given proper resources and the necessary freedom with these resources in order to manufacture a creative solution.

Torrance (1977) proposes that if humans ever found a way to maximize human creativity, it would represent the greatest intellectual and artistic power source the world has ever known. But Torrance warns that a manager must be careful with the creative individual. Torrance says that the creative individual is closer to the brink of insanity than most other individuals.

Kaye (1989) suggests that this research on creative individuals is of little value because there is minimal

management theory based upon creative individuals. All one can do is give them direction and create an environment that is conducive to creativity. The key, believes Kaye, to achieving an open creative environment is establishing a simple approval process where bureaucrats cannot get in the way of invention and idea development. Modern management of creative individuals must try to balance the need to satisfy objectives and the need to set a climate of creativity. Kaye proposes an open, unstructured environment to allow the creative individual to function efficiently and effectively, but there must be some order or the basic function of management is useless.

Adamson (1989) agrees with Kaye's position on the creative environment, and a manager must know the relationship between skill and creativity. If you want the most out of people, you need to be an artistic manager. There is creativity in each and every individual, according to Adamson, and it is the job of the manager to see that, encourage it, and provide an environment to foster that creativity.

The Danger of Creativity

DeBono (1975) states that although there are several advantages to creativity, there are also many dangers to the creative process. If the individual from which the creativity stems is creative only for the sake of self-indulgence and not for the sake of usefulness, then his or her creativity has little or no value. With creativity comes a change in direction that forces the individual or organization to redirect resources in that direction. If that change is not productive, then those resources have been wasted. Creativity and change must be used in a positive and productive direction. Change simply for the sake of change is a good thing in the arena of mental exercise; however, in the area of actions, it can become dangerous.

One unique danger lies in the area of too many good ideas. The creative mind can start a chain reaction, generating one idea after the next. The next idea always seems more attractive than the last, and the end result can be a litter of many unused ideas. Many of these unused ideas might have been useful in the right setting or with the right focus, but they have been overlooked.

Creative people can be difficult to supervise because they tend to work on projects they are interested in, making it difficult to redirect their interest to other concerns. These creative individuals often spend considerable effort and resources working on individual interests which may or may not be completely useful to a company or society. This problem can be minimized by having another individual who is interested in productive ideas with useful applications collaborate with them.

Creativity may often be used as an excuse for inefficiency. An individual may claim that he or she has no time for details causing grief for others. Companies will sometimes overlook practical business tools or corrective measures to solve inefficiencies opting to hold out for the ultimate breakthrough that will save the company.

Creativity is too often seen as a maintenance item or even a "savior" according to DeBono (1992). Many corporations wait too long to exercise their creative abilities hoping that the last-minute creative idea will rescue them. Creativity is not a broom for eliminating messes, but a tool for those on the cutting edge.

Creativity and Organization Structure

Warren Bennis (1976) observed that organizations must strike a balance between openness to the external environment and protection from too much permeability. Organizations functioning within a stable external environment typically have formal internal organizational structures with clearly established and observed operation procedures and rules, and a well defined hierarchy of authority. Within such organizations, decision making is typically top-down in character. This type of organizational structure is mechanistic, lending itself to rigidity, little creativity, or idea generation.

Organizations functioning within a more dynamic external environment frequently are chaotic, loose, free flowing, and adaptive in character (Daft, 1992). Rules and regulations are not written down, or if written down are frequently ignored. People have to find their own way through the system to figure out what to do. The hierarchy of authority is not clear and decision-making authority is decentralized. Such internal organizational structures are organic in character and lend themselves to independence, creativity, and idea generation.

Daft (1992) held that the organic organizational structure is associated with change and that such a structure is preferable when functioning within a dynamic external environment. Researchers also tend to think that creativity and innovation are fostered by organic organizational structures while creativity and innovation tend to be stifled by mechanistic organizational structures (Kennedy, 1991).

Researchers have also observed, however, that while organic structures tend to foster creativity, they are often somewhat ineffective for the implementation of that creativity (Daft, 1992). In such instances, it has been suggested that organizations adopt a composite organizational structure that incorporates characteristics of both the organic and the mechanistic organizational concepts (Daft, 1992).

Changing Cognitive Styles and Acceptance

Organizational culture, as well as other aspects of the organization, may be difficult to change because people who are attracted by the old organization may be resistant to accepting new cognitive styles. When a change is forced, those persons attracted by the old organization may leave

because they no longer match the newly accepted cognitive style. Among other things, this culture-cognitive style match suggests that organizational conditions supportive of creativity will be effective only to the extent that potential and current organizational members know of and prefer these conditions.

In their work in training positive attitudes toward divergent thinking among manufacturing engineers, Basadur, Graen, & Scandura (1986) found that training of work groups promoted far superior transfer of training over training of individuals, presumably because of the establishment of social support for divergent thinking among the work group. This form of group-think often controls the efforts toward accomplishment and rewards. A reasonable assumption is that when functional managers control rewards, engineers fear that non-routine behavior will be evaluated negatively by these managers (Basadur, Graen & Scandura, 1986). Therefore, creative idea generation is limited, too often, by the perception of the acceptance of the idea, even within high idea generation organizations.

Cummings and O'Connell (1978) suggested that the generation of alternative solutions to problems should be

separated from the evaluation of those alternatives. This concept has been suggested by numerous theorists and researchers. They also suggested that the organization should encourage risk taking and free exchange of ideas, and it should legitimize conflict, stimulate participation, and rely on intrinsic rather than extrinsic rewards.

Summary

In summary, it may be concluded that the study of creativity has progressed substantially over the past decade. Although individuals of great intelligence have been creative, intelligence may not be necessary for the creative individual. Some have proposed that creativity comes from the divine intervention of angels while others say that it is a gift for a few, special individuals. Some have stated that creativity is a result of the environment while others describe creativity as a result of an effort toward the search for ideas.

A variety of theories about creativity as well as the creative individual have been reviewed. The thread that links these theories and the study of creativity is the thought that creativity is the result of many factors. Intelligence, environment, divine intervention,

illumination, as well as involvement which all aid the process of creativity. A special few may have generated many great ideas, but creativity is inherent in all individuals. Creativity is a skill that can be developed through practice and the correct combination of elements. The creative process is complex in its simplicity, yet simple in its complexity. The literature is broad and detailed; however, it still lacks completion. There will always be a need for further study in creativity and its relationship to physical and environmental issues.

CHAPTER III

RESEARCH METHODOLOGY

Background for the Study

Creative individuals are a great asset to an organization. They often dismantle the old paradigms and create new products and new operating procedures. Because of their creative nature, however, these individuals are often unconcerned with the rules and procedures of common business practice, making them a challenge to supervise. Creative individuals are compensated for questioning old ways of thinking; however, this rule-breaking attitude often overlaps into other vital areas of employment.

Little has been written about supervising creative individuals in the work force. The breadth of the literature and knowledge of creativity focuses on how to generate ideas and encourage creativity in the workplace, but little has been written about how to supervise creative individuals correctly once they become employed.

A mystery about the creativity is whether it is possible to categorize creative individuals accurately and the correct method for the categorization. It would be impossible to develop an all-inclusive strategy to supervise creative individuals without knowing more about the

characteristics that make them unique or understanding the extent of their creativity. The difficulty in supervising creative individuals is magnified by the complex nature of supervisor/subordinate relationships in the workplace.

This study demonstrates that it is possible to determine who is creative in an organization as well as the characteristics inherent in creative individuals. The study also provides details about the effects creative levels have on the relationships subordinates have with their supervisors.

Information Gathering

Data for the study were collected by testing a sample of subordinates and their immediate supervisors in engineering-related companies, located in Oklahoma. Engineering-related companies were selected because it is believed that they rely daily on new idea generation and are likely to employ highly creative individuals. The instrument employed to gather the data was a combination of two existing tests. The Raudsepp (1989) How Creative Are You (HCAY) test and the Liden and Maslyn (1994) Multidimensional Measure of the Leader Member Exchange (MDM-LMX).

Subordinates from the engineering firms were given both the HCAY test and the MDM-LMX test as well as six demographic questions (see Appendix A). The supervisors of those subordinates were given the HCAY test and the six demographic questions. The researcher did not alter any of the questions in the existing tests. The researcher simply combined the two tests and the demographic questions together to be completed in one sitting.

Instrument Development

The instrument is generated from two tested questionnaires. The HCAY test (Raudsepp, 1989) seeks to categorize individuals by the extent of their creativity. Based on the premise that all individuals have some amount of creativity (Thompson, 1992), this model goes beyond the categories of "creative" and "non-creative" into a more focused categorization of creative ability into groups of "Highly Creative," "Moderately Creative," "Somewhat Creative," and "Non-Creative." The more focused categorization provides four categories based on the degree of creativity which, therefore, deepens the understanding of the individual's extent of creativity. The HCAY test is a 50-question test based on a Likert seven-point scale from

one equaling "strongly agree" to seven equaling "strongly disagree." The HCAY score is computed using a simple addition of the respondent's scores with the highest total scores seen as the "most creative" and the lowest total scores seen as "least-creative." Several survey questions were reversed to deter the respondent from simply marking similar responses hurriedly down one side of the questionnaire. The responses to these questions were reversed in the computer program prior to creating the HCAY score.

The second test used was the Liden and Maslyn (1994) MDM-LMX. The MDM-LMX is the extension of George Graen's Leader-Member Exchange (1974), which has been the cornerstone of research in supervisor/subordinate relations. The MDM-LMX is a 45-question test that seeks to establish whether subordinates see themselves as a member of the "In-Group" or the "Out-Group" in the workplace. The MDM-LMX is administered only to the subordinate and demonstrates the perception of trust, reliance, and support in the relationship between the supervisor and the subordinate. The MDM-LMX is based on a Likert seven-point scale from one equaling "strongly agree" to seven equaling "strongly

disagree." The test is scored by simply totaling the individual's responses to the 45 questions (Q51-Q95) and determining the "in" and "out" groups according to the sample median. Of the 45 questions in this survey, Q70 was the only question needing to be reversed.

Statistical Analysis

The research attempts to demonstrate that supervisors tend to favor those immediate subordinates who resemble themselves in personal attributes, including creativity. Those subordinates who have personal attributes similar to the supervisor often find themselves in the favored group called the "In-Group," while those who are dissimilar in personal attributes are in the "Out-Group." The test determines not only the extent of the individuals' creativity but also the extent to which the individuals perceives themselves as part of the "In-Group" or the "Out-Group."

To determine the significance of relationships and levels of creativity, a Statistical Analysis System (SAS) program was written providing information for the researcher to analyze and determine answers to this study's research questions. The researcher determined if all questions in

the study were reversed correctly. Then, the accuracy of the existing method for categorizing creative individuals was examined. Since the method of categorization was determined not to be the optimal method, then a new method was developed and new categories were considered. With the existence of a quality method for determining creativity, the researcher then determined the subordinate's similarity of creativity with their supervisor.

The researcher also considered the categorization method of "In-Groups" and "Out-Groups." Cross-frequency tables were developed to analyze the significance of the relationships between creative categories and supervisor/subordinate relations categories. The Chi-square test was calculated to determine the strength of the relationships. And finally, factor analysis was computed to assist in identifying underlying structures. Once the structures were identified, the relationship of each structure could be compared to the categories of creative similarity and supervisor/subordinate relations.

Three researchers examined the questionnaire to determine if the potential for accurate information retrieval existed. Dr. Rinne Martin, Professor of Finance

at Oral Roberts University, Dr. David Dyson, Professor of Management at Oral Roberts University, and Dr. Tim Peterson, Professor of Management at the University of Tulsa, examined the questionnaire and believed it had the potential for quality examination of the relationship of creativity and supervisor/subordinate relations.

Samples

A total of 218 individuals participated in the study. The sample included 41 supervisors and 177 of their immediate subordinates. The supervisors did not all have engineering backgrounds, but they were the immediate supervisor of the engineers and engineering-related subordinates. The study was confined to industries and organizations that have engineering as an important element in their immediate operations. The sample and test were derived from companies based and operating in Oklahoma. To derive an adequate sample, the researcher included 12 companies in the sample. The testing proceeded during November and December, 1994 and January, 1995. All questionnaires were dispersed and collected by the researcher to ensure the highest possible quality of completed responses. It was also important that the

researcher collect the survey instrument personally because of the poignant nature of the supervisor/subordinate relations questions and the need for confidentiality. Participants were encouraged to place their completed questionnaire in a sealed envelope if they were concerned that their responses would be reviewed by their supervisor. The questionnaire responses were then professionally entered into a machine-readable form and verified for accuracy.

Limitations of the Methodology

With the understanding that all individuals in all areas of the United States and the world are not the same, the study assumes similarities in basic human behaviors and relationships. The field of engineering, although extensive, is a rather focused sample group. Not all engineers are creative nor are all engineers a good representation of society. It is also important to note that engineering, by its nature, is a male-dominated field and has high populations of Caucasian and Asian races. The researcher took caution to use a sample that is similar to the race and gender engineering population by testing all of the subordinates of each supervisor.

Testing the Computer Program

Prior to the entry of all the data, the responses of five subordinates and their supervisor were entered into the computer program to determine if the program was developed correctly. Based on the initial results of the test sample, the program and analysis were correct. The final program including all the data includes the testing of the sample's creativity, the effects of creativity on the In-Group status, the underlying factors that were found, and the significance of similar levels of creativity in supervisor/subordinate relations. The proper analysis of this data permits the researcher to make determinations of the value of this information for the work force and make recommendations for further study.

CHAPTER IV

RESEARCH FINDINGS

Introduction to the Findings

To achieve an understanding of how individuals relate to their supervisor, many aspects of an individual's life must be examined. One aspect to be considered is how creative levels affect the supervisor/subordinate relationship. To examine the relationship of creativity to subordinate/supervisor relationships, one must be able to create a measure of an individual's creativity. This study examines the optimum method for measuring an individual's creativity as well as the relationship of that creativity to supervisor/subordinate relations.

Data Collection and Verification

The sample of 177 subordinates and 41 supervisors from engineering-related organizations in Oklahoma is examined in the study. The distribution and collection of the questionnaires were facilitated by the researcher with the permission of the organizations involved. Once the completed questionnaires were collected, the responses were professionally entered into a machine-readable form. The data were then verified to ensure that the data were

accurately entered. The responses of the subordinates were entered into a data set separate from the supervisors' responses. The data sets were later merged together so that the corresponding subordinate/supervisors responses were combined. An SAS computer program was written to generate information for the researcher that would address this study's research questions.

Although the researcher did not anticipate any data entry errors because the data had been professionally entered, one-way frequency tables were generated to detect any obvious mistakes in the data sets and were included in the appendix for the reader's verification (see Appendixes B and C). All subordinate and supervisor responses were reviewed separately to ensure the validity of the data entry. Once these data sets were reviewed and the data were viewed to be accurate, they were then merged to begin the analyses.

Determining Creativity (Research Question One)

Using the responses from questionnaire questions one through fifty, creative categories are determined. The first method of determining these categories is to employ the Raudsepp scoring technique, which is believed to be

highly subjective. In his test How Creative Are You, Raudsepp believes that creativity can be measured. Raudsepp subjectively divides creativity into four levels which he identifies as "Highly Creative," "Moderately Creative," "Somewhat Creative," and "Non-Creative." The individual is categorized by totaling the individual's responses for the 50 questions and then adjusting the total score to be on a 0 to 100 point scale. In Raudsepp's subjective creativity categorization method a score of 80-100 is "Highly Creative," 60-79 is "Moderately Creative," 40-59 is "Somewhat Creative" and 0-39 is "Non-Creative."

To create Raudsepp's creative score, the total response scores are converted from a one to seven-point scale to an overall score of 0 to 100 point scale. The researcher took the mean score of Q1 through Q50 for each observation (AVGCREA), subtracted one, divided by six and multiplied by 100. This resulted in a raw creative score variable called SCORXCRE. For example, if AVGCREA is equal to 2.5, SCORXCRE is equal to 25 ((2.5-1)/6*100). If AVGCREA is equal to the lowest (highest) possible average score of 1(7), SCORXCRE is equal to 0(100). SCORECRE is then created to be SCORXCRE rounded to the nearest whole number. Thus, SCORECRE

represents the observation's rounded creativity score on the 0 to 100 point scale (see Table 1A).

An inherent problem that arises from the score totaling method is if the sum, rather than the mean, of Q1 through Q50 is used. An individual could be labeled as "Non-Creative" due to a low total score if blank responses to Q1 through Q50 are added in to create the total score.

Table 1A
Rounded Value of SCORXCRE

SCORECRE	Freq	Per	Cum freq	Cum per
40	1	0.6	1	0.6
43	2	1.1	3	1.7
44	2	1.1	5	2.8
45	7	4.0	12	6.8
46	12	6.8	24	13.6
47	6	3.4	30	16.9
48	7	4.0	37	20.9
49	12	6.8	49	27.7
50	14	7.9	63	35.6
51	20	11.3	83	46.9
52	9	5.1	92	52.0
53	19	10.7	111	62.7
54	12	6.8	123	69.5
55	4	2.3	127	71.8
56	12	6.8	139	78.5
57	7	4.0	146	82.5
58	7	4.0	153	86.4
59	9	5.1	162	91.5
60	2	1.1	164	92.7
61	2	1.1	166	93.8
62	2	1.1	168	94.9
64	4	2.3	172	97.2
66	2	1.1	174	98.3
67	2	1.1	176	99.4
68	1	0.6	177	100.0

To avoid this problem in this study, the mean score AVGCREA was calculated omitting all non-blank responses.

The Raudsepp method did not use a mathematical technique to determine his four creative categories and, therefore, does not demonstrate rigorous statistical validity. The Raudsepp method does not have categories that were statistically created; therefore, the value of the total response score computation and, consequently, its value as an analytical instrument is in question. One of the problems with the Raudsepp method is that there is a possibility that no observation in a sample of creative individuals would score in the 80-100 category. As a result no one in the sample would be categorized as "Highly Creative." Another significant problem with the Raudsepp method would be that all individuals could be categorized in the same creative category, and no significant analysis could be completed using the creative categories.

To examine the results of the Raudsepp method on the sample, the computer program divides the individuals into the four categories according to the variable SCORECRE, which is the Raudsepp method (see Table 1B).

Table 1B
Absolute Creative Categories (SCORECRE)

CATCREAT	Freq	Per	Cum freq	Cum per
1.-Highly Creative	0	0.0	0	0.0
2.-Mod. Creative	15	7.9	15	7.9
3.-Some. Creative	162	92.1	177	100.0
4.-Non Creative	0	0.0	177	100.0

In reviewing the results of Raudsepp's categorization, it is obvious that there are some inherent limitations to this method. For example, almost the entire sample (92.1 percent) is categorized as "Somewhat Creative" with no individual being categorized as either "Highly Creative" or "Non-Creative." Although the potential for categorization error has been minimized due to the exclusion of non-blank responses, the variable SCORXCRE still has potential for error because it includes the responses of all 50 variables even though these variables may not have been statistically tested to be significant.

To counteract these possible limitations a method of calculating creative groups was developed, called the "relative method." To calculate the relative method a mean score for SCORXCRE (52.59) was generated for all

observations in this study. The program divided the sample into two groups according to the mean. The group with relative scores above and equal to the 52.59 mark was considered "High-Creativity," while the group scoring below the 52.59 mark was considered "Low-Creativity."

The next step was to employ the two initial polar groups to generate a total of four polarized groups for the study. The mean score of SCORXCRE was then taken for only the "High Creativity" group (56.89) and then for only the "Low Creativity" group (48.62). The separation distinguished the four "relative" categories of "Highly Creative," "Moderately Creative," "Somewhat Creative," and "Non-Creative."

This relative method is valuable to the study because it allows the researcher to identify the most creative and non-creative individuals in a given sample. This method also allows for a relative classification of the most to the least creative individuals in the study (see Table 2).

Table 2
Relative Creative Categories (SCORXCRE)

CATRELO	Freq	Per	Cum freq	Cum per
1.-Highly Creative	34	19.2	34	19.2
2.-Mod. Creative	51	28.8	85	48.0
3.-SOME. CREATIVE	55	31.1	140	79.1
4.-Non Creative	37	20.9	177	100.0

The next logical step is to generate a cross-frequency table to compare the results of Raudsepp's "absolute" method versus the new "relative" method. The development of the new relative method eliminates one possible limitation of the Raudsepp method by distributing the observations in a manner that resembles a bell-shaped curve. Rather than all observations being forced into Raudsepp's absolute categories, the relative method allows the sample to determine those individuals who are relatively creative versus non-creative. One potential problem that still remains is the concern that not all 50 questions may be statistically critical in determining creativity.

Determining Critical Variables (Research Question Two)

It is possible that some of the 50 questions that have been included in the calculation to determine creativity do not differentiate between "creative" and "non-creative"

individuals. It is also possible that some of the questions have not been reversed correctly and the responses are being combined in an inappropriate manner. Although the Raudsepp method has limitations, the researcher believes that very high raw scores in the variable SCORXCRE serve to identify "creative" individuals while very low raw scores serve to identify "non-creative" individuals. Taking into account this belief, it is imperative to determine the statistically critical questions which would serve to best differentiate or polarize the most creative individuals versus the least creative individuals. To determine the polarized categories the researcher ran a one-way frequency table of SCORXCRE. The top 25 percent of individuals with the highest values of SCORXCRE were labeled as "Highly Creative" and the bottom 25 percent labeled as "Non-Creative" in a new variable called CATCRE25.

Next, t-tests for independent means with CATCRE25 as the class variable and Q1 through Q50 as the test variables were run. The results are included in Appendix E for the examination of the reader. The critical assumption for the t-test for independent means is that the variance of the two groups are equal in each test. This assumption, using the

F-test, is examined for every t-test calculated in this study. If the F-test is determined to be significant, the critical assumption is not valid; thus, the t-test result is not valid. An alternative test, Satterthwaite's Approximate t-test, which is a non-parametric test, was employed to determine significance if the t-test was found to be invalid.

The critical alpha level for this study was .05; however, due to the fact that multiple pair-wise t-test comparisons were performed, the critical alpha level was adjusted in accordance to Bon Feronni's theorem to .001 (.05 / 50). This was done in order to reduce the likelihood of committing Type 1 error, rejecting a null hypothesis which is true. According to the Bon Feronni adjustment, 11 variables were found to be significant at the .001 level while nine variables are significant at the .0001 level. Also, the researcher was able to determine that the question reversals were accurate by examining the t-test values. If a question would have needed to have been reversed the "Highly Creative" group would have a lower mean score on the t-tests than the "Non-Creative" group, as reported in Appendix E.

Categories of Creativity Using the Critical Variables

A new variable was created using the respondents' scores for the critical variables at the .001 level of significance. The mean of the 11 variables found to be significant at the .001 level was called AVGREL1. The mean of the 9 variables found to be significant at the .0001 level was called AVGREL2. Using the mean scores, new variables were created which allowed the researcher to categorize AVGREL1 and AVGREL2 into creative level categories called CATREL1 and CATREL2.

Table 3A
Relative Creative Categories(.001 Level)

CATREL1	Freq	Per	Cum freq	Cum per
1.-Highly Creative	42	23.7	42	20.7
2.-Mod. Creative	60	33.9	102	57.6
3.-Some. Creative	41	23.2	143	80.8
4.-Non Creative	34	19.2	177	100.0

Table 3B
Relative Creative Categories(.0001 Level)

CATREL2	Freq	Per	Cum freq	Cum per
1.-Highly Creative	40	22.6	40	22.6
2.-Mod. Creative	52	29.4	92	52.0
3.-Some. Creative	52	29.4	144	81.4
4.-Non Creative	33	18.6	177	100.0

One-way frequency tables were then generated comparing levels of creativity for each new variable (see TABLES 3A-3B). As the level of significance increased, the individuals were polarized to a greater degree. CATREL2 appears to have best polarized the observations into groups that would seem to more accurately represent the categories. Because the researcher believes that the variables at the .0001 level of significance are the questions that best differentiate between the "creative" and "non-creative" individuals, CATREL2 is used as the standard for creativity identification for the remainder of the study. The t-tests for independent mean were included in Appendix E for the examination and verification of the reader.

In summary, the study proposes several research questions. The first question is "Can creativity be measured?" The answer seems apparent at this point in the findings. Creativity can be measured within a sample of individuals. It is critical in measuring creative levels that the researcher measure creativity in comparison to other individuals in a sample group. Thus, the relative method measures creativity in an individual relative to the group being tested. The second research question that can

now be answered is "What is the best way to measure creativity?" In this study only the very significant variables are used to determine the creative categories among those tested. This study demonstrates that one of the better ways to measure creativity is to use the most significant variables to compare the differences in individual levels of creativity among a given sample group. The most significant variables serve to best differentiate the most creative as well as the least creative in a sample group.

Determining Creative Similarity (Research Question Three)

Now that the categories of creativity have been determined, it is important to consider the extent to which a subordinate is similar to the immediate supervisor in their respective creativity. Using the Raudsepp method of totaling scores to determine creativity, one might assume that the best way to determine similarity is to compute the difference in the total scores of the supervisor minus the subordinate. However, this method has in it an inherent flaw that the researcher has labeled the "7-1, 1-7 problem."

If the total creative score of the subordinate is compared to the total creative score of the supervisor, a

subordinate and supervisor could answer individual questions exactly opposite, but render a small difference which would categorize the individuals, according to Raudsepp, as "similar." For example, on questions Q1 and Q22, the subordinate could respond with a 1 for Q1 and a 7 for Q2 while the supervisor responds exactly the opposite with a 7 and 1. If the scoring method adds the responses and compares total scores, the researcher would propose that the subordinate and supervisor are similar in creativity. They would seem "similar" as each has a total raw score of 8, while, in fact, they are "dissimilar." Thus, the problem is labeled the 7-1, 1-7 problem. This is precisely why differences should be determined using only the critical variables as well as using an absolute difference method.

Using only the nine most significant variables, which were determined statistically to best differentiate between "creative" individuals and "non-creative" individuals, the totaling method was used, temporarily ignoring the 7-1, 1-7 problem, in attempting to determine the similarity of creativity in supervisors and subordinates. A new variable was established called AVGRADDF, which is the absolute difference in the mean score of the nine significant

variables for the subordinate's responses minus the mean score for the supervisor's responses. Small differences in individual scores (less than a median difference of .67) are identified as "Similar" while large differences in scores (.67 or greater) are identified as "Dissimilar" (see Table 4A).

A significantly more accurate method of determining "similar" and "dissimilar" creativity is to employ only an absolute difference method. For each of the nine critical variables the responses for a subordinate and supervisor were subtracted so an absolute difference could be determined. The absolute value of the difference for each of the nine questions were averaged to generate a new variable called AVGCRDF1.

Table 4A
Absolute Difference in AVGREL4-AVGRELX4

	AVGRADDF	Freq	Per	Cum freq	Cum per
	0	7	4.0	7	4.0
	0.1111111111	15	8.5	22	12.4
	0.2222222222	10	5.6	32	18.1
Similar	0.3333333333	15	8.5	47	26.6
	0.4444444444	20	11.3	67	37.9
	0.5555555556	13	7.3	80	45.2
Median	0.6666666667	10	5.6	90	50.8
	0.7777777778	13	7.3	103	58.2
	0.8888888889	12	6.8	115	65.0
	1	16	9.0	131	74.0
	1.1111111111	8	4.5	139	78.5
	1.2222222222	8	4.5	147	83.1
	1.3333333333	4	2.3	151	85.3
Dissim.	1.5555555556	3	1.7	154	87.0
	1.6666666667	12	6.8	166	93.8
	1.7777777778	2	1.1	168	94.9
	1.8888888889	1	0.6	169	95.5
	2	1	0.6	170	96.0
	2.1111111111	1	0.6	171	96.6
	2.2222222222	5	2.8	176	99.4
	2.4444444444	1	0.6	177	100.0

This gives the researcher an objective score for similarity (AVGCRDF1). The 7-1, 1-7 problem now does not exist because all questions are compared individually, and the differences in each question are now averaged.

To determine the groups of "Similar" and "Dissimilar" individuals according to the absolute difference method, a one-way frequency table was created of all raw, averaged,

absolute scores and then divided by the median value (1.34) creating a new variable called AVGCRECX. Those who score below 1.34 are labeled "Similar," while those who score above 1.34 are labeled "Dissimilar" (see Table 4B).

Table 4B
Mean of Nine Absolute Values

AVGCRDF1	Freq	Per	Cum Freq	Cum Per
0.5555555556	3	1.7	3	1.7
0.6666666667	4	2.3	7	4.0
0.7777777778	3	1.7	10	5.6
0.8888888889	12	6.8	22	12.4
1.0000000000	9	5.1	31	17.5
1.1111111111	11	6.2	42	23.7
1.2222222222	20	11.3	62	35.0
1.3333333333	20	11.3	82	46.3
1.4444444444	16	9.0	98	55.4
1.5555555556	13	7.3	111	62.7
1.6666666667	21	11.9	132	74.6
1.7777777778	9	5.1	141	79.7
1.8888888889	11	6.2	152	85.9
2.0000000000	2	1.1	154	87.0
2.1111111111	6	3.4	160	90.4
2.2222222222	9	5.1	169	95.5
2.3333333333	4	2.3	173	97.7
2.4444444444	2	1.1	175	98.9
2.5555555556	1	0.6	176	99.4
2.6666666667	1	0.6	177	100.0

Once the "Similar" and "Dissimilar" groups are determined for both methods a cross-frequency table and

Chi-square test are used to examine the relationship between the variables AVGCRECX (recommended method) versus AVGCRECT (original method)(see Table 5). In comparing the two methods, it is apparent that the methods offer conflicting information. In the cross-frequency tables, 52 observations were determined to be misclassified. The original method categorized 22 observations as "Dissimilar" while the relative method categorized them as "Similar."

Table 5
Cross-frequency Table of AVGCRECT by AVGCRECX

Avgcrect(Similar-dissimilar Creativity (AVGRADDF))
Avgcrecx(Similar-dissimilar Creativity (AVGCRDF1))

	Frequency / Percent / Row Pct / Col Pct	AVGCRECX: Dissim. Creat.	AVGCRECX: Similar Creat.	Total
AVGCRECT	Dissimilar Creativity	65 36.72 74.71 68.42	22 12.43 25.29 26.83	87 49.15
	Similar Creativity	30 16.95 33.33 31.58	60 33.90 66.67 73.17	90 50.85
	Total	95 53.67	82 46.33	177 100.00

Statistic	DF	Value	Prob
Chi-Square	1	30.462	0.000

The relative method categorized 30 individuals as "Dissimilar" while the original method categorized them as "Similar."

The results of the Chi-square test were significant at the .0001 level indicating that the two methods are not independent of each other. It is apparent that this research has developed a substantially improved method of measuring similarity in supervisors and subordinates in the calculation of a new variable AVGCRECX which is used later in this study.

In summary, the third research question in this study asks if similarity of creative levels can be established between supervisor and subordinates. There is little question that with the correct process creative similarity can be established. In this research, the responses of the supervisors and subordinates were compared using the differences for each individual significant variable. The relative scoring process was more accurate than the absolute method because it took into consideration the 7-1, 1-7 problem. The results of this study demonstrate that it is possible to establish similarity of creative levels between supervisors and subordinates.

Determining In-Group and Out-Group (Research Question Four)

It is now important to determine the significance of the questions from the MDM-LMX. The MDM-LMX is employed to determine the "In-Group" and "Out-Group" respondents in a sample population. Liden and Maslyn (1994) totaled the individual responses for questions Q51 through Q95 and divided the individuals according to the median value.

Those individuals below the median score were considered in the "In-Group" while those above the median score were considered in the "Out-Group." The inherent problem with the totaling method for this test is the possibility of adding blank scores resulting in inaccurate data to be categorized. To avoid this problem, the researcher used the average mean of all non-blank responses for Q51 through Q95 (AVGGRP) to determine a mean score for each individual. A median response was determined to be 3.0 (see Table 6A). To label the respondents either in the "In-Group" or "Out-Group" the sample was divided using the median score (CATGROUP)(see Table 6B). The question now arises if all questions (Q51 through Q95) should be included in determining the "In-Group." The researcher believes that a very low (high) score for AVGGRP would indicate that the

individual should be in the "In-Group" (Out-Group). To determine what is relatively high and low, a one-way frequency table for AVGGRP was generated. The lowest 25 percent of the values for AVGGRP (2.56 and below) were believed to be those with the highest probability of being in the "In-Group," and the highest 25 percent of values for AVGGRP (3.64 and above) were the highest probability of being in the "Out-Group" in a new variable called CATGRP25.

Using the new variable CATGRP25 as the class variable, t-tests for independent mean was computed to determine which variables (Q51-Q95) are significant in determining the In- and Out-Groups. All of the variables with the exception of Q70 were found to meet the 0.05 level of significance. The t-test also enabled the researcher to determine if any variables should have been reversed, but had not been.

Table 6A
Average of 45 Absolute Values(Q51-Q95)

AVGGRP	Freq	Per	Cum Freq	Cum Per
1.5111111111	1	0.6	1	0.6
1.5555555556	1	0.6	2	1.1
1.6000000000	1	0.6	3	1.7

(table continues)

Average of 45 Absolute Values(O51-O95)

	AVGGRP	Freq	Per	Cum Freq	Cum Per
	1.6888888889	1	0.6	4	2.3
	1.8000000000	2	1.1	6	3.4
	1.9111111111	1	0.6	7	4.0
	1.9333333333	1	0.6	8	4.5
	1.9555555556	2	1.1	10	5.6
INGROUP	1.9777777778	2	1.1	12	6.8
	2.0222222222	1	0.6	13	7.3
	2.0666666667	1	0.6	14	7.9
	2.0888888889	3	1.7	17	9.6
	2.1333333333	1	0.6	18	10.2
	2.1555555556	1	0.6	19	10.7
	2.2000000000	2	1.1	21	11.9
	2.2666666667	1	0.6	22	12.4
	2.3111111111	3	1.7	25	14.1
	2.3333333333	1	0.6	26	14.7
	2.4000000000	4	2.3	30	16.9
	2.4222222222	1	0.6	31	17.5
	2.4444444444	6	3.4	37	20.9
	2.4666666667	1	0.6	38	21.5
	2.4888888889	2	1.1	40	22.6
	2.5111111111	2	1.1	42	23.7
	2.5333333333	1	0.6	43	24.3
	2.5555555556	1	0.6	44	24.9
	2.5777777778	1	0.6	45	25.4
	2.6000000000	1	0.6	46	26.0
	2.6222222222	1	0.6	47	26.6
	2.6444444444	3	1.7	50	28.2
	2.6666666667	1	0.6	51	28.8
	2.6888888889	2	1.1	53	29.9
	2.7111111111	3	1.7	56	31.6
	2.7333333333	3	1.7	59	33.3
	2.7555555556	5	2.8	64	36.2
	2.7777777778	4	2.3	68	38.4
	2.8000000000	1	0.6	69	39.0
	2.8222222222	1	0.6	70	39.5
	2.8666666667	3	1.7	73	41.2

(table continues)

Average of 45 Absolute Values(051-095)

	AVGGRP	Freq	Per	Cum Freq	Cum Per
	2.8888888889	1	0.6	74	41.8
	2.9111111111	3	1.7	77	43.5
	2.9333333333	1	0.6	78	44.1
	2.9555555556	3	1.7	81	45.8
	2.9777777778	1	0.6	82	46.3
Median	3.0000000000	3	1.7	85	48.0
	3.0222222222	4	2.3	89	50.3
	3.0666666667	3	1.7	92	52.0
	3.0888888889	4	2.3	96	54.2
	3.1111111111	1	0.6	97	54.8
	3.1333333333	3	1.7	100	56.5
	3.1777777778	1	0.6	101	57.1
	3.2000000000	2	1.1	103	58.2
	3.2222222222	2	1.1	105	59.3
	3.2444444444	3	1.7	108	61.0
	3.2666666667	1	0.6	109	61.6
	3.3333333333	3	1.7	112	63.3
	3.3555555556	1	0.6	113	63.8
	3.4000000000	6	3.4	119	67.2
	3.4222222222	2	1.1	121	68.4
	3.4888888889	1	0.6	122	68.9
	3.5111111111	1	0.6	123	69.5
	3.5333333333	1	0.6	124	70.1
	3.5555555556	3	1.7	127	71.8
	3.6000000000	2	1.1	129	72.9
	3.6222222222	1	0.6	130	73.4
	3.6444444444	2	1.1	132	74.6
	3.6666666667	2	1.1	134	75.7
	3.6888888889	1	0.6	135	76.3
	3.7111111111	1	0.6	136	76.8
	3.7333333333	1	0.6	137	77.4
	3.7555555556	3	1.7	140	79.1
	3.8444444444	2	1.1	142	80.2
	3.8888888889	2	1.1	144	81.4
	3.9333333333	1	0.6	145	81.9
	3.9555555556	1	0.6	146	82.5

(table continues)

Average of 45 Absolute Values(051-095)

	AVGGRP	Freq	Per	Cum Freq	Cum Per
	4.0000000000	3	1.7	149	84.2
	4.0666666667	1	0.6	150	84.7
	4.1333333333	3	1.7	153	86.4
	4.2000000000	2	1.1	155	87.6
	4.2666666667	1	0.6	156	88.1
	4.3111111111	1	0.6	157	88.7
OUTGROUP	4.3777777778	2	1.1	159	89.8
	4.4222222222	1	0.6	160	90.4
	4.4444444444	1	0.6	161	91.0
	4.6222222222	2	1.1	163	92.1
	4.7555555556	1	0.6	164	92.7
	4.9555555556	2	1.1	166	93.8
	5.0222222222	1	0.6	167	94.4
	5.0666666667	1	0.6	168	94.9
	5.1111111111	1	0.6	169	95.5
	5.1333333333	1	0.6	170	96.0
	5.1777777778	1	0.6	171	96.6
	5.2444444444	1	0.6	172	97.2
	5.3555555556	1	0.6	173	97.7
	5.3777777778	2	1.1	175	98.9
	5.7111111111	1	0.6	176	99.4
	5.7333333333	1	0.6	177	100.0

Table 6B
OUTGROUP/INGROUP Based on AVGGRP

CATGROUP	Freq	Per	Cum Freq	Cum Per
IN-GROUP	85	48.0	85	48.0
OUT-GROUP	92	52.0	177	100.0

In summary, it is possible to determine "In-Groups" and "Out-Groups" in a sample. This research indicates that the

most appropriate way of determining "In-Groups" and "Out-Groups" is by dividing the sample by its median. This division method is the same method used by Liden and Maslyn (1994).

In- and Out-Groups by Creative Differences (Research Questions Five and Six)

The relationship of creative similarity is now compared to "In-Groups" or "Out-Groups." The original hypothesis included that those individuals who are "similar" to their supervisor in creativity should be in the "In-Group" while those who are "dissimilar" in creativity from their supervisor are in the "Out-Group." A two-way frequency table and the Chi-square test were computed comparing AVGCRECX versus CATGROUP (see Table 7).

The relative scoring and categorization method of "Similar" and "Dissimilar" creativity found results other than those hypothesized. In the cross-frequency table comparing variables AVGCRECX with CATGROUP, 52.63 percent of the "Dissimilar" creative respondents were categorized in the "In-Group," while only 42.68 percent of the "Similar" creative respondents were categorized in the "In-Group."

The results of the Chi-square test show that there is no significant relationship between levels of creativity and "In-Group" or "Out-Group" categorization. Yet, it does appear that more individuals in the "In-Group" had "dissimilar" creativity while more individuals in the "Out-Group" had "similar" creativity with their supervisor.

Table 7

Cross-frequency Table of AVGCRECX by CATGROUP

Avgcrecx(similar/dissimilar Creativity (AVGCRDF1))
Catgroup(out-group/in-group Based on AVGGRP)

	Frequency Percent Row Pct Col Pct	CATGROUP INGROUP	 OUTGROUP	 Total
AVGCRECX	Dissimilar Creativity	50 28.25 52.63 58.82	45 25.42 47.37 48.91	95 53.67
	Similar Creativity	35 19.77 42.68 41.18	47 26.55 57.32 51.09	82 46.33
	Total	85 48.02	92 51.98	177 100.00

Statistic	DF	Value	Prob
Chi-Square	1	1.745	0.186

In summary, the fifth research question in this study asks if there is a relationship between the level of

creativity inherent in an individual and that individual's relationship to their supervisor. The findings of the study have indicated that in this sample of engineering-related organizations there is no relationship between the level of creativity inherent in an individual and that individual's relationship to their supervisor. Furthermore, the sixth research question of this study asks if supervisors tend to support subordinates who are similar to themselves in their creative nature. Table 10 shows that 57.32 percent of the individuals who test "similar" in creative levels with their supervisor are actually in the "Out-Group." The results of this study indicate that supervisors do not significantly support individuals who test "similar" in creative levels.

Examining Underlying Structures (Research Question Seven)

Realizing that diverse sub-groups of those in the "In-Group" and "Out-Groups" may exist, factor analysis was computed using questions 51 through 95 to investigate underlying structures of relationships in the study and answer the seventh research question. Factor analysis is deemed appropriate since there exists at least three times as many observations as questions to be analyzed. Results of every observation are compared to all other observations

to determine if a relationship exists that would create a grouping of variables or ideas by using the Principal Components technique. If these groups of individual responses are determined by the statistical program to be highly related then they will load together as a factor. Varimax rotation was employed to increase the loadings on a few variables in each factor to simplify the interpretation of the results.

In the findings eight factors with Eigenvalues greater than one were extracted. The researcher selected the first four factors after the Varimax rotation for the use in this study because of the greater number of variables with loadings of 0.5 or greater (see Table 8).

Four factors with multiple variables with high loadings were gathered from the results of this study. Using the questions from the MDM-LMX (questions 51 through 95), subordinate/supervisor work relationship factors were examined. The first factor to be found had loadings of 0.5 or greater on 22 questions. Five of the questions had extremely high loadings with scores of 0.82627 or more. The researcher chose to lessen the subjectivity of the grouping

and maximize the accuracy by subjectively selecting only the top five variables that had the highest loadings.

The questions that were included in factor one were Q88 (0.87904), Q86 (0.87662), Q94 (0.86183), Q91 (0.85996) and Q95 (0.84541). The content of those questions were: "I am impressed with my supervisor's knowledge," "I respect my supervisor's knowledge," "My supervisor has earned my respect," "I admire my supervisor's professional skills," and "I respect my supervisor." A general statement that could be used to summarize these statements would be: "I respect my supervisor's knowledge and professional skills." All those individuals who score in the In-Group with a median value less than 3.0 in this factor are referred to as those included in "Level One."

Table 8
Factor Analysis-VARIMAX Rotation

	Factor Loadings			
Variable	FACTOR1	FACTOR2	FACTOR3	FACTOR4
Q51	0.22897	0.37274	0.09784	0.18099
Q52	0.58755	0.18775	0.11390	0.01748
Q53	0.51783	0.43333	0.08100	-0.00950

(table continues)

Factor Analysis–VARIMAX Rotation

Variable	Factor Loadings FACTOR1	FACTOR2	FACTOR3	FACTOR4
Q54	0.82627	0.31802	0.14535	0.08084
Q55	0.57345	0.09869	0.13154	0.05826
Q56	0.13976	0.19978	-0.15349	-0.08568
Q57	0.18586	0.56160	0.09444	0.07655
Q58	0.17191	0.20208	**0.83580**	0.00143
Q59	0.16911	0.33844	**0.70096**	-0.13172
Q60	0.24929	0.20046	0.22801	**0.52069**
Q61	0.04060	0.12447	**0.78183**	0.18086
Q62	0.56960	0.46749	0.09001	0.09655
Q63	0.03986	-0.01226	0.15882	0.37294
Q64	0.57652	0.39841	0.20998	0.20036
Q65	0.58291	0.43079	0.12850	0.21097
Q66	0.54720	0.24009	0.27120	0.32106
Q67	0.57304	0.57469	0.22438	0.09487
Q68	0.56682	0.50487	0.38591	0.07977
Q69	0.41577	0.34475	0.55433	0.33485
Q70	0.43629	**0.69235**	0.18692	0.07233
Q71	0.35656	**0.71704**	0.09832	0.14081
Q72	0.55335	**0.62760**	0.21465	0.14859
Q73	0.49356	**0.62281**	0.12586	0.23581
Q74	0.63691	0.31179	0.12457	-0.02884
Q75	0.11949	0.08995	**0.78346**	0.05102
Q76	0.32829	**0.69451**	0.22482	0.14730
Q77	-0.05591	0.42119	0.15299	**0.53852**
Q78	0.20016	0.52622	0.48172	0.21600
Q79	0.49960	0.61884	0.32348	0.11263
Q80	0.48442	0.53256	0.14151	0.14131
Q81	0.54660	0.47184	0.12839	-0.05494
Q82	0.12673	0.15199	-0.02865	**0.75483**
Q83	0.12527	0.11131	0.45139	**0.59632**
Q84	0.11736	-0.04440	**0.74831**	0.12310
Q85	0.02589	0.06772	0.04375	0.09185
Q86	**0.87662**	0.13059	0.11182	0.05247
Q87	0.56785	0.52880	0.22020	0.09025
Q88	**0.87904**	0.14718	0.16386	0.05312
Q89	0.51710	0.46703	0.17800	0.25502

(table continues)

Factor Analysis-VARIMAX Rotation

	Factor Loadings			
Variable	FACTOR1	FACTOR2	FACTOR3	FACTOR4
Q90	0.81144	0.20267	0.13795	0.17584
Q91	**0.85996**	0.22051	0.08956	0.08504
Q92	0.75055	0.28214	0.12650	0.12934
Q93	0.14562	0.06638	0.12853	-0.06506
Q94	**0.86183**	0.27869	0.12662	-0.00457
Q95	**0.84541**	0.15084	-0.01405	0.00326

A second factor was determined which had high loadings on 12 questions. Of those 12 questions the five questions with the highest factor loadings (0.62281 or higher) were used to explain this factor.

The questions that were chosen for factor two were Q71 (0.71704), Q76 (0.69451), Q70 (0.69235), Q72 (0.62760), and Q73 (0.62281). The content of these questions were the following: "My supervisor would defend my honest mistake," "My supervisor would defend me in an attack by others," "My supervisor is friendly to me," "My supervisor is loyal to me," and "I like my supervisor's company." This group of questions has created a factor that could be summarized: "Supervisor has personal commitment to subordinate." This factor is called "Level Two" in the remainder of the study.

The next factor, originally factor four, was determined in the factor analysis to have four questions that had factor loadings 0.5 or greater. All four questions were used in identifying this factor. The questions that were selected in the factor were Q60 (0.52069), Q77 (0.53852), Q83 (0.59632), and Q82 (0.75483). The content of the questions were: "My supervisor asks my advice," "My supervisor brags about my job," "My supervisor considers me the most knowledgeable," and "My supervisor shares personal problems with me." This group of questions has created a factor that could be summarized as "My supervisor respects my knowledge and advice." This factor is referred to in the study as "Level Three" as it is the logical next factor in orderly analyzing subordinate/ supervisor relations.

The fourth and final factor, which was originally factor three, had six questions that were determined to have high loadings. Five variables were selected to be most appropriate with factor loadings of 0.70096 or higher. This factor included: Q58 (0.83580), Q75 (0.78346), Q61 (0.78183), Q84 (0.74831), and Q59 (0.70096). The content of the questions were the following: "I socialize with my supervisor," "I share personal interests with my

supervisor," "I borrow personal items from my supervisor," "My supervisor and I go for a meal," and "I have invited my supervisor home informally." This factor could be summarized as "I share social and personal interests with my supervisor." This factor is referred to in the study as "Level Four." Four other factors were proposed by the statistical program but none of the factors had groupings that would add clarity to the information of the first four factors.

In summary, there are four underlying factorial structures of relationships between supervisors and subordinates. The importance of the first four factors is that they unveil underlying structures involved in supervisor/subordinate relationships. In this study, the four factors have a natural progression from professional orientation to personal orientation after switching the third and fourth factors. "Level One" is based on the subordinate's perception of the supervisor. "Level Two" is based on the supervisor's level of commitment to the subordinate. "Level Three" involves the amount of respect given by the supervisor based on the subordinate's

knowledge. "Level Four" deals with a step outside the work environment into the personal and social realm.

Creating Factorial Categories (Research Question Eight)

The researcher then created four new variables from the factor analysis results called INOUT1, INOUT2, INOUT3, and INOUT4. The variable INOUT1 was the mean of variables Q86, Q88, Q91, Q94, and Q95. The variable INOUT2 was the mean of Q70, Q71, Q72, Q73, and Q76. INOUT3 was the mean of variables Q60, Q77, Q82, and Q83. The variable INOUT4 was the mean of Q58, Q59, Q61, Q75, and Q84. With this information, new categories were created that would determine which individuals would fit into each underlying structure. A category was created, using the original median score of 3.0, that would indicate all those individuals who were found to be either "In-Group" in all categories or "Out-Group" in all categories which was called "Level 5." A one-way frequency was run to show the observations categorized in each class. The final element of this grouping is a new level identifying those subordinates who scored in all five levels (see Tables 9A-E).

Table 9A
Level 1-IN and OUT Group Based on INOUT1

CATINO1	Freq	Per	Cum Freq	Cum Per
Level 1 - IN	131	74.0	131	74.0
Level 1 - OUT	46	26.0	177	100.0

Table 9B
Level 2-IN and OUT Group Based on INOUT2

CATINO2	Freq	Per	Cum Freq	Cum Per
Level 2 - IN	120	67.8	120	67.8
Level 2 - OUT	57	32.2	177	100.0

Table 9C
Level 3-IN and OUT Group Based on INOUT3

CATINO3	Freq	Per	Cum Freq	Cum Per
Level 3 - IN	45	25.4	45	25.4
Level 3 - OUT	132	74.6	177	100.0

Table 9D
Level 4-IN and OUT Group Based on INOUT4

CATINO4	Freq	Cum Per	Cum Freq	Per
Level 4 - IN	20	11.3	20	11.3
Level 4 - OUT	157	88.7	177	100.0

Table 9E
Level 5-IN and OUT Group (INOUT1-INOUT4)

CATINO5	Freq	Per	Cum Freq	Cum Per
Level 5 - IN	7	19.4	7	19.4
Level 5 - OUT	29	80.6	36	100.0

A one-way frequency table was used to determine the number of observations that were placed in multiple factors and the relationship of multiple factors with creative similarity. It is important to clarify that an individual, in this study, does not necessarily have to be in the "In-Group" in level one in order to be in the "In-Group" in level two and so on. There seems to exist no relationship between "In-Groups" in multiple levels. In the study, 29 of the 177 subordinates were in the "Out-Group" in all four factors (see Table 10). However, 12 of those 29 tested "similar" in their creative levels with their supervisor.

The remainder of the individuals who tested in the "Out-Group" in "Level One," tested in the "In-Group" in as many as two other factors. This group included 17 individuals with three of these individuals in the "In-Group" in "Level Two" and "Level Three" with one

individual "similar" and two individuals "dissimilar" in their creative levels. Two other individuals each tested in the "In-Group" in "Level Two" and "Level Four" with one individual "similar" and the other "dissimilar" in creative level. Eight individuals were found to score in the "In-Group" on "Level Two" with only five individuals testing "similar" and three testing "dissimilar" in creativity levels. And finally, four individuals in the study of those in the "Out-Group" in "Level One" scored in the "In-Group" in "Level Three" with three individuals "similar" and one individual "dissimilar" in their creativity.

A study of the 21 individuals who scored in the "In-Group" in "Level One" only had 10 "similar" and 11 "dissimilar" in their level of creativity. One individual scored in the "In-Group" in "Level One" and in "Level Three," with a creative level that was "similar." One other individual in this group scored in the "In-Group" in "Level One," "Level Three," and "Level Four" with creativity that was "dissimilar."

A large group was determined to score in the "In-Group" on "Level One" and "Level Two." In this group there were 61 individuals with 36 of those in the "dissimilar" category of

creative level and 25 in the "similar" category. Ten other individuals were found to test in the "In-Group" in "Level One" and "Level Two," however, these ten also tested in the "In-Group" in "Level Four" with seven individuals "dissimilar" and three "similar."

Table 10
One-way Frequency Table of CATINO1-4 and AVGCRECX

CATINO1	CATINO2	CATINO3	CATINO4	AVGCRECX	Number of OBS
IN	IN	IN	IN	Similar	3
IN	IN	IN	IN	Dissimilar	4
IN	IN	IN	OUT	Similar	14
IN	IN	IN	OUT	Dissimilar	15
IN	IN	OUT	IN	Similar	3
IN	IN	OUT	IN	Dissimilar	7
IN	IN	OUT	OUT	Similar	27
IN	IN	OUT	OUT	Dissimilar	34
IN	OUT	IN	IN	Similar	0
IN	OUT	IN	IN	Dissimilar	1
IN	OUT	IN	OUT	Similar	1
IN	OUT	IN	OUT	Dissimilar	0
IN	OUT	OUT	OUT	SIMILAR	11
IN	OUT	OUT	OUT	DISSIMILAR	11
OUT	IN	IN	OUT	SIMILAR	1
OUT	IN	IN	OUT	DISSIMILAR	2

(table continues)

One-way Frequency Table of CATINO1-4 and AVGCRECX

CATINO1	CATINO2	CATINO3	CATINO4	AVGCRECX	Number of OBS
OUT	IN	OUT	IN	SIMILAR	1
OUT	IN	OUT	IN	DISSIMILAR	1
OUT	IN	OUT	OUT	SIMILAR	5
OUT	IN	OUT	OUT	DISSIMILAR	3
OUT	OUT	IN	OUT	SIMILAR	3
OUT	OUT	IN	OUT	DISSIMILAR	1
OUT	OUT	OUT	OUT	SIMILAR	13
OUT	OUT	OUT	OUT	DISSIMILAR	16
		TOTAL SIMILAR OBSERVATIONS			82
		TOTAL DISSIMILAR OBSERVATIONS			95

The final analysis of the level scoring determined that 29 individuals scored in the "In-Group" in "Level One," "Level Two," and "Level Three" with 14 individuals categorized as "dissimilar" while 15 were categorized "similar." The group that scored in the "In-Group" in all four levels had seven individuals. These individuals had four to be categorized "dissimilar" and three to be categorized "similar" according to their levels of creativity. According to the researcher's relative scoring method of similar creative categorization, the results of

the comparison of AVGCRECX and CATINO1 find fewer respondents categorized as "Similar" than as "Dissimilar" (see Table 11). The results of the Chi-Square test still show that there is no significant relationship between creative similarities and "In-Group" or "Out-Group" categories.

Based on factor analysis it was determined that a second factor called "Level Two" which represented the supervisor's personal commitment to the subordinate. This group was again split by the original median score of 3 into "Out-Group" and "In-Group" categories and compared using cross-frequency tables to "similar" levels of creativity (see Table 12). The number of individuals that are categorized in the "In-Group" drops to 120 or 67.80 percent as compared to "Level One" which had "In-Group" respondents of 131 individuals or 74.01 percent.

Table 11
Table of AVGCRECX by CATINO1

Avgcrecx(Similar-dissimilar Creativity (AVGCRDF1))
Catino1(Level 1-IN and OUT Group Based on INOUT1)

AVGCRECX	Frequency Percent Row Pct Col Pct	CATINO1 Level 1 - IN	 Level 1 - OUT	 Total
	Dissimilar Creativity	71 40.11 74.74 54.20	24 13.56 25.26 52.17	95 53.67
	Similar Creativity	60 33.90 73.17 45.80	22 12.43 26.83 47.83	82 46.33
	Total	131 74.01	46 25.99	177 100.00

Statistic	DF	Value	Prob
Chi-Square	1	0.056	0.813

Table 12
Table of AVGCRECX by CATINO2

Avgcrecx(Similar-dissimilar Creativity (AVGCRDF1))
CATINO2(Level 2-IN and OUT Group Based on INOUT2)

AVGCRECX	Frequency / Percent / Row Pct / Col Pct	CATINO2: Level 2 - IN	CATINO2: Level 2 - OUT	Total
	Dissimilar Creativity	65 36.72 68.42 54.17	30 16.95 31.58 52.63	95 53.67
	Similar Creativity	55 31.07 67.07 45.83	27 15.25 32.93 47.37	82 46.33
	Total	120 67.80	57 32.20	177 100.00

Statistic	DF	Value	Prob
Chi-Square	1	0.037	0.848

As in the comparisons with "Level One," the majority of respondents whether "similar" or "dissimilar" in creative levels were in the "In-Group." Table 12 shows again that, according to the Chi-Square test, there is no significant relationship between creative level and this underlying structure.

A third factor was determined in factor analysis that was called "Level Three" and represents the subordinate's appreciation and trust of the supervisor's knowledge. The total number of individuals that scored in the "In-Group" according to the "Level Three" variable has dropped to 45 individuals or 25.42 percent. But the research still does not to show a relationship between the "In-Group" and "Out-Group" variable and creative similarities (see Table 13).

Table 13
Table of AVGCRECX by CATINO3

AVGCRECX(Similar-dissimilar Creativity (AVGCRDF1))
CATINO3(Level 3-IN and OUT Group Based on INOUT3)

	Frequency / Percent / Row Pct / Col Pct	CATINO3		
		Level 3 - IN	Level 3 - OUT	Total
AVGCRECX	Dissimilar Creativity	22 12.43 23.16 48.89	73 41.24 76.84 55.30	95 53.67
	Similar Creativity	23 12.99 28.05 51.11	59 33.33 71.95 44.70	82 46.33
	Total	45 25.42	132 74.58	177 100.00

Statistic	DF	Value	Prob
Chi-Square	1	0.555	0.456

A fourth and final factor representing the social and personal relationship of the supervisor and subordinate, called "Level Four," was compared to creative similarities. The total respondents who scored in the "In-Group" according to the variables in "Level Four" dropped to 11.30 percent or 20 individuals. Still there is a greater percentage of those individuals in the "In-Group" who are "dissimilar" than those in the "In-Group" and "similar." Once again the Chi-Square test shows that there is no significant relationship between creative levels and the "In-Groups" and "Out-Groups" according to the variable in "Level Four" (see Table 14).

Table 14
Table of AVGCRECX by CATINO4

Avgcrecx(Similar-dissimilar Creativity (AVGCRDF1))
CATINO4(Level 4-IN and OUT Group Based on INOUT4)

AVGCRECX	Frequency Percent Row Pct Col Pct	CATINO4 Level 4 - IN	CATINO4 Level 4 - OUT	Total
	Dissimilar Creativity	13 7.34 13.68 65.00	82 46.33 86.32 52.23	95 53.67
	Similar Creativity	7 3.95 8.54 35.00	75 42.37 91.46 47.77	82 46.33
	Total	20 11.30	157 88.70	177 100.00

Statistic	DF	Value	Prob
Chi-Square	1	1.164	0.281

In summary, the results of the study demonstrate that the number of observations who are in the "In-Group" declines as the groups become more personal and, therefore, more selective. The factorial groups decrease in size because it is more difficult to become part of the privileged inner group who is close to the supervisor

outside the workplace. It is apparent that in this study there exists no significant relationship between creative similarity and the "In-Group" relationship of the subordinate and the supervisor as pondered in the seventh research question. Clearly there is also no significant relationship of creative similarity to any of the factorial structures of the supervisor/subordinate relationship. It is important to note that the study does generate significant findings in methods of determining relative creativity, creative similarity and underlying structures of supervisor/subordinate relations.

CHAPTER V

SUMMARY OF THE FINDINGS

Introduction to the Findings

Creativity is an important element of the work force. Corporations all over the United States and the world are increasingly aware of the need for advancement, idea development, and creativity in order to be able to compete in the challenging and changing marketplace. Creative ideas and innovations have become a critical element for success in the business world. Many corporations are asking questions and seeking answers about how creativity fits into an already complicated workplace. The research and writings about creativity are broad, but the information about how creativity fits in the work force is lacking detail and application.

One of the questions that needs to be examined is the significance of creativity and supervisor/subordinate relations. This thesis seeks to explore the significance of creativity in the supervisor/subordinate relations. Too frequently, the instruments employed to examine relationships in the work force are focused so narrowly that creativity and idea generation are omitted all together. Few individuals are considered experts in creativity, and

the studies completed on creativity are primarily focused on the individual outside of the relations with others. Research on creative relations is currently more important than ever before because of the need to understand the intricate elements of our work force.

Two of the highly acclaimed works in relationship studies between supervisors and subordinates are the Leader-Member Exchange (Graen, 1975) and the Multi-dimensional Measure of the Leader-Member Exchange (Liden and Maslyn, 1994). These works proposed that subordinates who were similar to their supervisor would be categorized as "In-Group," with the greatest probability of promotion and reward. Those subordinates who are the least similar to their supervisor, identified as the "Out-Group," have the least probability of promotion and reward. Many people believe this theory to be correct. An old phrase that demonstrates the public's perception of this consensus is "birds of a feather flock together." The findings provided in this research demonstrated that birds of a feather may not necessarily flock together. Although this study indicates that the MDM-LMX hypothesis is not statistically significant does not mean that it is never significant.

This study showed that it is possible to measure creativity within a relative group of individuals. Relative measures are proposed to be the best method for determining levels of creativity because they determine differences in individuals within specific groups. Within these groups, it is possible to determine relationships of creativity using the most significant variables to demonstrate similarity or dissimilarity. Another relationship that was established was the "In-Group" and "Out-Group." Once these groups were established relationships were examined between levels of creativity and "In-Group" and "Out-Group" status. From the examinations of these relationships it was determined that no relationship exists between creative similarity and "In-Group" status. Factor analysis was also done to determine if underlying factors of supervisor/subordinate relations were present in this sample. Creative similarity and the four factors found were examined to see if a relationship existed between creative similarity and any of the factors. In this study no significant relationship was found to exist. Finally, underlying factors were examined to determine if they could account for positive relationships with supervisors. The evidence provided in

this study showed that these factors could not be correlated to positive or negative supervisor/subordinate relations.

Assumptions and Limitations

This study is limited to a narrow sample of respondents from engineering-related companies in Oklahoma. Because the sample is narrow, generalizations are made while absolutes are impossible. One of the study's limitations is the extent of parochialism inherent in the sample because of the similarity of the degrees earned by respondents, as well as the limited number of area institutions that offer an engineering education. The researcher has assumed that engineers are by nature a creative group. In any study that could involve various industries and individuals, limitations, and assumptions will always exist. These limitations assume that there is risk in developing conclusions based on the sample research. In making these conclusions, the researcher is aware of the possibility of error.

Conclusions

This research has determined that some inherent problems exist in the study of creativity and creative

relationships. First, the development of a tool for testing creativity is subject to scrutiny because of the subjective nature of determining the question content. The research in this study demonstrated the need for statistical analyses to determine critical questions to be included in a creativity measure. Determined in this study were questions that had varying levels of significance. In the research on creativity, only 11 of the 50 questions were determined to surpass at least the minimum level of acceptance (0.05 level adjusted for the Bon Feronni theorem while thirty-nine questions were determined to be insignificant in differentiating levels of creativity. It is highly possible that the better method for testing differences in creativity is to use only the nine most significant variables determined to be significant at the 0.0001 level.

Another significant finding in the research was the lack of validity in the method of determining creative categories proposed by Raudsepp in his work How Creative Are You. Using Raudsepp's method, the scores of 50 questions are totaled to determine various subjectively determined categories of creativity. The score totaling method, being an absolute rather than a relative measure of

categorization, fails to differentiate between levels of creative individuals, as most individuals tend to group in the mid-score categories. It is possible that most, if not all, individuals would score in the same creative category.

The researcher's method for determining creative categories is much more applicable for managerial use because it compares an individual in a given sample with the other individuals in the same sample group. It is also a statistical technique that adds validity to the subjective nature of creative testing and categorization. Mean values are determined in the researcher's technique to compare individual's responses with other individuals in the same sample group. This technique is called the relative method, and it polarizes relatively creative and non-creative individuals, allowing a clearer analyses of differences among individuals. This method could be more applicable in corporate settings because it would allow management to better understand similarities and differences among individuals. This information could be used to appoint leaders in such areas as creative development projects based on the individuals who were relatively most creative in the given group. This method could assist decision makers in

building a diversified team of idea generators with individuals of differing levels of creativity.

Because the researcher developed a better method for determining relative levels of creativity, it is now possible to determine those individuals who are similar creatively to their supervisor. This is an important element of the research because it permits a relationship comparison of creative similarity and other aspects of supervisor/subordinate relations. The study demonstrates that the better method for determining similarity is to total the absolute mean difference of each critical variable, which more accurately determines the creative similarity/dissimilarity of the supervisor and the subordinate.

The researcher believes, based on the study, that the Multi-dimensional Measure of the Leader-Member Exchange (MDM-LMX) questions are a qualified tool for the determination of "In-Groups" and "Out-Groups." Using this test, the researcher could determine if a relationship does exist between creative similarity and "In-Group" relations. It is determined using these tests that there are no significant relationships between creative similarity of the

supervisor and subordinate and the subordinate's "In-Group" status. Therefore, it appears that additional significant elements of workplace relations must be addressed to determine "In-Group" status and creative similarity.

To further differentiate members in the sample according to their individual characteristics, the researcher used factor analysis to determine if underlying factors existed in work relations in this sample. The underlying factors might lead to a better understanding of workplace relations in engineering-related companies as well as other industries. Using the questions in the MDM-LMX test, the research determines four factors that represent four areas of the relationship between subordinates and supervisors. The first factor, called "Level One," examines the subordinate perception of the supervisor's knowledge. The statement used to summarize the questions in the factor is: "I respect my supervisor's knowledge and professional skills." This "Level One," "In-Group" factor was determined to be 74.01% of the individuals. However, no relationship is found that relates "Level One," "In-Group" respondents with similarity in creativity with their supervisor. Factor two, called "Level Two," examined the supervisor's personal

commitment to the employee. "Level Two" was summarized as "the supervisor has a personal commitment to the subordinate." The individuals who were in the "In-Group" in this level declined to 67.80% of the sample. The decline in the percentage score from "Level One" indicates an increasing selectivity of the "In-Group" and a greater polarization of the sample. However, no significant relationship is determined in the study that would indicate that those in the "In-Group" according to their relationship to their supervisor are "similar" in their creativity.

The third factor, called "Level Three," found in the study examines the statement: "my supervisor respects my knowledge." The sample group individuals that scored in the "In-Group" dropped again with this level to 25.42%. It would seem that this more selective group would be the individuals in the workplace that are "similar" to the supervisor and that the supervisor would confide in these individuals for advice and counsel. However, there exists no statistically significant relationship between the "In-Group" members and the similarity of creative scores.

The fourth factor, called "Level Four," is much more personal than those previously examined. The fourth factor

is summarized as "I share social and personal interests with my supervisor." Only 11.30% of the individuals were determined to be in this very select and probably highly privileged "In-Group." These individuals have some level of personal involvement with the supervisor outside the workplace and yet, they still are not significantly "similar" statistically in their creativity with their supervisor. According to the four levels that determine the underlying structures in the sample, no significant relationship exists between those who are in the "In-Group" or "Out-Group" on these levels and creative similarity.

A final group was examined in the research that included all of the individuals that were categorized in the "In-Group" on all levels versus those in the "Out-Group" on all levels. According to the examination of these groups, no significant relationship exists between "In-Group" scoring and creative similarity. The primary alternative hypothesis of the study that was those individuals in the workplace who are most "similar" to their supervisor in their creativity are most often in the "In-Group." The null hypothesis has been proven correct in this study. The "In-Group" according to the MDM-LMX showed no significant

relationship between "In-Groups" and creative similarity. Also, no relationship is determined in the levels between "In-Group" individuals and creative similarity.

The intent of the study was to demonstrate that those individuals in the workplace who are most similar to their supervisor in creativity are most often in the "In-Group" according to the MDM-LMX. On the contrary, this research has demonstrated that in this sample of individuals from engineering-related companies no significant relationship was determined between levels of creativity and supervisor/ subordinate relations. Based on this study, birds of a feather do not necessarily flock together. It is possible that in some occurrences opposites actually attract.

The results of this study would indicate an effort of some supervisors to surround themselves with a team of individuals empowered to be themselves, as opposed to mimicking the every action and thought of the supervisor. The results of this study indicates that similarity of creativity appears to not be as important to be in the "In-Group" in this industry as are other elements of workplace relations. It is possible that in an environment that demands constant idea development and creativity that a

diversity of perspectives and levels of creativity are appreciated. Some supervisors may greatly respect and appreciate opinions and differences in the individuals who surround them.

Applications of this Research

It has been determined in this study that although creativity is important to organizations, it is not essential for the feeling of acceptance and advancement of individuals in the organization. The individual in the work force is only part of a complicated system. The system needs creative ideas and developments but can exist successfully without all members of the work force being "Highly Creative." Both organizations and individuals are a system of many complicated elements that are meaningfully interconnected. To select only one element, such as creativity, in the workplace would seem to be incomplete.

Recommendations for Further Study

This study is inherently subjective because of the difficulty in determining exact methods of testing creativity. Tests are created that are based on a researcher's opinion of the elements that make up a creative individual. Although many characteristics are common in

individuals who demonstrate creative tendencies, these characteristics are not absolutes in many cases. Therefore, creative testing techniques should be developed that minimize subjectivity and are useful in determining all types of creative individuals. It is the belief of this researcher that different levels of creativity exist as well as different types of creative individuals.

If absolutes about creativity cannot be accurately developed, then relative measures of creativity testing must be enacted that test the differences between individuals in given samples. Comparisons of groups provide more applicable results than subjective testing methods because individuals can be compared against each other as well as the average of a given sample.

Individuals and organizations are both complex systems. It is difficult to isolate any element of an organization or an element of an individual and examine that element outside its complex system. Therefore, more research should be implemented that serves to develop an understanding individuals within their environment. To better understand the individual and make recommendations for supervision of supervisor/subordinate relationship development, more

research needs to be directed in finding the elements that determine quality relations.

Another area that needs further examination is how creativity can best be incorporated into the work environment. With the assumption that this study accurately represents the workplace, it is clear that there is uncertainty about the role of creativity. More information is needed about creativity as it is involved in the intricate web of organizational development.

It is also possible that this study is a good method for determining the relationship of creative similarity and supervisor/subordinate relations in other industries and with other samples. More study should be completed in industries such as education, accounting and production, for example, to determine if other industries could benefit from the findings provided in this research. It is also possible that select companies or groups have a direct relationship between creative similarity and supervisor/subordinate relations. And finally, this research could be viewed as it relates to other elements of the workplace, such as levels of workplace satisfaction. It is possible that the current

study could be more significant if other critical variables were included in the study.

The research undertaken in this study demonstrates that the individual as well as the work environment is complex. Understanding the complex nature of workers and workplace relations is a challenge that many researchers will strive to understand in the future. Creativity in individuals is equally difficult to understand and test. The best that can be expected at this point is to continue researching creativity and the creative individual in the hope of better understanding and supervising this valuable, but sometimes difficult, individuals.

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APPENDIX A

RESEARCH INSTRUMENT

Code
[1-4]

How Creative Are You
by E. Randsepp

_____ Instructions: Please answer all questions by circling one response per question.

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
			1	2	3	4	5	6	7
[5]	1.	I always work with a great deal of certainty that I'm following the correct procedures for solving a particular problem.							
[6]	2.	It would be a waste of time for me to ask questions if I had no hope of obtaining answers.	1	2	3	4	5	6	7
[7]	3.	I feel that a logical, step-by-step method is best for solving problems.	1	2	3	4	5	6	7
[8]	4.	I occasionally voice opinions in groups that seem to turn some people off.	1	2	3	4	5	6	7
[9]	5.	I spend a great deal of time thinking about what others think about me.	1	2	3	4	5	6	7
[10]	6.	I feel that I may have a special contribution to make to the world.	1	2	3	4	5	6	7
[11]	7.	It is more important for me to do what I believe to be right than to try to win the approval of others.	1	2	3	4	5	6	7
[12]	8.	People who seem uncertain about things lose my respect.	1	2	3	4	5	6	7
[13]	9.	I am able to stick with difficult problems over extended periods of time.	1	2	3	4	5	6	7
[14]	10.	On occasion I get overly enthusiastic about things.	1	2	3	4	5	6	7
[15]	11.	I often get my best ideas when doing nothing in particular.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[16]	12.	I rely on intuitive hunches and the feeling of "rightness" or "wrongness" when moving toward the solution of a problem.	1	2	3	4	5	6	7
[17]	13.	When problem solving, I work faster when analyzing the problem and slower when synthesizing the information I've gathered.	1	2	3	4	5	6	7
[18]	14.	I like hobbies that involve collecting things.	1	2	3	4	5	6	7
[19]	15.	Daydreaming has provided the stimulus for many of my more important projects.	1	2	3	4	5	6	7
[20]	16.	If I had to choose, I would rather be a physician than an explorer.	1	2	3	4	5	6	7
[21]	17.	I can get along more easily with people if they belong to about the same social and business class as I.	1	2	3	4	5	6	7
[22]	18.	I have a high degree of artistic sensitivity.	1	2	3	4	5	6	7
[23]	19.	Intuitive hunches are unreliable guides in problem solving.	1	2	3	4	5	6	7
[24]	20.	I am much more interested in coming up with new ideas than I am in trying to sell them to others.	1	2	3	4	5	6	7
[25]	21.	I tend to avoid situations in which I might feel inferior.	1	2	3	4	5	6	7
[26]	22.	When I evaluate information, its source is more important to me than its content.	1	2	3	4	5	6	7
[27]	23.	I like people who follow the rule "business before pleasure."	1	2	3	4	5	6	7
[28]	24.	Self-respect is much more important than the respect of others.	1	2	3	4	5	6	7
[29]	25.	I feel that people who strive for perfection are unwise.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[30]	26.	I like work in which I must influence others.	1	2	3	4	5	6	7
[31]	27.	It is important for me to have a place for everything and everything in its place.	1	2	3	4	5	6	7
[32]	28.	People who are willing to entertain "crackpot" ideas are impractical.	1	2	3	4	5	6	7
[33]	29.	I enjoy fooling around with new ideas, even if there is no practical payoff.	1	2	3	4	5	6	7
[34]	30.	When a certain approach to a problem doesn't work, I can quickly reorient my thinking.	1	2	3	4	5	6	7
[35]	31.	I don't like to ask questions that show ignorance.	1	2	3	4	5	6	7
[36]	32.	I am able to change my interests to pursue a job or career more easily than I can change a job to pursue my interests.	1	2	3	4	5	6	7
[37]	33.	I believe the inability to solve a problem is frequently due to asking the wrong questions.	1	2	3	4	5	6	7
[38]	34.	I can frequently anticipate the solution to my problems.	1	2	3	4	5	6	7
[39]	35.	It is a waste of time to analyze one's failures.	1	2	3	4	5	6	7
[40]	36.	Only fuzzy thinkers resort to metaphors and analogies.	1	2	3	4	5	6	7
[41]	37.	At times I have so enjoyed the ingenuity of a crook that I hoped he or she would go scot-free.	1	2	3	4	5	6	7
[42]	38.	I frequently begin work on a problem that I can only dimly sense and not yet express.	1	2	3	4	5	6	7
[43]	39.	I frequently forget things such as names of people, streets, highways, and small towns.	1	2	3	4	5	6	7
[44]	40.	I feel that hard work is the basic factor in success.	1	2	3	4	5	6	7

		Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[45] 41.	To be regarded as a good team member is important to me.	1	2	3	4	5	6	7
[46] 42.	I know how to keep my inner impulses in check.	1	2	3	4	5	6	7
[47] 43.	I am a thoroughly dependable and responsible person.	1	2	3	4	5	6	7
[48] 44.	I resent things being uncertain and unpredictable.	1	2	3	4	5	6	7
[49] 45.	I prefer to work with others in a team effort rather than alone.	1	2	3	4	5	6	7
[50] 46.	The trouble with many people is that they take things too seriously.	1	2	3	4	5	6	7
[51] 47.	I am frequently haunted by my problems and cannot let go of them.	1	2	3	4	5	6	7
[52] 48.	I can easily give up immediate gain or comfort to reach the goals I have set.	1	2	3	4	5	6	7
[53] 49.	If I were a college professor, I would rather teach factual courses than those involving theory.	1	2	3	4	5	6	7
[54] 50.	I'm attracted to the mystery of life.	1	2	3	4	5	6	7

Instructions: Keeping in mind your immediate supervisor, answer the questions by circling the appropriate response.

Multi-dimensional Measure of the Leader-Member Exchange by Robert Liden and John Maslyn

[55] 51.	My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question.	1	2	3	4	5	6	7
[56] 52.	My supervisor takes on extra work to help ensure the completion of my important tasks.	1	2	3	4	5	6	7
[57] 53.	My supervisor represents me when I am faced with a particularly difficult or sensitive situation.	1	2	3	4	5	6	7

		Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[58] 54.	I have a great deal of respect for my supervisor as a professional in our line of work.	1	2	3	4	5	6	7
[59] 55.	The depth of my commitment to accomplish assigned tasks closely matches that of my supervisor.	1	2	3	4	5	6	7
[60] 56.	I am willing to apply extra efforts, beyond those normally required, to further the interests of my work group.	1	2	3	4	5	6	7
[61] 57.	If I needed to apply for another job, I am confident that my supervisor would write an excellent letter of recommend-ation for me.	1	2	3	4	5	6	7
[62] 58.	I socialize with my supervisor outside of work.	1	2	3	4	5	6	7
[63] 59.	I share interests in leisure activities (e.g., sports, movies) with my supervisor.	1	2	3	4	5	6	7
[64] 60.	My supervisor has asked for my advice in solving a job-related problem of his or hers.	1	2	3	4	5	6	7
[65] 61.	I am likely to ask to borrow a needed personal item (e.g., lawn mower or golf clubs) from my supervisor.	1	2	3	4	5	6	7
[66] 62.	My supervisor creates an atmosphere conducive to accomplishing my work.	1	2	3	4	5	6	7
[67] 63.	I do work for my supervisor that goes beyond what is specified in my job description.	1	2	3	4	5	6	7
[68] 64.	I would come to my supervisor's defense if he or she was being criticized.	1	2	3	4	5	6	7
[69] 65.	I feel that I am very loyal to my supervisor.	1	2	3	4	5	6	7

Code [1-4]			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[5]	66.	In all of the jobs that I've held in the past, I've never had a supervisor that I respected as much as my current supervisor.	1	2	3	4	5	6	7
[6]	67.	I like my supervisor very much as a person.	1	2	3	4	5	6	7
[7]	68.	My supervisor is a lot of fun to work with.	1	2	3	4	5	6	7
[8]	69.	I would want to keep in touch with my supervisor after we no longer work together, even if we were not working in the same organization.	1	2	3	4	5	6	7
[9]	70.	My supervisor is **not** very friendly toward me.	1	2	3	4	5	6	7
[10]	71.	My supervisor would defend me to others in the organization if I made an honest mistake.	1	2	3	4	5	6	7
[11]	72.	My supervisor is the kind of person one would like to have as a friend.	1	2	3	4	5	6	7
[12]	73.	My supervisor is very loyal to me.	1	2	3	4	5	6	7
[13]	74.	My supervisor is always available to answer my questions.	1	2	3	4	5	6	7
[14]	75.	My supervisor and I often go out for an informal drink or meal.	1	2	3	4	5	6	7
[15]	76.	My supervisor would come to my defense if I was "attacked" by others.	1	2	3	4	5	6	7
[16]	77.	My supervisor has bragged about how good I am at my job.	1	2	3	4	5	6	7
[17]	78.	I enjoy talking about nonwork subjects (like sports or politics) with my supervisor.	1	2	3	4	5	6	7
[18]	79.	I like my supervisor and enjoy his or her company.	1	2	3	4	5	6	7

		Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[19] 80.	Even when we disagree about something, I find it difficult to dislike my supervisor.	1	2	3	4	5	6	7
[20] 81.	My supervisor would be willing to spend time working with me on a project that was delayed through no fault of mine.	1	2	3	4	5	6	7
[21] 82.	Of all those in my work group, my supervisor would consider me to be the most knowledgeable at his or her job.	1	2	3	4	5	6	7
[22] 83.	My supervisor talks to me about personal problems he or she is having.	1	2	3	4	5	6	7
[23] 84.	My supervisor has invited me to his or her home for a dinner, party, or informal evening.	1	2	3	4	5	6	7
[24] 85.	My supervisor has asked me to work past my regular quitting time.	1	2	3	4	5	6	7
[25] 86.	I respect my supervisor's knowledge of, and competence on the job.	1	2	3	4	5	6	7
[26] 87.	I can trust my supervisor to look out for my best interests.	1	2	3	4	5	6	7
[27] 88.	I am impressed with my supervisor's knowledge of his or her job.	1	2	3	4	5	6	7
[28] 89.	Even when he or she disagrees with me, my supervisor recognizes and respects the value of my judgments and decisions.	1	2	3	4	5	6	7
[29] 90.	I would guess that out of all the people in the U.S. holding the same job as my supervisor, my supervisor would rank as one of the most competent.	1	2	3	4	5	6	7
[30] 91.	I admire my supervisor's professional skills.	1	2	3	4	5	6	7

		Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[31] 92.	My supervisor is admired by the people he or she encounters through work.	1	2	3	4	5	6	7
[32] 93.	If my supervisor asked me to do something that is a violation of organizational policy or procedures, I would believe that it was the right thing to do under the circumstances.	1	2	3	4	5	6	7
[33] 94.	My supervisor has earned my respect as a professional in his or her field.	1	2	3	4	5	6	7
[34] 95.	My supervisor's skills and abilities are respected by his or her peers or managers.	1	2	3	4	5	6	7

[35] 96. Your gender: (1) Male (2) Female

[36] 97. Your age:
(1) 18-25
(2) 26-35
(3) 36-45
(4) 46-55
(5) 56-65
(6) 66 and above

[37] 98. What is the highest level of education you have obtained?
(1) High school graduate or less
(2) Some college
(3) College degree
(4) Postgraduate study

[38] 99. Your marital status:
(1) Single
(2) Married
(3) Divorced
(4) Widowed

[39] 100. Your race:
(1) Native American
(2) Caucasian
(3) African American
(4) Asian
(5) Hispanic
(6) Other

[40-41] 101. Your years with current company: _____

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[42]	102.	How satisfied are you with your current job?	1	2	3	4	5	6	7
[43]	103.	How satisfied are you with your relationship to your immediate supervisor?	1	2	3	4	5	6	7

Thank you for your cooperation in answering all of the questions. Please check to make certain you have answered every question.

Code
[1-3]

How Creative Are You
by E. Randsepp

_____ Instructions: Please answer all questions by circling one response per question.

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[4]	1.	I always work with a great deal of certainty that I'm following the correct procedures for solving a particular problem.	1	2	3	4	5	6	7
[5]	2.	It would be a waste of time for me to ask questions if I had no hope of obtaining answers.	1	2	3	4	5	6	7
[6]	3.	I feel that a logical, step-by-step method is best for solving problems.	1	2	3	4	5	6	7
[7]	4.	I occasionally voice opinions in groups that seem to turn some people off.	1	2	3	4	5	6	7
[8]	5.	I spend a great deal of time thinking about what others think about me.	1	2	3	4	5	6	7
[9]	6.	I feel that I may have a special contribution to make to the world.	1	2	3	4	5	6	7
[10]	7.	It is more important for me to do what I believe to be right than to try to win the approval of others.	1	2	3	4	5	6	7
[11]	8.	People who seem uncertain about things lose my respect.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[12]	9.	I am able to stick with difficult problems over extended periods of time.	1	2	3	4	5	6	7
[13]	10.	On occasion I get overly enthusiastic about things.	1	2	3	4	5	6	7
[14]	11.	I often get my best ideas when doing nothing in particular.	1	2	3	4	5	6	7
[15]	12.	I rely on intuitive hunches and the feeling of "rightness" or "wrongness" when moving toward the solution of a problem.	1	2	3	4	5	6	7
[16]	13.	When problem solving, I work faster when analyzing the problem and slower when synthesizing the information I've gathered.	1	2	3	4	5	6	7
[17]	14.	I like hobbies that involve collecting things.	1	2	3	4	5	6	7
[18]	15.	Daydreaming has provided the stimulus for many of my more important projects.	1	2	3	4	5	6	7
[19]	16.	If I had to choose, I would rather be a physician than an explorer.	1	2	3	4	5	6	7
[20]	17.	I can get along more easily with people if they belong to about the same social and business class as I.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[21]	18.	I have a high degree of artistic sensitivity.	1	2	3	4	5	6	7
[22]	19.	Intuitive hunches are unreliable guides in problem solving.	1	2	3	4	5	6	7
[23]	20.	I am much more interested in coming up with new ideas than I am in trying to sell them to others.	1	2	3	4	5	6	7
[24]	21.	I tend to avoid situations in which I might feel inferior.	1	2	3	4	5	6	7
[25]	22.	When I evaluate information, its source is more important to me than its content.	1	2	3	4	5	6	7
[26]	23.	I like people who follow the rule "business before pleasure."	1	2	3	4	5	6	7
[27]	24.	Self-respect is much more important than the respect of others.	1	2	3	4	5	6	7
[28]	25.	I feel that people who strive for perfection are unwise.	1	2	3	4	5	6	7
[29]	26.	I like work in which I must influence others.	1	2	3	4	5	6	7
[30]	27.	It is important for me to have a place for everything and everything in its place.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[31]	28.	People who are willing to entertain "crackpot" ideas are impractical.	1	2	3	4	5	6	7
[32]	29.	I enjoy fooling around with new ideas, even if there is no practical payoff.	1	2	3	4	5	6	7
[33]	30.	When a certain approach to a problem doesn't work, I can quickly reorient my thinking.	1	2	3	4	5	6	7
[34]	31.	I don't like to ask questions that show ignorance.	1	2	3	4	5	6	7
[35]	32.	I am able to change my interests to pursue a job or career more easily than I can change a job to pursue my interests.	1	2	3	4	5	6	7
[36]	33.	I believe the inability to solve a problem is frequently due to asking the wrong questions.	1	2	3	4	5	6	7
[37]	34.	I can frequently anticipate the solution to my problems.	1	2	3	4	5	6	7
[38]	35.	It is a waste of time to analyze one's failures.	1	2	3	4	5	6	7
[39]	36.	Only fuzzy thinkers resort to metaphors and analogies.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[40]	37.	At times I have so enjoyed the ingenuity of a crook that I hoped he or she would go scot-free.	1	2	3	4	5	6	7
[41]	38.	I frequently begin work on a problem that I can only dimly sense and not yet express.	1	2	3	4	5	6	7
[42]	39.	I frequently forget things such as names of people, streets, highways, and small towns.	1	2	3	4	5	6	7
[43]	40.	I feel that hard work is the basic factor in success.	1	2	3	4	5	6	7
[44]	41.	To be regarded as a good team member is important to me.	1	2	3	4	5	6	7
[45]	42.	I know how to keep my inner impulses in check.	1	2	3	4	5	6	7
[46]	43.	I am a thoroughly dependable and responsible person.	1	2	3	4	5	6	7
[47]	44.	I resent things being uncertain and unpredictable.	1	2	3	4	5	6	7
[48]	45.	I prefer to work with others in a team effort rather than alone.	1	2	3	4	5	6	7
[49]	46.	The trouble with many people is that they take things too seriously.	1	2	3	4	5	6	7
[50]	47.	I am frequently haunted by my problems and cannot let go of them.	1	2	3	4	5	6	7

			Strongly Agree	Agree	Somewhat Agree	Neutral	Somewhat Disagree	Disagree	Strongly Disagree
[51]	48.	I can easily give up immediate gain or comfort to reach the goals I have set.	1	2	3	4	5	6	7
[52]	49.	If I were a college professor, I would rather teach factual courses than those involving theory.	1	2	3	4	5	6	7
[53]	50.	I'm attracted to the mystery of life.	1	2	3	4	5	6	7

[54] 51. Your gender: (1) Male (2) Female

[55] 52. Your age:
(1) 18-25 (4) 46-55
(2) 26-35 (5) 56-65
(3) 36-45 (6) 66 and above

[56] 53. What is the highest level of education you have obtained?
(1) High school graduate or less
(2) Some college
(3) College degree
(4) Postgraduate study

[57] 54. Your marital status:
(1) Single
(2) Married
(3) Divorced
(4) Widowed

[58] 55. Your race:
(1) Native American
(2) Caucasian
(3) African American
(4) Asian
(5) Hispanic
(6) Other

[59-60] 56. Your years with current company: _____

			Very Satisfied	Satisfied	Somewhat Satisfied	Neutral	Somewhat Dissatisfied	Dissatisfied	Very Dissatisfied
[61]	57.	How satisfied are you with your current job?	1	2	3	4	5	6	7

Thank you for your cooperation in answering all of the questions. Please check to make certain you have answered every question.

APPENDIX B

ONE-WAY FREQUENCY TABLES FOR SUBORDINATES

ONE-WAY FREQUENCY TABLES

COMPANY CODE

COMPANY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	22	12.4	22	12.4
1	11	6.2	33	18.6
3	20	11.3	53	29.9
4	14	7.9	67	37.9
5	8	4.5	75	42.4
6	28	15.8	103	58.2
7	37	20.9	140	79.1
8	37	20.9	177	100.0

SUPERVISOR CODE

SUPRVISR	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	31	17.5	31	17.5
1	36	20.3	67	37.9
2	45	25.4	112	63.3
3	30	16.9	142	80.2
4	18	10.2	160	90.4
5	12	6.8	172	97.2
6	5	2.8	177	100.0

EMPLOYEE CODE

EMPLOYEE	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	36	20.3	36	20.3
2	34	19.2	70	39.5
3	27	15.3	97	54.8
4	23	13.0	120	67.8
5	13	7.3	133	75.1
6	11	6.2	144	81.4
7	9	5.1	153	86.4
8	6	3.4	159	89.8
10	2	1.1	161	91.0
11	1	0.6	162	91.5
12	1	0.6	163	92.1
13	1	0.6	164	92.7
14	1	0.6	165	93.2
15	1	0.6	166	93.8
16	1	0.6	167	94.4
17	1	0.6	168	94.9
18	1	0.6	169	95.5
19	1	0.6	170	96.0
20	1	0.6	171	96.6
21	1	0.6	172	97.2
22	1	0.6	173	97.7
23	1	0.6	174	98.3
24	1	0.6	175	98.9
25	1	0.6	176	99.4
26	1	0.6	177	100.0

Q1.-FOLLOWS CORRECT PROCEDURES

Q1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	22	12.4	22	12.4
AGREE	86	48.6	108	61.0
SOMEWHAT AGREE	44	24.9	152	85.9
NEUTRAL	7	4.0	159	89.8
SOME. DISAGREE	12	6.8	171	96.6
DISAGREE	5	2.8	176	99.4
STR. AGREE	1	0.6	177	100.0

Q2.-WASTE TIME TO ASK QUESTIONS

Q2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	17	9.6	17	9.6
AGREE	24	13.6	41	23.2
SOMEWHAT AGREE	27	15.3	68	38.4
NEUTRAL	15	8.5	83	46.9
SOME. DISAGREE	30	16.9	113	63.8
DISAGREE	48	27.1	161	91.0
STR. AGREE	16	9.0	177	100.0

Q3.-LOGICAL METHOD IS BEST

Q3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	59	33.3	59	33.3
AGREE	76	42.9	135	76.3
SOMEWHAT AGREE	29	16.4	164	92.7
NEUTRAL	9	5.1	173	97.7
SOME. DISAGREE	3	1.7	176	99.4
DISAGREE	1	0.6	177	100.0

Q4.-VOICE OPINION IN GROUPS

Q4	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	8	4.5	8	4.5
AGREE	48	27.1	56	31.6
SOMEWHAT AGREE	53	29.9	109	61.6
NEUTRAL	27	15.3	136	76.8
SOME. DISAGREE	17	9.6	153	86.4
DISAGREE	19	10.7	172	97.2
STR. AGREE	5	2.8	177	100.0

Q5.-OTHER THINK ABOUT ME

Q5	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	6	3.4	6	3.4
AGREE	8	4.5	14	7.9
SOMEWHAT AGREE	35	19.8	49	27.7
NEUTRAL	24	13.6	73	41.2
SOME. DISAGREE	25	14.1	98	55.4
DISAGREE	63	35.6	161	91.0
STR. AGREE	16	9.0	177	100.0

Q6.-HAVE CONTRIBUTION TO MAKE

Q6	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	46	26.0	46	26.0
AGREE	48	27.1	94	53.1
SOMEWHAT AGREE	27	15.3	121	68.4
NEUTRAL	47	26.6	168	94.9
SOME. DISAGREE	3	1.7	171	96.6
DISAGREE	6	3.4	177	100.0

Q7.-RIGHT OVER FRIENDS

Q7	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	68	38.4	68	38.4
AGREE	89	50.3	157	88.7
SOMEWHAT AGREE	13	7.3	170	96.0
NEUTRAL	4	2.3	174	98.3
SOME. DISAGREE	2	1.1	176	99.4
DISAGREE	1	0.6	177	100.0

Q8.-UNCERTAINITY LOSES MY RESPECT

Q8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	5.1	9	5.1
AGREE	23	13.0	32	18.1
SOMEWHAT AGREE	39	22.0	71	40.1
NEUTRAL	40	22.6	111	62.7
SOME. DISAGREE	25	14.1	136	76.8
DISAGREE	35	19.8	171	96.6
STR. AGREE	6	3.4	177	100.0

Q9.-STICK TO DIFFICULT PROBLEMS

Q9	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	31	17.5	31	17.5
AGREE	95	53.7	126	71.2
SOMEWHAT AGREE	37	20.9	163	92.1
NEUTRAL	6	3.4	169	95.5
SOME. DISAGREE	5	2.8	174	98.3
DISAGREE	2	1.1	176	99.4
STR. AGREE	1	0.6	177	100.0

Q10.-OCC. OVERLY ENTHUSIASTIC

Q10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	24	13.6	24	13.6
AGREE	73	41.2	97	54.8
SOMEWHAT AGREE	38	21.5	135	76.3
NEUTRAL	26	14.7	161	91.0
SOME. DISAGREE	11	6.2	172	97.2
DISAGREE	5	2.8	177	100.0

Q11.-IDEAS WHEN DOING NOTHING

Q11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	15	8.5	15	8.5
AGREE	49	27.7	64	36.2
SOMEWHAT AGREE	35	19.8	99	55.9
NEUTRAL	29	16.4	128	72.3
SOME. DISAGREE	23	13.0	151	85.3
DISAGREE	20	11.3	171	96.6
STR. AGREE	6	3.4	177	100.0

Q12.-RELY ON HUNCHES AND FEELINGS

Q12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	5.1	9	5.1
AGREE	49	27.7	58	32.8
SOMEWHAT AGREE	70	39.5	128	72.3
NEUTRAL	18	10.2	146	82.5
SOME. DISAGREE	14	7.9	160	90.4
DISAGREE	16	9.0	176	99.4
STR. AGREE	1	0.6	177	100.0

Q13.-FAST ANALYSE/SLOW SYNTHESIZE

Q13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	1.7	3	1.7
AGREE	58	32.8	61	34.5
SOMEWHAT AGREE	39	22.0	100	56.5
NEUTRAL	41	23.2	141	79.7
SOME. DISAGREE	25	14.1	166	93.8
DISAGREE	11	6.2	177	100.0

Q14.-LIKE COLLECTING THINGS

Q14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	5.1	9	5.1
AGREE	27	15.3	36	20.3
SOMEWHAT AGREE	23	13.0	59	33.3
NEUTRAL	34	19.2	93	52.5
SOME. DISAGREE	21	11.9	114	64.4
DISAGREE	53	29.9	167	94.4
STR. AGREE	10	5.6	177	100.0

Q15.-DAYDREAMING PROVIDES STIMULUS

Q15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	6	3.4	6	3.4
AGREE	20	11.3	26	14.7
SOMEWHAT AGREE	50	28.2	76	42.9
NEUTRAL	35	19.8	111	62.7
SOME. DISAGREE	23	13.0	134	75.7
DISAGREE	35	19.8	169	95.5
STR. AGREE	8	4.5	177	100.0

Q16.-PHYSICIAN OVER EXPLORER

Q16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	4.0	7	4.0
AGREE	22	12.4	29	16.4
SOMEWHAT AGREE	9	5.1	38	21.5
NEUTRAL	20	11.3	58	32.8
SOME. DISAGREE	18	10.2	76	42.9
DISAGREE	60	33.9	136	76.8
STR. AGREE	41	23.2	177	100.0

Q17.-SAME SOCIAL AND BUSINESS CLASS

Q17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	6	3.4	6	3.4
AGREE	26	14.7	32	18.1
SOMEWHAT AGREE	23	13.0	55	31.1
NEUTRAL	32	18.1	87	49.2
SOME. DISAGREE	26	14.7	113	63.8
DISAGREE	50	28.2	163	92.1
STR. AGREE	14	7.9	177	100.0

Q18.-HIGH ARTISTIC SENSITIVITY

Q18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	17	9.6	17	9.6
AGREE	38	21.5	55	31.1
SOMEWHAT AGREE	41	23.2	96	54.2
NEUTRAL	34	19.2	130	73.4
SOME. DISAGREE	19	10.7	149	84.2
DISAGREE	25	14.1	174	98.3
STR. AGREE	3	1.7	177	100.0

Q19.-INTUITION UNRELIABLE

Q19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	1.7	3	1.7
AGREE	13	7.3	16	9.0
SOMEWHAT AGREE	27	15.3	43	24.3
NEUTRAL	18	10.2	61	34.5
SOME. DISAGREE	48	27.1	109	61.6
DISAGREE	53	29.9	162	91.5
STR. AGREE	15	8.5	177	100.0

Q20.-CREATE IDEAS/NOT SELL IDEAS

Q20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	13	7.3	13	7.3
AGREE	39	22.0	52	29.4
SOMEWHAT AGREE	41	23.2	93	52.5
NEUTRAL	45	25.4	138	78.0
SOME. DISAGREE	19	10.7	157	88.7
DISAGREE	17	9.6	174	98.3
STR. AGREE	3	1.7	177	100.0

Q21.-AVOID INFERIORITY

Q21	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	4.0	7	4.0
AGREE	34	19.2	41	23.2
SOMEWHAT AGREE	58	32.8	99	55.9
NEUTRAL	28	15.8	127	71.8
SOME. DISAGREE	27	15.3	154	87.0
DISAGREE	23	13.0	177	100.0

Q22.-SOURCE OF INFO MOST IMPORTANT

Q22	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	1.7	3	1.7
AGREE	23	13.0	26	14.7
SOMEWHAT AGREE	33	18.6	59	33.3
NEUTRAL	30	16.9	89	50.3
SOME. DISAGREE	31	17.5	120	67.8
DISAGREE	50	28.2	170	96.0
STR. AGREE	7	4.0	177	100.0

Q23.-BUSINESS BEFORE PLEASURE

Q23	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	5.1	9	5.1
AGREE	39	22.0	48	27.1
SOMEWHAT AGREE	34	19.2	82	46.3
NEUTRAL	37	20.9	119	67.2
SOME. DISAGREE	26	14.7	145	81.9
DISAGREE	28	15.8	173	97.7
STR. AGREE	4	2.3	177	100.0

Q24.-SELF RESPECT MOST IMPORTANT

Q24	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	33	18.6	33	18.6
AGREE	60	33.9	93	52.5
SOMEWHAT AGREE	41	23.2	134	75.7
NEUTRAL	20	11.3	154	87.0
SOME. DISAGREE	13	7.3	167	94.4
DISAGREE	7	4.0	174	98.3
STR. AGREE	3	1.7	177	100.0

Q25.-STRIVE FOR PERFECTION IS UNWISE

Q25	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	6	3.4	6	3.4
AGREE	13	7.3	19	10.7
SOMEWHAT AGREE	30	16.9	49	27.7
NEUTRAL	17	9.6	66	37.3
SOME. DISAGREE	33	18.6	99	55.9
DISAGREE	50	28.2	149	84.2
STR. AGREE	28	15.8	177	100.0

Q26.-LIKE TO INFLUENCE OTHERS

Q26	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	4.0	7	4.0
AGREE	35	19.8	42	23.7
SOMEWHAT AGREE	47	26.6	89	50.3
NEUTRAL	44	24.9	133	75.1
SOME. DISAGREE	21	11.9	154	87.0
DISAGREE	21	11.9	175	98.9
STR. AGREE	2	1.1	177	100.0

Q27.-EVERYTHING IN ITS PLACE

Q27	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	11	6.2	11	6.2
AGREE	47	26.6	58	32.8
SOMEWHAT AGREE	49	27.7	107	60.5
NEUTRAL	26	14.7	133	75.1
SOME. DISAGREE	28	15.8	161	91.0
DISAGREE	14	7.9	175	98.9
STR. AGREE	2	1.1	177	100.0

Q28.-CRACKPOT IDEAS ARE IMPRACTICAL

Q28	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	0.6	1	0.6
AGREE	6	3.4	7	4.0
SOMEWHAT AGREE	14	7.9	21	11.9
NEUTRAL	37	20.9	58	32.8
SOME. DISAGREE	61	34.5	119	67.2
DISAGREE	47	26.6	166	93.8
STR. AGREE	11	6.2	177	100.0

Q29.-ENJOY NEW IDEAS

Q29	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	4.0	7	4.0
AGREE	47	26.6	54	30.5
SOMEWHAT AGREE	66	37.3	120	67.8
NEUTRAL	13	7.3	133	75.1
SOME. DISAGREE	27	15.3	160	90.4
DISAGREE	16	9.0	176	99.4
STR. AGREE	1	0.6	177	100.0

Q30.-QUICKLY REORIENT MY THINKING

Q30	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	14	7.9	14	7.9
AGREE	76	42.9	90	50.8
SOMEWHAT AGREE	50	28.2	140	79.1
NEUTRAL	15	8.5	155	87.6
SOME. DISAGREE	15	8.5	170	96.0
DISAGREE	7	4.0	177	100.0

Q31.-DON'T SHOW IGNORANCE

Q31	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	5.1	9	5.1
AGREE	28	15.8	37	20.9
SOMEWHAT AGREE	46	26.0	83	46.9
NEUTRAL	9	5.1	92	52.0
SOME. DISAGREE	38	21.5	130	73.4
DISAGREE	32	18.1	162	91.5
STR. AGREE	15	8.5	177	100.0

Q32.-CAN CHANGE INTERESTS

Q32	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	5.1	9	5.1
AGREE	34	19.2	43	24.3
SOMEWHAT AGREE	37	20.9	80	45.2
NEUTRAL	47	26.6	127	71.8
SOME. DISAGREE	25	14.1	152	85.9
DISAGREE	18	10.2	170	96.0
STR. AGREE	7	4.0	177	100.0

Q33.-INABILITY TO SOLVE BO WRONG Q

Q33	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	12	6.8	12	6.8
AGREE	50	28.2	62	35.0
SOMEWHAT AGREE	62	35.0	124	70.1
NEUTRAL	19	10.7	143	80.8
SOME. DISAGREE	19	10.7	162	91.5
DISAGREE	12	6.8	174	98.3
STR. AGREE	3	1.7	177	100.0

Q34.-CAN ANTICIPATE SOLUTIONS

Q34	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	5	2.8	5	2.8
AGREE	57	32.2	62	35.0
SOMEWHAT AGREE	78	44.1	140	79.1
NEUTRAL	20	11.3	160	90.4
SOME. DISAGREE	13	7.3	173	97.7
DISAGREE	4	2.3	177	100.0

Q35.-WASTE TO ANALYZE FAILURES

Q35	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	4	2.3	4	2.3
AGREE	3	1.7	7	4.0
SOMEWHAT AGREE	7	4.0	14	7.9
NEUTRAL	3	1.7	17	9.6
SOME. DISAGREE	28	15.8	45	25.4
DISAGREE	77	43.5	122	68.9
STR. AGREE	55	31.1	177	100.0

Q36.-FUZZY THINKERS RESORT TO M AND A

Q36	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	0.6	1	0.6
AGREE	4	2.3	5	2.8
SOMEWHAT AGREE	12	6.8	17	9.6
NEUTRAL	42	23.7	59	33.3
SOME. DISAGREE	40	22.6	99	55.9
DISAGREE	58	32.8	157	88.7
STR. AGREE	20	11.3	177	100.0

Q37.-ENJOY INGENUITY OF CROOK

Q37	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	4.0	7	4.0
AGREE	8	4.5	15	8.5
SOMEWHAT AGREE	30	16.9	45	25.4
NEUTRAL	23	13.0	68	38.4
SOME. DISAGREE	19	10.7	87	49.2
DISAGREE	48	27.1	135	76.3
STR. AGREE	42	23.7	177	100.0

Q38.-WORK ON DIMLY SENSED PROBLEM

Q38	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	4	2.3	4	2.3
AGREE	23	13.0	27	15.3
SOMEWHAT AGREE	51	28.8	78	44.1
NEUTRAL	46	26.0	124	70.1
SOME. DISAGREE	21	11.9	145	81.9
DISAGREE	27	15.3	172	97.2
STR. AGREE	5	2.8	177	100.0

Q39.-FORGET NAMES OF THINGS

Q39	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	14	7.9	14	7.9
AGREE	36	20.3	50	28.2
SOMEWHAT AGREE	50	28.2	100	56.5
NEUTRAL	11	6.2	111	62.7
SOME. DISAGREE	16	9.0	127	71.8
DISAGREE	45	25.4	172	97.2
STR. AGREE	5	2.8	177	100.0

Q40.-HARD WORK IS SUCCESS FACTOR

Q40	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	42	23.7	42	23.7
AGREE	77	43.5	119	67.2
SOMEWHAT AGREE	40	22.6	159	89.8
NEUTRAL	2	1.1	161	91.0
SOME. DISAGREE	10	5.6	171	96.6
DISAGREE	6	3.4	177	100.0

Q41.-TEAM MEMBERSHIP IS IMPORTANT

Q41	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	44	24.9	44	24.9
AGREE	86	48.6	130	73.4
SOMEWHAT AGREE	32	18.1	162	91.5
NEUTRAL	6	3.4	168	94.9
SOME. DISAGREE	5	2.8	173	97.7
DISAGREE	4	2.3	177	100.0

Q42.-INNER IMPULSES IN CHECK

Q42	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	8	4.5	8	4.5
AGREE	60	33.9	68	38.4
SOMEWHAT AGREE	68	38.4	136	76.8
NEUTRAL	9	5.1	145	81.9
SOME. DISAGREE	22	12.4	167	94.4
DISAGREE	9	5.1	176	99.4
STR. AGREE	1	0.6	177	100.0

Q43.-DEPENDABLE AND RESPONSIBLE

Q43	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	40	22.6	40	22.6
AGREE	110	62.1	150	84.7
SOMEWHAT AGREE	14	7.9	164	92.7
NEUTRAL	7	4.0	171	96.6
SOME. DISAGREE	4	2.3	175	98.9
DISAGREE	2	1.1	177	100.0

Q44.-RESENT UNCERTAINTY/UNPREDICT

Q44	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	11	6.2	11	6.2
AGREE	34	19.2	45	25.4
SOMEWHAT AGREE	56	31.6	101	57.1
NEUTRAL	20	11.3	121	68.4
SOME. DISAGREE	35	19.8	156	88.1
DISAGREE	20	11.3	176	99.4
STR. AGREE	1	0.6	177	100.0

Q45.-PREFER TO WORK WITH TEAM

Q45	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	8	4.5	8	4.5
AGREE	38	21.5	46	26.0
SOMEWHAT AGREE	44	24.9	90	50.8
NEUTRAL	48	27.1	138	78.0
SOME. DISAGREE	19	10.7	157	88.7
DISAGREE	20	11.3	177	100.0

Q46.-PEOPLE TAKE THINGS TOO SERIOUSLY

Q46	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	10	5.6	10	5.6
AGREE	39	22.0	49	27.7
SOMEWHAT AGREE	62	35.0	111	62.7
NEUTRAL	31	17.5	142	80.2
SOME. DISAGREE	21	11.9	163	92.1
DISAGREE	10	5.6	173	97.7
STR. AGREE	4	2.3	177	100.0

Q47.-HAUNTED BY PROBLEMS

Q47	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	4	2.3	4	2.3
AGREE	21	11.9	25	14.1
SOMEWHAT AGREE	36	20.3	61	34.5
NEUTRAL	18	10.2	79	44.6
SOME. DISAGREE	28	15.8	107	60.5
DISAGREE	55	31.1	162	91.5
STR. AGREE	15	8.5	177	100.0

Q48.-GIVE UP IMMEDIATE GAIN

Q48	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	4.0	7	4.0
AGREE	58	32.8	65	36.7
SOMEWHAT AGREE	60	33.9	125	70.6
NEUTRAL	22	12.4	147	83.1
SOME. DISAGREE	25	14.1	172	97.2
DISAGREE	5	2.8	177	100.0

Q49.-PREFER FACT TO THEORY

Q49	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	12	6.8	12	6.8
AGREE	68	38.4	80	45.2
SOMEWHAT AGREE	16	9.0	96	54.2
NEUTRAL	25	14.1	121	68.4
SOME. DISAGREE	28	15.8	149	84.2
DISAGREE	22	12.4	171	96.6
STR. AGREE	6	3.4	177	100.0

Q50.-ATTRACTED TO MYSTERY OF LIFE

Q50	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	29	16.4	29	16.4
AGREE	62	35.0	91	51.4
SOMEWHAT AGREE	46	26.0	137	77.4
NEUTRAL	28	15.8	165	93.2
SOME. DISAGREE	4	2.3	169	95.5
DISAGREE	5	2.8	174	98.3
STR. AGREE	3	1.7	177	100.0

Q51.-SUPERVISOR DEFENDS MY ACTIONS

Q51	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	8	4.5	8	4.5
AGREE	41	23.2	49	27.7
SOMEWHAT AGREE	37	20.9	86	48.6
NEUTRAL	39	22.0	125	70.6
SOME. DISAGREE	20	11.3	145	81.9
DISAGREE	22	12.4	167	94.4
STR. AGREE	10	5.6	177	100.0

Q52.-SUPERVISOR HELPS COMPLETE TASKS

Q52	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	13	7.3	13	7.3
AGREE	47	26.6	60	33.9
SOMEWHAT AGREE	50	28.2	110	62.1
NEUTRAL	37	20.9	147	83.1
SOME. DISAGREE	13	7.3	160	90.4
DISAGREE	14	7.9	174	98.3
STR. AGREE	3	1.7	177	100.0

Q53.-SUPERVISOR REPRESENTS ME

Q53	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	11	6.2	11	6.2
AGREE	73	41.2	84	47.5
SOMEWHAT AGREE	43	24.3	127	71.8
NEUTRAL	24	13.6	151	85.3
SOME. DISAGREE	13	7.3	164	92.7
DISAGREE	10	5.6	174	98.3
STR. AGREE	3	1.7	177	100.0

Q54.-I RESPECT MY SUPERVISOR

Q54	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	50	28.2	50	28.2
AGREE	67	37.9	117	66.1
SOMEWHAT AGREE	29	16.4	146	82.5
NEUTRAL	13	7.3	159	89.8
SOME. DISAGREE	9	5.1	168	94.9
DISAGREE	9	5.1	177	100.0

Q55.-MY COMMITMENT MATCHES SUPERVISOR

Q55	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	19	10.7	19	10.7
AGREE	71	40.1	90	50.8
SOMEWHAT AGREE	41	23.2	131	74.0
NEUTRAL	20	11.3	151	85.3
SOME. DISAGREE	17	9.6	168	94.9
DISAGREE	7	4.0	175	98.9
STR. AGREE	2	1.1	177	100.0

Q56.-EXTRA EFFORTS FOR WORK GROUP

Q56	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	42	23.7	42	23.7
AGREE	98	55.4	140	79.1
SOMEWHAT AGREE	26	14.7	166	93.8
NEUTRAL	8	4.5	174	98.3
SOME. DISAGREE	3	1.7	177	100.0

Q57.-SUPERVISOR WOULD RECOMMEND ME

Q57	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	43	24.3	43	24.3
AGREE	85	48.0	128	72.3
SOMEWHAT AGREE	24	13.6	152	85.9
NEUTRAL	16	9.0	168	94.9
SOME. DISAGREE	4	2.3	172	97.2
DISAGREE	5	2.8	177	100.0

Q58.-SOCIALIZE WITH SUPERVISOR

Q58	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	1.7	3	1.7
AGREE	24	13.6	27	15.3
SOMEWHAT AGREE	19	10.7	46	26.0
NEUTRAL	30	16.9	76	42.9
SOME. DISAGREE	16	9.0	92	52.0
DISAGREE	57	32.2	149	84.2
STR. AGREE	28	15.8	177	100.0

Q59.-SHARE INTERESTS WITH SUPERVISOR

Q59	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	1.7	3	1.7
AGREE	33	18.6	36	20.3
SOMEWHAT AGREE	38	21.5	74	41.8
NEUTRAL	32	18.1	106	59.9
SOME. DISAGREE	14	7.9	120	67.8
DISAGREE	35	19.8	155	87.6
STR. AGREE	22	12.4	177	100.0

Q60.-SUPERVISOR ASKS MY ADVICE

Q60	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	10	5.6	10	5.6
AGREE	54	30.5	64	36.2
SOMEWHAT AGREE	44	24.9	108	61.0
NEUTRAL	25	14.1	133	75.1
SOME. DISAGREE	9	5.1	142	80.2
DISAGREE	21	11.9	163	92.1
STR. AGREE	14	7.9	177	100.0

Q61.-BORROW PERSONAL ITEMS FOR SUPER.

Q61	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	1.1	2	1.1
AGREE	16	9.0	18	10.2
SOMEWHAT AGREE	15	8.5	33	18.6
NEUTRAL	22	12.4	55	31.1
SOME. DISAGREE	18	10.2	73	41.2
DISAGREE	64	36.2	137	77.4
STR. AGREE	40	22.6	177	100.0

Q62.-CREATES ATMOS. CONDUCIVE TO WORK

Q62	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	20	11.3	20	11.3
AGREE	83	46.9	103	58.2
SOMEWHAT AGREE	30	16.9	133	75.1
NEUTRAL	20	11.3	153	86.4
SOME. DISAGREE	11	6.2	164	92.7
DISAGREE	9	5.1	173	97.7
STR. AGREE	4	2.3	177	100.0

Q63.-WORK BEYOND JOB DESCRIPTION

Q63	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	17	9.6	17	9.6
AGREE	53	29.9	70	39.5
SOMEWHAT AGREE	51	28.8	121	68.4
NEUTRAL	30	16.9	151	85.3
SOME. DISAGREE	13	7.3	164	92.7
DISAGREE	10	5.6	174	98.3
STR. AGREE	3	1.7	177	100.0

Q64.-WOULD DEFEND SUPERVISOR

Q64	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	28	15.8	28	15.8
AGREE	77	43.5	105	59.3
SOMEWHAT AGREE	39	22.0	144	81.4
NEUTRAL	17	9.6	161	91.0
SOME. DISAGREE	10	5.6	171	96.6
DISAGREE	5	2.8	176	99.4
STR. AGREE	1	0.6	177	100.0

Q65.-FEEL LOYAL TO SUPERVISOR

Q65	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	37	20.9	37	20.9
AGREE	82	46.3	119	67.2
SOMEWHAT AGREE	27	15.3	146	82.5
NEUTRAL	20	11.3	166	93.8
SOME. DISAGREE	6	3.4	172	97.2
DISAGREE	4	2.3	176	99.4
STR. AGREE	1	0.6	177	100.0

Q66.-RESPECT CURRENT SUPERVISOR

Q66	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	19	10.7	19	10.7
AGREE	26	14.7	45	25.4
SOMEWHAT AGREE	23	13.0	68	38.4
NEUTRAL	45	25.4	113	63.8
SOME. DISAGREE	25	14.1	138	78.0
DISAGREE	31	17.5	169	95.5
STR. AGREE	8	4.5	177	100.0

Q67.-LIKE SUPERVISOR AS A PERSON

Q67	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	33	18.6	33	18.6
AGREE	80	45.2	113	63.8
SOMEWHAT AGREE	30	16.9	143	80.8
NEUTRAL	16	9.0	159	89.8
SOME. DISAGREE	12	6.8	171	96.6
DISAGREE	6	3.4	177	100.0

Q68.-SUPERVISOR IS FUN TO WORK WITH

Q68	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	22	12.4	22	12.4
AGREE	54	30.5	76	42.9
SOMEWHAT AGREE	36	20.3	112	63.3
NEUTRAL	37	20.9	149	84.2
SOME. DISAGREE	12	6.8	161	91.0
DISAGREE	14	7.9	175	98.9
STR. AGREE	2	1.1	177	100.0

Q69.-WANT CONTACT WITH SUPERVISOR

Q69	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	17	9.6	17	9.6
AGREE	43	24.3	60	33.9
SOMEWHAT AGREE	36	20.3	96	54.2
NEUTRAL	37	20.9	133	75.1
SOME. DISAGREE	10	5.6	143	80.8
DISAGREE	28	15.8	171	96.6
STR. AGREE	6	3.4	177	100.0

Q70.-SUPERVISOR NOT FRIENDLY TO ME

Q70	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	0.6	1	0.6
AGREE	2	1.1	3	1.7
SOMEWHAT AGREE	15	8.5	18	10.2
NEUTRAL	13	7.3	31	17.5
SOME. DISAGREE	18	10.2	49	27.7
DISAGREE	71	40.1	120	67.8
STR. AGREE	57	32.2	177	100.0

Q71.-DEFEND MY HONEST MISTAKE

Q71	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	33	18.6	33	18.6
AGREE	79	44.6	112	63.3
SOMEWHAT AGREE	25	14.1	137	77.4
NEUTRAL	23	13.0	160	90.4
SOME. DISAGREE	9	5.1	169	95.5
DISAGREE	6	3.4	175	98.9
STR. AGREE	2	1.1	177	100.0

Q72.-SUPERVISOR IS FRIENDLY

Q72	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	28	15.8	28	15.8
AGREE	63	35.6	91	51.4
SOMEWHAT AGREE	31	17.5	122	68.9
NEUTRAL	37	20.9	159	89.8
SOME. DISAGREE	12	6.8	171	96.6
DISAGREE	4	2.3	175	98.9
STR. AGREE	2	1.1	177	100.0

Q73.-SUPERVISOR IS LOYAL TO ME

Q73	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	17	9.6	17	9.6
AGREE	57	32.2	74	41.8
SOMEWHAT AGREE	40	22.6	114	64.4
NEUTRAL	39	22.0	153	86.4
SOME. DISAGREE	16	9.0	169	95.5
DISAGREE	5	2.8	174	98.3
STR. AGREE	3	1.7	177	100.0

Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS

Q74	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	22	12.4	22	12.4
AGREE	76	42.9	98	55.4
SOMEWHAT AGREE	37	20.9	135	76.3
NEUTRAL	13	7.3	148	83.6
SOME. DISAGREE	19	10.7	167	94.4
DISAGREE	9	5.1	176	99.4
STR. AGREE	1	0.6	177	100.0

Q75.-SUPERVISOR AND I GO FOR A MEAL

Q75	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	0.6	1	0.6
AGREE	15	8.5	16	9.0
SOMEWHAT AGREE	16	9.0	32	18.1
NEUTRAL	21	11.9	53	29.9
SOME. DISAGREE	19	10.7	72	40.7
DISAGREE	59	33.3	131	74.0
STR. AGREE	46	26.0	177	100.0

Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER

Q76	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	18	10.2	18	10.2
AGREE	69	39.0	87	49.2
SOMEWHAT AGREE	40	22.6	127	71.8
NEUTRAL	29	16.4	156	88.1
SOME. DISAGREE	13	7.3	169	95.5
DISAGREE	6	3.4	175	98.9
STR. AGREE	2	1.1	177	100.0

Q77.-SUPERVISOR BRAGS ABOUT MY JOB

Q77	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	12	6.8	12	6.8
AGREE	50	28.2	62	35.0
SOMEWHAT AGREE	41	23.2	103	58.2
NEUTRAL	56	31.6	159	89.8
SOME. DISAGREE	7	4.0	166	93.8
DISAGREE	9	5.1	175	98.9
STR. AGREE	2	1.1	177	100.0

Q78.-TALK ABOUT NONWORK SUBJECTS

Q78	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	18	10.2	18	10.2
AGREE	65	36.7	83	46.9
SOMEWHAT AGREE	40	22.6	123	69.5
NEUTRAL	30	16.9	153	86.4
SOME. DISAGREE	6	3.4	159	89.8
DISAGREE	14	7.9	173	97.7
STR. AGREE	4	2.3	177	100.0

Q79.-LIKE SUPERVISORS COMPANY

Q79	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	22	12.4	22	12.4
AGREE	71	40.1	93	52.5
SOMEWHAT AGREE	35	19.8	128	72.3
NEUTRAL	30	16.9	158	89.3
SOME. DISAGREE	9	5.1	167	94.4
DISAGREE	9	5.1	176	99.4
STR. AGREE	1	0.6	177	100.0

Q80.-DIFFICULT TO DISLIKE SUPERVISOR

Q80	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	16	9.0	16	9.0
AGREE	74	41.8	90	50.8
SOMEWHAT AGREE	39	22.0	129	72.9
NEUTRAL	21	11.9	150	84.7
SOME. DISAGREE	14	7.9	164	92.7
DISAGREE	11	6.2	175	98.9
STR. AGREE	2	1.1	177	100.0

Q81.-SUPERVISOR WORKS ON DELAY OF MINE

Q81	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	30	16.9	30	16.9
AGREE	82	46.3	112	63.3
SOMEWHAT AGREE	37	20.9	149	84.2
NEUTRAL	11	6.2	160	90.4
SOME. DISAGREE	10	5.6	170	96.0
DISAGREE	5	2.8	175	98.9
STR. AGREE	2	1.1	177	100.0

Q82.-CONSIDERS ME MOST KNOWLEDGEABLE

Q82	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	10	5.6	10	5.6
AGREE	28	15.8	38	21.5
SOMEWHAT AGREE	31	17.5	69	39.0
NEUTRAL	58	32.8	127	71.8
SOME. DISAGREE	23	13.0	150	84.7
DISAGREE	21	11.9	171	96.6
STR. AGREE	6	3.4	177	100.0

Q83.-SHARES PERSONAL PROBLEMS WITH ME

Q83	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	1.1	2	1.1
AGREE	15	8.5	17	9.6
SOMEWHAT AGREE	27	15.3	44	24.9
NEUTRAL	31	17.5	75	42.4
SOME. DISAGREE	20	11.3	95	53.7
DISAGREE	50	28.2	145	81.9
STR. AGREE	32	18.1	177	100.0

Q84.-INVITED TO SUPER. HOME INFORMALLY

Q84	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	10	5.6	10	5.6
AGREE	21	11.9	31	17.5
SOMEWHAT AGREE	10	5.6	41	23.2
NEUTRAL	18	10.2	59	33.3
SOME. DISAGREE	9	5.1	68	38.4
DISAGREE	61	34.5	129	72.9
STR. AGREE	48	27.1	177	100.0

Q85.-ASKED ME TO WORK PAST QUIT. TIME

Q85	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	24	13.6	24	13.6
AGREE	63	35.6	87	49.2
SOMEWHAT AGREE	33	18.6	120	67.8
NEUTRAL	23	13.0	143	80.8
SOME. DISAGREE	9	5.1	152	85.9
DISAGREE	16	9.0	168	94.9
STR. AGREE	9	5.1	177	100.0

Q86.-RESPECT SUPERVISORS KNOWLEDGE

Q86	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	51	28.8	51	28.8
AGREE	74	41.8	125	70.6
SOMEWHAT AGREE	26	14.7	151	85.3
NEUTRAL	15	8.5	166	93.8
SOME. DISAGREE	5	2.8	171	96.6
DISAGREE	4	2.3	175	98.9
STR. AGREE	2	1.1	177	100.0

Q87.-TRUST SUPERVISOR W/MY INTERESTS

Q87	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	19	10.7	19	10.7
AGREE	70	39.5	89	50.3
SOMEWHAT AGREE	35	19.8	124	70.1
NEUTRAL	29	16.4	153	86.4
SOME. DISAGREE	9	5.1	162	91.5
DISAGREE	11	6.2	173	97.7
STR. AGREE	4	2.3	177	100.0

Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE

Q88	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	41	23.2	41	23.2
AGREE	71	40.1	112	63.3
SOMEWHAT AGREE	34	19.2	146	82.5
NEUTRAL	18	10.2	164	92.7
SOME. DISAGREE	7	4.0	171	96.6
DISAGREE	4	2.3	175	98.9
STR. AGREE	2	1.1	177	100.0

Q89.-RECOG & RESPECT MY DECISIONS

Q89	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	12	6.8	12	6.8
AGREE	83	46.9	95	53.7
SOMEWHAT AGREE	38	21.5	133	75.1
NEUTRAL	24	13.6	157	88.7
SOME. DISAGREE	10	5.6	167	94.4
DISAGREE	7	4.0	174	98.3
STR. AGREE	3	1.7	177	100.0

Q90.-SUPERVISOR IS AMONG TOP IN US

Q90	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	13	7.3	13	7.3
AGREE	39	22.0	52	29.4
SOMEWHAT AGREE	36	20.3	88	49.7
NEUTRAL	55	31.1	143	80.8
SOME. DISAGREE	17	9.6	160	90.4
DISAGREE	11	6.2	171	96.6
STR. AGREE	6	3.4	177	100.0

Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS

Q91	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	21	11.9	21	11.9
AGREE	78	44.1	99	55.9
SOMEWHAT AGREE	44	24.9	143	80.8
NEUTRAL	15	8.5	158	89.3
SOME. DISAGREE	12	6.8	170	96.0
DISAGREE	5	2.8	175	98.9
STR. AGREE	2	1.1	177	100.0

Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT

Q92	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	8	4.5	8	4.5
AGREE	68	38.4	76	42.9
SOMEWHAT AGREE	41	23.2	117	66.1
NEUTRAL	34	19.2	151	85.3
SOME. DISAGREE	15	8.5	166	93.8
DISAGREE	7	4.0	173	97.7
STR. AGREE	4	2.3	177	100.0

Q93.-VIOLATION WOULD BE RIGHT

Q93	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	4	2.3	4	2.3
AGREE	11	6.2	15	8.5
SOMEWHAT AGREE	30	16.9	45	25.4
NEUTRAL	35	19.8	80	45.2
SOME. DISAGREE	19	10.7	99	55.9
DISAGREE	43	24.3	142	80.2
STR. AGREE	35	19.8	177	100.0

Q94.-SUPERVISOR EARNED MY RESPECT

Q94	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	26	14.7	26	14.7
AGREE	84	47.5	110	62.1
SOMEWHAT AGREE	32	18.1	142	80.2
NEUTRAL	22	12.4	164	92.7
SOME. DISAGREE	5	2.8	169	95.5
DISAGREE	6	3.4	175	98.9
STR. AGREE	2	1.1	177	100.0

Q95.-SUPERVISOR'S SKILLS RESPECTED

Q95	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	19	10.7	19	10.7
AGREE	83	46.9	102	57.6
SOMEWHAT AGREE	26	14.7	128	72.3
NEUTRAL	29	16.4	157	88.7
SOME. DISAGREE	14	7.9	171	96.6
DISAGREE	5	2.8	176	99.4
STR. AGREE	1	0.6	177	100.0

Q96.-RESPONDENT'S GENDER

Q96	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MALE	143	80.8	143	80.8
FEMALE	34	19.2	177	100.0

Q97.-RESPONDENT'S AGE

Q97	Frequency	Percent	Cumulative Frequency	Cumulative Percent
18-25	13	7.4	13	7.4
26-35	64	36.4	77	43.8
36-45	55	31.3	132	75.0
46-55	37	21.0	169	96.0
56-65	8	4.0	177	100.0

Q98.-RESPONDENT'S EDUCATIONAL LEVEL

Q98	Frequency	Percent	Cumulative Frequency	Cumulative Percent
H.S GRADUATE	14	7.9	14	7.9
SOME COLLEGE	50	28.2	64	36.2
COLLEGE DEGREE	92	52.0	156	88.1
POSTGRAD. STUDY	21	11.9	177	100.0

Q99.-RESPONDENT'S MARITAL STATUS

Q99	Frequency	Percent	Cumulative Frequency	Cumulative Percent
SINGLE	38	21.5	38	21.5
MARRIED	127	71.8	165	93.2
DIVORCED	12	7.2	177	100.0

Q100.-RESPONDENT'S RACE

Q100	Frequency	Percent	Cumulative Frequency	Cumulative Percent
NATIVE AMERICAN	12	6.8	12	6.8
CAUCASIAN	152	85.9	164	92.7
AFRICAN AMERICAN	6	3.4	170	96.0
ASIAN	3	1.7	173	97.7
HISPANIC	3	2.3	177	100.0

Q101.-RESPONDENT'S YEARS W/COMPANY

Q101	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	12	6.8	12	6.8
1	22	12.4	34	19.2
2	15	8.5	49	27.7
3	26	14.7	75	42.4
4	12	6.8	87	49.2
5	19	10.7	106	59.9
6	10	5.6	116	65.5
7	4	2.3	120	67.8
9	1	0.6	121	68.4
10	8	4.5	129	72.9
11	1	0.6	130	73.4
12	3	1.7	133	75.1
13	6	3.4	139	78.5
14	8	4.5	147	83.1
15	4	2.3	151	85.3
16	2	1.1	153	86.4
17	7	4.0	160	90.4
19	1	0.6	161	91.0
20	5	2.8	166	93.8
21	1	0.6	167	94.4
22	2	1.1	169	95.5
25	2	1.1	171	96.6
26	1	0.6	172	97.2
27	1	0.6	173	97.7
28	1	0.6	174	98.3
30	1	0.6	175	98.9
32	1	0.6	176	99.4
37	1	0.6	177	100.0

APPENDIX C

ONE-WAY FREQUENCY TABLES FOR SUPERVISORS

COMPANY CODE

COMPANY	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	6	14.6	6	14.6
1	5	12.2	11	26.8
3	4	9.8	15	36.6
4	6	14.6	21	51.2
5	3	7.3	24	58.5
6	7	17.1	31	75.6
7	5	12.2	36	87.8
8	5	12.2	41	100.0

SUPERVISOR CODE

SUPRVISR	Frequency	Percent	Cumulative Frequency	Cumulative Percent
0	7	17.1	7	17.1
1	9	22.0	16	39.0
2	8	19.5	24	58.5
3	6	14.6	30	73.2
4	5	12.2	35	85.4
5	4	9.8	39	95.1
6	2	4.9	41	100.0

Q1.-FOLLOWS CORRECT PROCEDURES

X1	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	5	12.2	5	12.2
AGREE	16	39.0	21	51.2
SOMEWHAT AGREE	12	29.3	33	80.5
NEUTRAL	2	4.9	35	85.4
SOME. DISAGREE	5	12.2	40	97.6
DISAGREE	1	2.4	41	100.0

X2.-WASTE TIME TO ASK QUESTIONS

X2	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	4	9.8	7	17.1
SOMEWHAT AGREE	4	9.8	11	26.8
NEUTRAL	2	4.9	13	31.7
SOME. DISAGREE	9	22.0	22	53.7
DISAGREE	15	36.6	37	90.2
STR. AGREE	4	9.8	41	100.0

X3.-LOGICAL METHOD IS BEST

X3	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	11	26.8	11	26.8
AGREE	13	31.7	24	58.5
SOMEWHAT AGREE	13	31.7	37	90.2
NEUTRAL	3	7.3	40	97.6
DISAGREE	1	2.4	41	100.0

X4.-VOICE OPINION IN GROUPS

X4	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	13	31.7	16	39.0
SOMEWHAT AGREE	15	36.6	31	75.6
NEUTRAL	2	4.9	33	80.5
SOME. DISAGREE	2	4.9	35	85.4
DISAGREE	6	14.6	41	100.0

X5.-OTHER THINK ABOUT ME

X5	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	2	4.9	2	4.9
SOMEWHAT AGREE	7	17.1	9	22.0
NEUTRAL	4	9.8	13	31.7
SOME. DISAGREE	9	22.0	22	53.7
DISAGREE	15	36.6	37	90.2
STR. AGREE	4	9.8	41	100.0

X6.-HAVE CONTRIBUTION TO MAKE

X6	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	17.1	7	17.1
AGREE	16	39.0	23	56.1
SOMEWHAT AGREE	9	22.0	32	78.0
NEUTRAL	7	17.1	39	95.1
SOME. DISAGREE	2	4.9	41	100.0

X7.-RIGHT OVER FRIENDS

X7	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	15	36.6	15	36.6
AGREE	20	48.8	35	85.4
SOMEWHAT AGREE	5	12.2	40	97.6
STR. AGREE	1	2.4	41	100.0

X8.-UNCERTAINITY LOSES MY RESPECT

X8	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	4	9.8	4	9.8
SOMEWHAT AGREE	13	31.7	17	41.5
NEUTRAL	11	26.8	28	68.3
SOME. DISAGREE	4	9.8	32	78.0
DISAGREE	6	14.6	38	92.7
STR. AGREE	3	7.3	41	100.0

X9.-STICK TO DIFFICULT PROBLEMS

X9	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	7	17.1	7	17.1
AGREE	25	61.0	32	78.0
SOMEWHAT AGREE	7	17.1	39	95.1
NEUTRAL	1	2.4	40	97.6
STR. AGREE	1	2.4	41	100.0

X10.-OCC. OVERLY ENTHUSIASTIC

X10	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	22.0	9	22.0
AGREE	11	26.8	20	48.8
SOMEWHAT AGREE	13	31.7	33	80.5
NEUTRAL	4	9.8	37	90.2
SOME. DISAGREE	3	7.3	40	97.6
DISAGREE	1	2.4	41	100.0

X11.-IDEAS WHEN DOING NOTHING

X11	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	15	36.6	18	43.9
SOMEWHAT AGREE	9	22.0	27	65.9
NEUTRAL	3	7.3	30	73.2
SOME. DISAGREE	3	7.3	33	80.5
DISAGREE	7	17.1	40	97.6
STR. AGREE	1	2.4	41	100.0

X12.-RELY ON HUNCHES AND FEELINGS

X12	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	13	31.7	16	39.0
SOMEWHAT AGREE	14	34.1	30	73.2
NEUTRAL	4	9.8	34	82.9
SOME. DISAGREE	4	9.8	38	92.7
DISAGREE	2	4.9	40	97.6
STR. AGREE	1	2.4	41	100.0

X13.-FAST ANALYSE/SLOW SYNTHESIZE

X13	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	5	12.2	8	19.5
SOMEWHAT AGREE	12	29.3	20	48.8
NEUTRAL	11	26.8	31	75.6
SOME. DISAGREE	7	17.1	38	92.7
DISAGREE	3	7.3	41	100.0

X14.-LIKE COLLECTING THINGS

X14	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	6	14.6	7	17.1
SOMEWHAT AGREE	9	22.0	16	39.0
NEUTRAL	10	24.4	26	63.4
SOME. DISAGREE	3	7.3	29	70.7
DISAGREE	9	22.0	38	92.7
STR. AGREE	3	7.3	41	100.0

X15.-DAYDREAMING PROVIDES STIMULUS

X15	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	4.9	2	4.9
AGREE	9	22.0	11	26.8
SOMEWHAT AGREE	9	22.0	20	48.8
NEUTRAL	4	9.8	24	58.5
SOME. DISAGREE	9	22.0	33	80.5
DISAGREE	7	17.1	40	97.6
STR. AGREE	1	2.4	41	100.0

X16.-PHYSICIAN OVER EXPLORER

X16	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	4.9	2	4.9
AGREE	4	9.8	6	14.6
SOMEWHAT AGREE	1	2.4	7	17.1
NEUTRAL	3	7.3	10	24.4
SOME. DISAGREE	8	19.5	18	43.9
DISAGREE	14	34.1	32	78.0
STR. AGREE	9	22.0	41	100.0

X17.-SAME SOCIAL AND BUSINESS CLASS

X17	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	2	4.9	2	4.9
SOMEWHAT AGREE	5	12.2	7	17.1
NEUTRAL	9	22.0	16	39.0
SOME. DISAGREE	12	29.3	28	68.3
DISAGREE	7	17.1	35	85.4
STR. AGREE	6	14.6	41	100.0

X18.-HIGH ARTISTIC SENSITIVITY

X18	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	4.9	2	4.9
AGREE	8	19.5	10	24.4
SOMEWHAT AGREE	12	29.3	22	53.7
NEUTRAL	8	19.5	30	73.2
SOME. DISAGREE	4	9.8	34	82.9
DISAGREE	7	17.1	41	100.0

X19.-INTUITION UNRELIABLE

X19	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	1	2.4	1	2.4
SOMEWHAT AGREE	3	7.3	4	9.8
NEUTRAL	5	12.2	9	22.0
SOME. DISAGREE	15	36.6	24	58.5
DISAGREE	12	29.3	36	87.8
STR. AGREE	5	12.2	41	100.0

X20.-CREATE IDEAS/NOT SELL IDEAS

X20	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	6	14.6	7	17.1
SOMEWHAT AGREE	13	31.7	20	48.8
NEUTRAL	7	17.1	27	65.9
SOME. DISAGREE	10	24.4	37	90.2
DISAGREE	4	9.8	41	100.0

X21.-AVOID INFERIORITY

X21	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	4	9.8	4	9.8
SOMEWHAT AGREE	13	31.7	17	41.5
NEUTRAL	4	9.8	21	51.2
SOME. DISAGREE	14	34.1	35	85.4
DISAGREE	5	12.2	40	97.6
STR. AGREE	1	2.4	41	100.0

X22.-SOURCE OF INFO MOST IMPORTANT

X22	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	3	7.3	3	7.3
SOMEWHAT AGREE	3	7.3	6	14.6
NEUTRAL	8	19.5	14	34.1
SOME. DISAGREE	14	34.1	28	68.3
DISAGREE	11	26.8	39	95.1
STR. AGREE	2	4.9	41	100.0

X23.-BUSINESS BEFORE PLEASURE

X23	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	7	17.1	10	24.4
SOMEWHAT AGREE	11	26.8	21	51.2
NEUTRAL	11	26.8	32	78.0
SOME. DISAGREE	6	14.6	38	92.7
DISAGREE	3	7.3	41	100.0

X24.-SELF RESPECT MOST IMPORTANT

X24	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	22.0	9	22.0
AGREE	9	22.0	18	43.9
SOMEWHAT AGREE	10	24.4	28	68.3
NEUTRAL	7	17.1	35	85.4
SOME. DISAGREE	2	4.9	37	90.2
DISAGREE	3	7.3	40	97.6
STR. AGREE	1	2.4	41	100.0

X25.-STRIVE FOR PERFECTION IS UNWISE

X25	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	4.9	2	4.9
AGREE	2	4.9	4	9.8
SOMEWHAT AGREE	6	14.6	10	24.4
NEUTRAL	4	9.8	14	34.1
SOME. DISAGREE	10	24.4	24	58.5
DISAGREE	12	29.3	36	87.8
STR. AGREE	5	12.2	41	100.0

X26.-LIKE TO INFLUENCE OTHERS

X26	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	13	31.7	14	34.1
SOMEWHAT AGREE	11	26.8	25	61.0
NEUTRAL	8	19.5	33	80.5
SOME. DISAGREE	4	9.8	37	90.2
DISAGREE	3	7.3	40	97.6
STR. AGREE	1	2.4	41	100.0

X27.-EVERYTHING IN ITS PLACE

X27	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	11	26.8	14	34.1
SOMEWHAT AGREE	11	26.8	25	61.0
NEUTRAL	7	17.1	32	78.0
SOME. DISAGREE	6	14.6	38	92.7
DISAGREE	3	7.3	41	100.0

X28.-CRACKPOT IDEAS ARE IMPRACTICAL

X28	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	1	2.4	1	2.4
SOMEWHAT AGREE	1	2.4	2	4.9
NEUTRAL	5	12.2	7	17.1
SOME. DISAGREE	14	34.1	21	51.2
DISAGREE	19	46.3	40	97.6
STR. AGREE	1	2.4	41	100.0

X29.-ENJOY NEW IDEAS

X29	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	16	39.0	17	41.5
SOMEWHAT AGREE	14	34.1	31	75.6
NEUTRAL	8	19.5	39	95.1
SOME. DISAGREE	2	4.9	41	100.0

X30.-QUICKLY REORIENT MY THINKING

X30	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	4	9.8	4	9.8
AGREE	21	51.2	25	61.0
SOMEWHAT AGREE	13	31.7	38	92.7
NEUTRAL	2	4.9	40	97.6
SOME. DISAGREE	1	2.4	41	100.0

X31.-DON'T SHOW IGNORANCE

X31	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	2	4.9	3	7.3
SOMEWHAT AGREE	14	34.1	17	41.5
NEUTRAL	3	7.3	20	48.8
SOME. DISAGREE	9	22.0	29	70.7
DISAGREE	9	22.0	38	92.7
STR. AGREE	3	7.3	41	100.0

X32.-CAN CHANGE INTERESTS

X32	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	5	12.2	5	12.2
SOMEWHAT AGREE	15	36.6	20	48.8
NEUTRAL	10	24.4	30	73.2
SOME. DISAGREE	7	17.1	37	90.2
DISAGREE	4	9.8	41	100.0

X33.-INABILITY TO SOLVE BO WRONG Q

X33	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	5	12.2	5	12.2
AGREE	8	19.5	13	31.7
SOMEWHAT AGREE	21	51.2	34	82.9
SOME. DISAGREE	3	7.3	37	90.2
DISAGREE	4	9.8	41	100.0

X34.-CAN ANTICIPATE SOLUTIONS

X34	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	13	31.7	14	34.1
SOMEWHAT AGREE	20	48.8	34	82.9
NEUTRAL	6	14.6	40	97.6
SOME. DISAGREE	1	2.4	41	100.0

X35.-WASTE TO ANALYZE FAILURES

X35	Frequency	Percent	Cumulative Frequency	Cumulative Percent
SOMEWHAT AGREE	2	4.9	2	4.9
SOME. DISAGREE	8	19.5	10	24.4
DISAGREE	19	46.3	29	70.7
STR. AGREE	12	29.3	41	100.0

X36.-FUZZY THINKERS RESORT TO M AND A

X36	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	1	2.4	1	2.4
SOMEWHAT AGREE	3	7.3	4	9.8
NEUTRAL	9	22.0	13	31.7
SOME. DISAGREE	6	14.6	19	46.3
DISAGREE	17	41.5	36	87.8
STR. AGREE	5	12.2	41	100.0

X37.-ENJOY INGENUITY OF CROOK

X37	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	4	9.8	4	9.8
SOMEWHAT AGREE	2	4.9	6	14.6
NEUTRAL	8	19.5	14	34.1
SOME. DISAGREE	7	17.1	21	51.2
DISAGREE	13	31.7	34	82.9
STR. AGREE	7	17.1	41	100.0

X38.-WORK ON DIMLY SENSED PROBLEM

X38	Frequency	Percent	Cumulative Frequency	Cumulative Percent
AGREE	8	19.5	8	19.5
SOMEWHAT AGREE	15	36.6	23	56.1
NEUTRAL	9	22.0	32	78.0
SOME. DISAGREE	3	7.3	35	85.4
DISAGREE	6	14.6	41	100.0

X39.-FORGET NAMES OF THINGS

X39	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	3	7.3	6	14.6
SOMEWHAT AGREE	16	39.0	22	53.7
NEUTRAL	4	9.8	26	63.4
SOME. DISAGREE	7	17.1	33	80.5
DISAGREE	7	17.1	40	97.6
STR. AGREE	1	2.4	41	100.0

X40.-HARD WORK IS SUCCESS FACTOR

X40	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	9	22.0	9	22.0
AGREE	16	39.0	25	61.0
SOMEWHAT AGREE	13	31.7	38	92.7
NEUTRAL	1	2.4	39	95.1
SOME. DISAGREE	1	2.4	40	97.6
DISAGREE	1	2.4	41	100.0

X41.-TEAM MEMBERSHIP IS IMPORTANT

X41	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	11	26.8	11	26.8
AGREE	16	39.0	27	65.9
SOMEWHAT AGREE	12	29.3	39	95.1
NEUTRAL	2	4.9	41	100.0

X42.-INNER IMPULSES IN CHECK

X42	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	4.9	2	4.9
AGREE	8	19.5	10	24.4
SOMEWHAT AGREE	19	46.3	29	70.7
NEUTRAL	7	17.1	36	87.8
SOME. DISAGREE	5	12.2	41	100.0

X43.-DEPENDABLE AND RESPONSIBLE

X43	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	12	29.3	12	29.3
AGREE	22	53.7	34	82.9
SOMEWHAT AGREE	7	17.1	41	100.0

X44.-RESENT UNCERTAINTY/UNPREDICT

X44	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	4	9.8	5	12.2
SOMEWHAT AGREE	12	29.3	17	41.5
NEUTRAL	7	17.1	24	58.5
SOME. DISAGREE	10	24.4	34	82.9
DISAGREE	7	17.1	41	100.0

X45.-PREFER TO WORK WITH TEAM

X45	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	4	9.8	4	9.8
AGREE	10	24.4	14	34.1
SOMEWHAT AGREE	16	39.0	30	73.2
NEUTRAL	6	14.6	36	87.8
SOME. DISAGREE	5	12.2	41	100.0

X46.-PEOPLE TAKE THINGS TOO SERIOUSLY

X46	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	3	7.3	3	7.3
AGREE	8	19.5	11	26.8
SOMEWHAT AGREE	10	24.4	21	51.2
NEUTRAL	9	22.0	30	73.2
SOME. DISAGREE	9	22.0	39	95.1
DISAGREE	2	4.9	41	100.0

X47.-HAUNTED BY PROBLEMS

X47	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	3	7.3	4	9.8
SOMEWHAT AGREE	10	24.4	14	34.1
NEUTRAL	5	12.2	19	46.3
SOME. DISAGREE	5	12.2	24	58.5
DISAGREE	12	29.3	36	87.8
STR. AGREE	5	12.2	41	100.0

X48.-GIVE UP IMMEDIATE GAIN

X48	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	2	4.9	2	4.9
AGREE	15	36.6	17	41.5
SOMEWHAT AGREE	16	39.0	33	80.5
NEUTRAL	6	14.6	39	95.1
SOME. DISAGREE	2	4.9	41	100.0

X49.-PREFER FACT TO THEORY

X49	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	1	2.4	1	2.4
AGREE	13	31.7	14	34.1
SOMEWHAT AGREE	2	4.9	16	39.0
NEUTRAL	11	26.8	27	65.9
SOME. DISAGREE	12	29.3	39	95.1
DISAGREE	1	2.4	40	97.6
STR. AGREE	1	2.4	41	100.0

X50.-ATTRACTED TO MYSTERY OF LIFE

X50	Frequency	Percent	Cumulative Frequency	Cumulative Percent
STRONGLY AGREE	5	12.2	5	12.2
AGREE	17	41.5	22	53.7
SOMEWHAT AGREE	11	26.8	33	80.5
NEUTRAL	7	17.1	40	97.6
SOME. DISAGREE	1	2.4	41	100.0

X51.-RESPONDENT'S GENDER

X51	Frequency	Percent	Cumulative Frequency	Cumulative Percent
MALE	38	92.7	38	92.7
FEMALE	3	7.3	41	100.0

X52.-RESPONDENT'S AGE

X52	Frequency	Percent	Cumulative Frequency	Cumulative Percent
18-25	2	4.9	2	4.9
26-35	8	19.5	10	24.4
36-45	16	39.0	26	63.4
46-55	9	22.0	35	85.4
56-65	6	14.6	41	100.0

X53.-RESPONDENT'S EDUCATIONAL LEVEL

X53	Frequency	Percent	Cumulative Frequency	Cumulative Percent
H.S GRADUATE	3	7.3	3	7.3
SOME COLLEGE	5	12.2	8	19.5
COLLEGE DEGREE	21	51.2	29	70.7
POSTGRAD. STUDY	12	29.3	41	100.0

X54.-RESPONDENT'S MARITAL STATUS

X54	Frequency	Percent	Cumulative Frequency	Cumulative Percent
SINGLE	2	4.9	2	4.9
MARRIED	38	92.7	40	97.6
DIVORCED	1	2.4	41	100.0

X55.-RESPONDENT'S RACE

X55	Frequency	Percent	Cumulative Frequency	Cumulative Percent
NATIVE AMERICAN	3	7.3	3	7.3
CAUCASIAN	37	90.2	40	97.6
other	1	2.4	41	100.0

X56.-RESPONDENT'S YEARS W/COMPANY

X56	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1	1	2.4	1	2.4
3	5	12.2	6	14.6
4	5	12.2	11	26.8
5	3	7.3	14	34.1
6	1	2.4	15	36.6
8	2	4.9	17	41.5
9	2	4.9	19	46.3
10	2	4.9	21	51.2
11	2	4.9	23	56.1
13	3	7.3	26	63.4
15	1	2.4	27	65.9
16	1	2.4	28	68.3
17	1	2.4	29	70.7
18	1	2.4	30	73.2
20	2	4.9	32	78.0
21	2	4.9	34	82.9
22	1	2.4	35	85.4
23	1	2.4	36	87.8
25	1	2.4	37	90.2
27	1	2.4	38	92.7
28	1	2.4	39	95.1
31	1	2.4	40	97.6
34	1	2.4	41	100.0

APPENDIX D

CROSS FREQUENCY TABLES

TABLE OF CATCREAT BY CATREL0

CATCREAT(ABSOLUTE CREATIVE CATEGORY (SCORECRE))
CATREL0(FOUR RELATIVE CREAT. CATEGORY (SCORXCRE))

Frequency Percent Row Pct Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
2.-MOD. CREATIVE	13 7.34 100.00 38.24	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	13 7.34
3.-SOME. CREATIV	21 11.86 12.88 61.76	51 28.81 31.29 100.00	55 31.07 33.74 100.00	36 20.34 22.09 97.30	163 92.09
4.-NON CREATIVE	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 0.56 100.00 2.70	1 0.56
Total	34 19.21	51 28.81	55 31.07	37 20.90	177 100.00

TABLE OF CATREL1 BY CATREL0

CATREL1(FOUR RELATIVE CREAT. CATEGORY (SCORXCR1))
CATREL0(FOUR RELATIVE CREAT. CATEGORY (SCORXCRE))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	31	5	0	0	36
	17.51	2.82	0.00	0.00	20.34
	86.11	13.89	0.00	0.00	
	91.18	9.80	0.00	0.00	
2.-MOD. CREATIVE	3	32	11	0	46
	1.69	18.08	6.21	0.00	25.99
	6.52	69.57	23.91	0.00	
	8.82	62.75	20.00	0.00	
3.-SOME. CREATIV	0	14	38	2	54
	0.00	7.91	21.47	1.13	30.51
	0.00	25.93	70.37	3.70	
	0.00	27.45	69.09	5.41	
4.-NON CREATIVE	0	0	6	35	41
	0.00	0.00	3.39	19.77	23.16
	0.00	0.00	14.63	85.37	
	0.00	0.00	10.91	94.59	
Total	34	51	55	37	177
	19.21	28.81	31.07	20.90	100.00

TABLE OF CATREL2 BY CATREL0

CATREL2(FOUR RELATIVE CREAT. CATEGORY (SCORXCR2))
CATREL0(FOUR RELATIVE CREAT. CATEGORY (SCORXCRE))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON C CREATIVE	Total
1.-HIGHLY CREATI	25	6	0	0	31
	14.12	3.39	0.00	0.00	17.51
	80.65	19.35	0.00	0.00	
	73.53	11.76	0.00	0.00	
2.-MOD. CREATIVE	9	30	14	0	53
	5.08	16.95	7.91	0.00	29.94
	16.98	56.60	26.42	0.00	
	26.47	58.82	25.45	0.00	
3.-SOME. CREATIV	0	14	33	7	54
	0.00	7.91	18.64	3.95	30.51
	0.00	25.93	61.11	12.96	
	0.00	27.45	60.00	18.92	
4.-NON CREATIVE	0	1	8	30	39
	0.00	0.56	4.52	16.95	22.03
	0.00	2.56	20.51	76.92	
	0.00	1.96	14.55	81.08	
Total	34	51	55	37	177
	19.21	28.81	31.07	20.90	100.00

TABLE OF CATREL3 BY CATREL0

CATREL3(FOUR RELATIVE CREAT. CATEGORY (SCORXCR3))
CATREL0(FOUR RELATIVE CREAT. CATEGORY (SCORXCRE))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	26	12	4	0	42
	14.69	6.78	2.26	0.00	23.73
	61.90	28.57	9.52	0.00	
	76.47	23.53	7.27	0.00	
2.-MOD. CREATIVE	7	30	22	1	60
	3.95	16.95	12.43	0.56	33.90
	11.67	50.00	36.67	1.67	
	20.59	58.82	40.00	2.70	
3.-SOME. CREATIV	1	7	21	12	41
	0.56	3.95	11.86	6.78	23.16
	2.44	17.07	51.22	29.27	
	2.94	13.73	38.18	32.43	
4.-NON CREATIVE	0	2	8	24	34
	0.00	1.13	4.52	13.56	19.21
	0.00	5.88	23.53	70.59	
	0.00	3.92	14.55	64.86	
Total	34	51	55	37	177
	19.21	28.81	31.07	20.90	100.00

TABLE OF CATREL4 BY CATREL0

CATREL4(FOUR RELATIVE CREAT. CATEGORY (SCORXCR4))
CATREL0(FOUR RELATIVE CREAT. CATEGORY (SCORXCRE))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	25	11	4	0	40
	14.12	6.21	2.26	0.00	22.60
	62.50	27.50	10.00	0.00	
	73.53	21.57	7.27	0.00	
2.-MOD. CREATIVE	7	25	19	1	52
	3.95	14.12	10.73	0.56	29.38
	13.46	48.08	36.54	1.92	
	20.59	49.02	34.55	2.70	
3.-SOME. CREATIV	2	13	22	15	52
	1.13	7.34	12.43	8.47	29.38
	3.85	25.00	42.31	28.85	
	5.88	25.49	40.00	40.54	
4.-NON CREATIVE	0	2	10	21	33
	0.00	1.13	5.65	11.86	18.64
	0.00	6.06	30.30	63.64	
	0.00	3.92	18.18	56.76	
Total	34	51	55	37	177
	19.21	28.81	31.07	20.90	100.00

TABLE OF CATCREAT BY CATREL1

CATCREAT(ABSOLUTE CREATIVE CATEGORY (SCORECRE))
CATREL1(FOUR RELATIVE CREAT. CATEGORY (SCORXCR1))

Frequency Percent Row Pct Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
2.-MOD. CREATIVE	13 7.34 100.00 36.11	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	13 7.34
3.-SOME. CREATIV	23 12.99 14.11 63.89	46 25.99 28.22 100.00	54 30.51 33.13 100.00	40 22.60 24.54 97.56	163 92.09
4.-NON CREATIVE	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 0.56 100.00 2.44	1 0.56
Total	36 20.34	46 25.99	54 30.51	41 23.16	177 100.00

TABLE OF CATREL2 BY CATREL1

CATREL2(FOUR RELATIVE CREAT. CATEGORY (SCORXCR2))
CATREL1(FOUR RELATIVE CREAT. CATEGORY (SCORXCR1))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	28	2	1	0	31
	15.82	1.13	0.56	0.00	17.51
	90.32	6.45	3.23	0.00	
	77.78	4.35	1.85	0.00	
2.-MOD. CREATIVE	8	35	10	0	53
	4.52	19.77	5.65	0.00	29.94
	15.09	66.04	18.87	0.00	
	22.22	76.09	18.52	0.00	
3.-SOME. CREATIV	0	9	38	7	54
	0.00	5.08	21.47	3.95	30.51
	0.00	16.67	70.37	12.96	
	0.00	19.57	70.37	17.07	
4.-NON CREATIVE	0	0	5	34	39
	0.00	0.00	2.82	19.21	22.03
	0.00	0.00	12.82	87.18	
	0.00	0.00	9.26	82.93	
Total	36	46	54	41	177
	20.34	25.99	30.51	23.16	100.00

TABLE OF CATREL3 BY CATREL1

CATREL3(FOUR RELATIVE CREAT. CATEGORY (SCORXCR3))
CATREL1(FOUR RELATIVE CREAT. CATEGORY (SCORXCR1))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	29	9	4	0	42
	16.38	5.08	2.26	0.00	23.73
	69.05	21.43	9.52	0.00	
	80.56	19.57	7.41	0.00	
2.-MOD. CREATIVE	6	33	18	3	60
	3.39	18.64	10.17	1.69	33.90
	10.00	55.00	30.00	5.00	
	16.67	71.74	33.33	7.32	
3.-SOME. CREATIV	1	3	25	12	41
	0.56	1.69	14.12	6.78	23.16
	2.44	7.32	60.98	29.27	
	2.78	6.52	46.30	29.27	
4.-NON CREATIVE	0	1	7	26	34
	0.00	0.56	3.95	14.69	19.21
	0.00	2.94	20.59	76.47	
	0.00	2.17	12.96	63.41	
Total	36	46	54	41	177
	20.34	25.99	30.51	23.16	100.00

TABLE OF CATREL4 BY CATREL1

CATREL4(FOUR RELATIVE CREAT. CATEGORY (SCORXCR4))
CATREL1(FOUR RELATIVE CREAT. CATEGORY (SCORXCR1))

Frequency Percent Row Pct Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	27 15.25 67.50 75.00	9 5.08 22.50 19.57	4 2.26 10.00 7.41	0 0.00 0.00 0.00	40 22.60
2.-MOD. CREATIVE	7 3.95 13.46 19.44	25 14.12 48.08 54.35	19 10.73 36.54 35.19	1 0.56 1.92 2.44	52 29.38
3.-SOME. CREATIV	2 1.13 3.85 5.56	11 6.21 21.15 23.91	21 11.86 40.38 38.89	18 10.17 34.62 43.90	52 29.38
4.-NON CREATIVE	0 0.00 0.00 0.00	1 0.56 3.03 2.17	10 5.65 30.30 18.52	22 12.43 66.67 53.66	33 18.64
Total	36 20.34	46 25.99	54 30.51	41 23.16	177 100.00

TABLE OF CATCREAT BY CATREL2

CATCREAT(ABSOLUTE CREATIVE CATEGORY (SCORECRE))
CATREL2(FOUR RELATIVE CREAT. CATEGORY (SCORXCR2))

Frequency Percent Row Pct Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
2.-MOD. CREATIVE	13 7.34 100.00 41.94	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	13 7.34
3.-SOME. CREATIV	18 10.17 11.04 58.06	53 29.94 32.52 100.00	54 30.51 33.13 100.00	38 21.47 23.31 97.44	163 92.09
4.-NON CREATIVE	0 0.00 0.00 0.00	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 0.56 100.00 2.56	1 0.56
Total	31 17.51	53 29.94	54 30.51	39 22.03	177 100.00

TABLE OF CATREL3 BY CATREL2

CATREL3(FOUR RELATIVE CREAT. CATEGORY (SCORXCR3))
CATREL2(FOUR RELATIVE CREAT. CATEGORY (SCORXCR2))

Frequency Percent Row Pct Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	26 14.69 61.90 83.87	15 8.47 35.71 28.30	1 0.56 2.38 1.85	0 0.00 0.00 0.00	42 23.73
2.-MOD. CREATIVE	5 2.82 8.33 16.13	32 18.08 53.33 60.38	21 11.86 35.00 38.89	2 1.13 3.33 5.13	60 33.90
3.-SOME. CREATIV	0 0.00 0.00 0.00	6 3.39 14.63 11.32	23 12.99 56.10 42.59	12 6.78 29.27 30.77	41 23.16
4.-NON CREATIVE	0 0.00 0.00 0.00	0 0.00 0.00 0.00	9 5.08 26.47 16.67	25 14.12 73.53 64.10	34 19.21
Total	31 17.51	53 29.94	54 30.51	39 22.03	177 100.00

TABLE OF CATREL4 BY CATREL2

CATREL4(FOUR RELATIVE CREAT. CATEGORY (SCORXCR4))
CATREL2(FOUR RELATIVE CREAT. CATEGORY (SCORXCR2))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	25	10	5	0	40
	14.12	5.65	2.82	0.00	22.60
	62.50	25.00	12.50	0.00	
	80.65	18.87	9.26	0.00	
2.-MOD. CREATIVE	6	28	18	0	52
	3.39	15.82	10.17	0.00	29.38
	11.54	53.85	34.62	0.00	
	19.35	52.83	33.33	0.00	
3.-SOME. CREATIV	0	15	20	17	52
	0.00	8.47	11.30	9.60	29.38
	0.00	28.85	38.46	32.69	
	0.00	28.30	37.04	43.59	
4.-NON CREATIVE	0	0	11	22	33
	0.00	0.00	6.21	12.43	18.64
	0.00	0.00	33.33	66.67	
	0.00	0.00	20.37	56.41	
Total	31	53	54	39	177
	17.51	29.94	30.51	22.03	100.00

TABLE OF CATCREAT BY CATREL3

CATCREAT(ABSOLUTE CREATIVE CATEGORY (SCORECRE))
CATREL3(FOUR RELATIVE CREAT. CATEGORY (SCORXCR3))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
2.-MOD. CREATIVE	12	1	0	0	13
	6.78	0.56	0.00	0.00	7.34
	92.31	7.69	0.00	0.00	
	28.57	1.67	0.00	0.00	
3.-SOME. CREATIV	30	59	41	33	163
	16.95	33.33	23.16	18.64	92.09
	18.40	36.20	25.15	20.25	
	71.43	98.33	100.00	97.06	
4.-NON CREATIVE	0	0	0	1	1
	0.00	0.00	0.00	0.56	0.56
	0.00	0.00	0.00	100.00	
	0.00	0.00	0.00	2.94	
Total	42	60	41	34	177
	23.73	33.90	23.16	19.21	100.00

TABLE OF CATREL4 BY CATREL3

CATREL4(FOUR RELATIVE CREAT. CATEGORY (SCORXCR4))
CATREL3(FOUR RELATIVE CREAT. CATEGORY (SCORXCR3))

Frequency / Percent / Row Pct / Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
1.-HIGHLY CREATI	32	8	0	0	40
	18.08	4.52	0.00	0.00	22.60
	80.00	20.00	0.00	0.00	
	76.19	13.33	0.00	0.00	
2.-MOD. CREATIVE	10	37	5	0	52
	5.65	20.90	2.82	0.00	29.38
	19.23	71.15	9.62	0.00	
	23.81	61.67	12.20	0.00	
3.-SOME. CREATIV	0	15	30	7	52
	0.00	8.47	16.95	3.95	29.38
	0.00	28.85	57.69	13.46	
	0.00	25.00	73.17	20.59	
4.-NON CREATIVE	0	0	6	27	33
	0.00	0.00	3.39	15.25	18.64
	0.00	0.00	18.18	81.82	
	0.00	0.00	14.63	79.41	
Total	42	60	41	34	177
	23.73	33.90	23.16	19.21	100.00

TABLE OF CATCREAT BY CATREL4

CATCREAT(ABSOLUTE CREATIVE CATEGORY (SCORECRE))
CATREL4(FOUR RELATIVE CREAT. CATEGORY (SCORXCR4))

Frequency Percent Row Pct Col Pct	1.-HIGH CREATIVE	2.-MOD. CREATIVE	3.-SOME. CREATIVE	4.-NON CREATIVE	Total
2.-MOD. CREATIVE	12 6.78 92.31 30.00	1 0.56 7.69 1.92	0 0.00 0.00 0.00	0 0.00 0.00 0.00	13 7.34
3.-SOME. CREATIV	28 15.82 17.18 70.00	51 28.81 31.29 98.08	51 28.81 31.29 98.08	33 18.64 20.25 100.00	163 92.09
4.-NON CREATIVE	0 0.00 0.00 0.00	0 0.00 0.00 0.00	1 0.56 100.00 1.92	0 0.00 0.00 0.00	1 0.56
Total	40 22.60	52 29.38	52 29.38	33 18.64	177 100.00

APPENDIX E

T-TEST FOR INDEPENDENT MEANS FOR CATGROUP 25 VERSUS Q1-Q50

TTEST PROCEDURE

Variable: Q1 Q1.-FOLLOWS CORRECT PROCEDURES

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	2.62000000	1.19334891	0.16876502
NON CREATIVE	43	2.41860465	1.41812348	0.21626180

Variances	T	DF	Prob>|T|
Unequal	0.7342	82.5	0.4649
Equal	0.7438	91.0	0.4589

For H0: Variances are equal, F' = 1.41 DF = (42,49) Prob>F' = 0.2444

Variable: Q2 Q2.-WASTE TIME TO ASK QUESTIONS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.86000000	1.84069641	0.26031378
NON CREATIVE	43	3.65116279	1.77124816	0.27011281

Variances	T	DF	Prob>|T|
Unequal	3.2224	89.8	0.0018
Equal	3.2130	91.0	0.0018

For H0: Variances are equal, F' = 1.08 DF = (49,42) Prob>F' = 0.8031

Variable: Q3 Q3.-LOGICAL METHOD IS BEST

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	2.20000000	1.03015751	0.14568627
NON CREATIVE	43	1.74418605	0.81920470	0.12492755

Variances	T	DF	Prob>|T|
Unequal	2.3751	90.5	0.0197
Equal	2.3347	91.0	0.0218

For H0: Variances are equal, F' = 1.58 DF = (49,42) Prob>F' = 0.1312

Variable: Q4 Q4.-VOICE OPINION IN GROUPS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.84000000	1.59540156	0.22562385
NON CREATIVE	43	4.39534884	1.41656081	0.21602350

Variances	T	DF	Prob>|T|
Unequal	1.4235	90.9	0.1580
Equal	1.4107	91.0	0.1617

For H0: Variances are equal, F' = 1.27 DF = (49,42) Prob>F' = 0.4329

Variable: Q5 Q5.-OTHER THINK ABOUT ME

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.38000000	1.49679931	0.21167939
NON CREATIVE	43	4.25581395	1.63434891	0.24923587

Variances	T	DF	Prob>|T|
Unequal	3.4379	86.1	0.0009
Equal	3.4609	91.0	0.0008

For H0: Variances are equal, F' = 1.19 DF = (42,49) Prob>F' = 0.5508

Variable: Q6 Q6.-HAVE CONTRIBUTION TO MAKE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.66000000	1.31878113	0.18650382
NON CREATIVE	43	5.00000000	1.46385011	0.22323505

Variances	T	DF	Prob>|T|
Unequal	2.2689	85.4	0.0258
Equal	2.2869	91.0	0.0245

For H0: Variances are equal, F' = 1.23 DF = (42,49) Prob>F' = 0.4796

Variable: Q7 Q7.-RIGHT OVER FRIENDS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	6.36000000	0.74942155	0.10598421
NON CREATIVE	43	6.06976744	1.00936918	0.15392736

Variances	T	DF	Prob>|T|
Unequal	1.5530	76.5	0.1246
Equal	1.5876	91.0	0.1159

For H0: Variances are equal, F' = 1.81 DF = (42,49) Prob>F' = 0.0455

Variable: Q8 Q8.-UNCERTAINITY LOSES MY RESPECT

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.98000000	1.64738506	0.23297543
NON CREATIVE	43	3.65116279	1.46195761	0.22294644

Variances	T	DF	Prob>|T|
Unequal	1.0198	90.9	0.3105
Equal	1.0106	91.0	0.3149

For H0: Variances are equal, F' = 1.27 DF = (49,42) Prob>F' = 0.4309

Variable: Q9 Q9.-STICK TO DIFFICULT PROBLEMS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	2.12000000	0.98229220	0.13891709
NON CREATIVE	43	2.30232558	1.20583667	0.18388837

Variances	T	DF	Prob>|T|
Unequal	-0.7911	81.0	0.4312
Equal	-0.8034	91.0	0.4238

For H0: Variances are equal, F' = 1.51 DF = (42,49) Prob>F' = 0.1671

Variable: Q10 Q10.-OCC. OVERLY ENTHUSIASTIC

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.40300000	1.12866184	0.15961689
NON CREATIVE	43	5.02325581	1.35380191	0.20645286

Variances	T	DF	Prob>|T|
Unequal	1.9802	82.1	0.0510
Equal	2.0075	91.0	0.0477

For H0: Variances are equal, F' = 1.44 DF = (42,49) Prob>F' = 0.2200

Variable: Q11 Q11.-IDEAS WHEN DOING NOTHING

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.08000000	1.68837562	0.23877237
NON CREATIVE	43	3.95348837	1.71760476	0.26193227

Variances	T	DF	Prob>|T|
Unequal	3.1784	88.5	0.0020
Equal	3.1825	91.0	0.0020

For H0: Variances are equal, F' = 1.03 DF = (42,49) Prob>F' = 0.9025

Variable: Q12 Q12.-RELY ON HUNCHES AND FEELINGS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.34000000	1.06157373	0.15012920
NON CREATIVE	43	4.34883721	1.61663556	0.24653461

Variances	T	DF	Prob>|T|
Unequal	3.4338	70.6	0.0010
Equal	3.5393	91.0	0.0006

For H0: Variances are equal, F' = 2.32 DF = (42,49) Prob>F' = 0.0049

Variable: Q13 Q13.-FAST ANALYSE/SLOW SYNTHESIZE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.24000000	1.45068597	0.20515798
NON CREATIVE	43	3.06976744	1.26105301	0.19230878

Variances	T	DF	Prob>|T|
Unequal	0.6054	91.0	0.5464
Equal	0.5990	91.0	0.5507

For H0: Variances are equal, F' = 1.32 DF = (49,42) Prob>F' = 0.3552

Variable: Q14 Q14.-LIKE COLLECTING THINGS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.54000000	1.74039639	0.24612922
NON CREATIVE	43	4.23255814	1.84954575	0.28205308

Variances	T	DF	Prob>|T|
Unequal	0.8213	87.1	0.4137
Equal	0.8251	91.0	0.4115

For H0: Variances are equal, F' = 1.13 DF = (42,49) Prob>F' = 0.6781

Variable: Q15 Q15.-DAYDREAMING PROVIDES STIMULUS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.60000000	1.49829835	0.21189139
NON CREATIVE	43	3.27906977	1.59352232	0.24300988

Variances	T	DF	Prob>|T|
Unequal	4.0970	87.0	0.0001
Equal	4.1162	91.0	0.0001

For H0: Variances are equal, F' = 1.13 DF = (42,49) Prob>F' = 0.6743

Variable: Q16 Q16.-PHYSICIAN OVER EXPLORER

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.48000000	1.72898460	0.24451535
NON CREATIVE	43	4.62790698	2.01214474	0.30684920

Variances	T	DF	Prob>|T|
Unequal	2.1717	83.4	0.0327
Equal	2.1967	91.0	0.0306

For H0: Variances are equal, F' = 1.35 DF = (42,49) Prob>F' = 0.3058

Variable: Q17 Q17.-SAME SOCIAL AND BUSINESS CLASS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.86000000	1.52543069	0.21572848
NON CREATIVE	43	3.55813953	1.72243357	0.26266866

Variances	T	DF	Prob>|T|
Unequal	3.8301	84.7	0.0002
Equal	3.8655	91.0	0.0002

For H0: Variances are equal, F' = 1.27 DF = (42,49) Prob>F' = 0.4113

Variable: Q18 Q18.-HIGH ARTISTIC SENSITIVITY

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.26000000	1.46816559	0.20762997
NON CREATIVE	43	3.74418605	1.52897450	0.23316642

Variances	T	DF	Prob>|T|
Unequal	4.8551	87.7	0.0001
Equal	4.8701	91.0	0.0000

For H0: Variances are equal, F' = 1.08 DF = (42,49) Prob>F' = 0.7800

Variable: Q19 Q19.-INTUITION UNRELIABLE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.24000000	1.57220760	0.22234373
NON CREATIVE	43	4.32558140	1.55411788	0.23700076

Variances	T	DF	Prob>|T|
Unequal	2.8138	89.2	0.0060
Equal	2.8114	91.0	0.0060

For H0: Variances are equal, F' = 1.02 DF = (49,42) Prob>F' = 0.9444

Variable: Q20 Q20.-CREATE IDEAS/NOT SELL IDEAS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.60000000	1.77281052	0.25071327
NON CREATIVE	43	4.74418605	1.41577882	0.21590425

Variances	T	DF	Prob>|T|
Unequal	-0.4358	90.5	0.6640
Equal	-0.4285	91.0	0.6693

For H0: Variances are equal, F' = 1.57 DF = (49,42) Prob>F' = 0.1384

Variable: Q21 Q21.-AVOID INFERIORITY

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.88000000	1.56021976	0.22064840
NON CREATIVE	43	3.18604651	1.34970568	0.20582819

Variances	T	DF	Prob>|T|
Unequal	2.2998	91.0	0.0237
Equal	2.2747	91.0	0.0253

For H0: Variances are equal, F' = 1.34 DF = (49,42) Prob>F' = 0.3388

Variable: Q22 Q22.-SOURCE OF INFO MOST IMPORTANT

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.92000000	1.60152988	0.22649053
NON CREATIVE	43	3.93023256	1.53367515	0.23388327

Variances	T	DF	Prob>|T|
Unequal	3.0401	89.9	0.0031
Equal	3.0301	91.0	0.0032

For H0: Variances are equal, F' = 1.09 DF = (49,42) Prob>F' = 0.7783

Variable: Q23 Q23.-BUSINESS BEFORE PLEASURE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.06000000	1.70724746	0.24144125
NON CREATIVE	43	3.37209302	1.55874271	0.23770604

Variances	T	DF	Prob>|T|
Unequal	2.0303	90.7	0.0453
Equal	2.0163	91.0	0.0467

For H0: Variances are equal, F' = 1.20 DF = (49,42) Prob>F' = 0.5490

Variable: Q24 Q24.-SELF RESPECT MOST IMPORTANT

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.68000000	1.20271801	0.17009001
NON CREATIVE	43	4.97674419	1.53511861	0.23410339

Variances	T	DF	Prob>|T|
Unequal	2.4303	79.1	0.0173
Equal	2.4750	91.0	0.0152

For H0: Variances are equal, F' = 1.63 DF = (42,49) Prob>F' = 0.1006

Variable: Q25 Q25.-STRIVE FOR PERFECTION IS UNWISE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.72000000	1.78474259	0.25240072
NON CREATIVE	43	2.83720930	1.60253122	0.24438372

Variances	T	DF	Prob>|T|
Unequal	2.5127	90.8	0.0137
Equal	2.4923	91.0	0.0145

For H0: Variances are equal, F' = 1.24 DF = (49,42) Prob>F' = 0.4777

Variable: Q26 Q26.-LIKE TO INFLUENCE OTHERS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.64000000	1.48131216	0.20948917
NON CREATIVE	43	4.00000000	1.39727626	0.21308263

Variances	T	DF	Prob>|T|
Unequal	2.1418	90.2	0.0349
Equal	2.1323	91.0	0.0357

For H0: Variances are equal, F' = 1.12 DF = (49,42) Prob>F' = 0.7022

Variable: Q27 Q27.-EVERYTHING IN ITS PLACE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.92000000	1.53649482	0.21729318
NON CREATIVE	43	3.09302326	1.49306258	0.22768991

Variances	T	DF	Prob>|T|
Unequal	2.6275	89.6	0.0101
Equal	2.6218	91.0	0.0103

For H0: Variances are equal, F' = 1.06 DF = (49,42) Prob>F' = 0.8540

Variable: Q28 Q28.-CRACKPOT IDEAS ARE IMPRACTICAL

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.46000000	1.12866184	0.15961689
NON CREATIVE	43	4.41860465	1.19985233	0.18297577

Variances	T	DF	Prob>|T|
Unequal	4.2889	87.0	0.0001
Equal	4.3089	91.0	0.0000

For H0: Variances are equal, F' = 1.13 DF = (42,49) Prob>F' = 0.6765

Variable: Q29 Q29.-ENJOY NEW IDEAS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.34000000	1.22240980	0.17287485
NON CREATIVE	43	3.88372093	1.41773297	0.21620225

Variances	T	DF	Prob>|T|
Unequal	5.2608	83.6	0.0001
Equal	5.3200	91.0	0.0000

For H0: Variances are equal, F' = 1.35 DF = (42,49) Prob>F' = 0.3168

Variable: Q30 Q30.-QUICKLY REORIENT MY THINKING

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.38000000	1.32310704	0.18711559
NON CREATIVE	43	5.16279070	1.13242749	0.17269357

Variances	T	DF	Prob>|T|
Unequal	0.8530	91.0	0.3959
Equal	0.8431	91.0	0.4014

For H0: Variances are equal, F' = 1.37 DF = (49,42) Prob>F' = 0.3044

Variable: Q31 Q31.-DON'T SHOW IGNORANCE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.02000000	1.64738506	0.23297543
NON CREATIVE	43	3.16279070	1.47890295	0.22553059

Variances	T	DF	Prob>|T|
Unequal	5.7276	90.8	0.0001
Equal	5.6810	91.0	0.0000

For H0: Variances are equal, F' = 1.24 DF = (49,42) Prob>F' = 0.4769

Variable: Q32 Q32.-CAN CHANGE INTERESTS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.06000000	1.76600552	0.24975090
NON CREATIVE	43	3.13953488	1.37289051	0.20936384

Variances	T	DF	Prob>|T|
Unequal	2.8244	90.1	0.0058
Equal	2.7719	91.0	0.0068

For H0: Variances are equal, F' = 1.65 DF = (49,42) Prob>F' = 0.0975

Variable: Q33 Q33.-INABILITY TO SOLVE BO WRONG Q

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.42000000	1.32618834	0.18755135
NON CREATIVE	43	4.62790698	1.43133730	0.21827689

Variances	T	DF	Prob>|T|
Unequal	2.7524	86.5	0.0072
Equal	2.7684	91.0	0.0068

For H0: Variances are equal, F' = 1.16 DF = (42,49) Prob>F' = 0.6095

Variable: Q34 Q34.-CAN ANTICIPATE SOLUTIONS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.26000000	1.02638657	0.14515298
NON CREATIVE	43	5.06976744	1.07781412	0.16436511

Variances	T	DF	Prob>|T|
Unequal	0.8675	87.5	0.3880
Equal	0.8707	91.0	0.3862

For H0: Variances are equal, F' = 1.10 DF = (42,49) Prob>F' = 0.7376

Variable: Q35 Q35.-WASTE TO ANALYZE FAILURES

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	6.42000000	0.64174507	0.09075646
NON CREATIVE	43	5.09302326	1.61560771	0.24637787

Variances	T	DF	Prob>|T|
Unequal	5.0540	53.3	0.0001
Equal	5.3421	91.0	0.0000

For H0: Variances are equal, F' = 6.34 DF = (42,49) Prob>F' = 0.0000

Variable: Q36 Q36.-FUZZY THINKERS RESORT TO M AND A

CATCRE25	N	Mean	Std Dev	Std Error
...GHLY CREATIVE	50	5.66000000	1.37929293	0.19506148
NON CREATIVE	43	4.72093023	1.16139451	0.17711100

Variances	T	DF	Prob>|T|
Unequal	3.5642	91.0	0.0006
Equal	3.5183	91.0	0.0007

For H0: Variances are equal, F' = 1.41 DF = (49,42) Prob>F' = 0.2565

Variable: Q37 Q37.-ENJOY INGENUITY OF CROOK

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.52000000	2.16879540	0.30671399
NON CREATIVE	43	3.04651163	1.64683663	0.25114023

Variances	T	DF	Prob>|T|
Unequal	1.1944	89.7	0.2355
Equal	1.1703	91.0	0.2449

For H0: Variances are equal, F' = 1.73 DF = (49,42) Prob>F' = 0.0703

Variable: Q38 Q38.-WORK ON DIMLY SENSED PROBLEM

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.70000000	1.38873015	0.19639610
NON CREATIVE	43	3.48837209	1.35175535	0.20614076

Variances	T	DF	Prob>|T|
Unequal	4.2555	89.6	0.0001
Equal	4.2468	91.0	0.0001

For H0: Variances are equal, F' = 1.06 DF = (49,42) Prob>F' = 0.8629

Variable: Q39 Q39.-FORGET NAMES OF THINGS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.80000000	1.78428514	0.25233602
NON CREATIVE	43	3.72093023	1.76372956	0.26896624

Variances	T	DF	Prob>|T|
Unequal	2.9259	89.2	0.0044
Equal	2.9233	91.0	0.0044

For H0: Variances are equal, F' = 1.02 DF = (49,42) Prob>F' = 0.9443

Variable: Q40 Q40.-HARD WORK IS SUCCESS FACTOR

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	2.86000000	1.48475244	0.20997570
NON CREATIVE	43	2.11627907	1.29484881	0.19746259

Variances	T	DF	Prob>|T|
Unequal	2.5802	91.0	0.0115
Equal	2.5537	91.0	0.0123

For H0: Variances are equal, F' = 1.31 DF = (49,42) Prob>F' = 0.3665

Variable: Q41 Q41.-TEAM MEMBERSHIP IS IMPORTANT

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	2.46000000	1.23238610	0.17428571
NON CREATIVE	43	1.97674419	1.01156108	0.15426162

Variances	T	DF	Prob>|T|
Unequal	2.0763	90.8	0.0407
Equal	2.0457	91.0	0.0437

For H0: Variances are equal, F' = 1.48 DF = (49,42) Prob>F' = 0.1928

Variable: Q42 Q42.-INNER IMPULSES IN CHECK

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.24000000	1.43654915	0.20315873
NON CREATIVE	43	2.67441860	1.04016780	0.15862410

Variances	T	DF	Prob>|T|
Unequal	2.1943	88.6	0.0308
Equal	2.1428	91.0	0.0348

For H0: Variances are equal, F' = 1.91 DF = (49,42) Prob>F' = 0.0343

Variable: Q43 Q43.-DEPENDABLE AND RESPONSIBLE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	2.26000000	1.17473401	0.16613248
NON CREATIVE	43	1.81395349	0.76394384	0.11650034

Variances	T	DF	Prob>|T|
Unequal	2.1983	85.0	0.0306
Equal	2.1314	91.0	0.0357

For H0: Variances are equal, F' = 2.36 DF = (49,42) Prob>F' = 0.0051

Variable: Q44 Q44.-RESENT UNCERTAINTY/UNPREDICT

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.94000000	1.50387255	0.21267970
NON CREATIVE	43	3.04651163	1.41343028	0.21554610

Variances	T	DF	Prob>|T|
Unequal	2.9507	90.3	0.0040
Equal	2.9368	91.0	0.0042

For H0: Variances are equal, F' = 1.13 DF = (49,42) Prob>F' = 0.6844

Variable: Q45 Q45.-PREFER TO WORK WITH TEAM

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	3.84000000	1.47579104	0.20870837
NON CREATIVE	43	3.55813953	1.35052592	0.20595327

Variances	T	DF	Prob>|T|
Unequal	0.9613	90.6	0.3390
Equal	0.9548	91.0	0.3422

For H0: Variances are equal, F' = 1.19 DF = (49,42) Prob>F' = 0.5593

Variable: Q46 Q46.-PEOPLE TAKE THINGS TOO SERIOUSLY

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.08000000	1.44052145	0.20372050
NON CREATIVE	43	4.32558140	1.28583733	0.19608835

Variances	T	DF	Prob>|T|
Unequal	2.6681	90.9	0.0090
Equal	2.6452	91.0	0.0096

For H0: Variances are equal, F' = 1.26 DF = (49,42) Prob>F' = 0.4538

Variable: Q47 Q47.-HAUNTED BY PROBLEMS

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.78000000	1.87671010	0.26540689
NON CREATIVE	43	4.37209302	1.57394342	0.24002412

Variances	T	DF	Prob>|T|
Unequal	1.1399	91.0	0.2573
Equal	1.1249	91.0	0.2636

For H0: Variances are equal, F' = 1.42 DF = (49,42) Prob>F' = 0.2457

Variable: Q48 Q48.-GIVE UP IMMEDIATE GAIN

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.20000000	1.10656667	0.15649216
NON CREATIVE	43	4.72093023	1.18171750	0.18021023

Variances	T	DF	Prob>|T|
Unequal	2.0072	86.9	0.0478
Equal	2.0173	91.0	0.0466

For H0: Variances are equal, F' = 1.14 DF = (42,49) Prob>F' = 0.6544

Variable: Q49 Q49.-PREFER FACT TO THEORY

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	4.44000000	1.63082551	0.23063356
NON CREATIVE	43	2.34883721	1.17278100	0.17884743

Variances	T	DF	Prob>|T|
Unequal	7.1651	88.4	0.0001
Equal	6.9937	91.0	0.0000

For H0: Variances are equal, F' = 1.93 DF = (49,42) Prob>F' = 0.0307

Variable: Q50 Q50.-ATTRACTED TO MYSTERY OF LIFE

CATCRE25	N	Mean	Std Dev	Std Error
HIGHLY CREATIVE	50	5.90000000	1.11116780	0.15714286
NON CREATIVE	43	4.65116279	1.47815395	0.22541636

Variances	T	DF	Prob>|T|
Unequal	4.5448	77.1	0.0001
Equal	4.6420	91.0	0.0000

For H0: Variances are equal, F' = 1.77 DF = (42,49) Prob>F' = 0.0552

APPENDIX F

FACTOR ANALYSIS - PRINCIPAL COMPONENTS

Initial Factor Method: Principal Components
Factor Pattern

	FACTOR1	FACTOR2	
Q51	0.51026	0.04071	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.62711	-0.19890	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.68824	-0.15766	Q53.-SUPERVISOR REPRESENTS ME
Q54	0.86851	-0.24281	Q54.-I RESPECT MY SUPERVISOR
Q55	0.60219	-0.17283	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	0.24706	-0.22395	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.53699	0.07298	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	0.50398	0.60938	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	0.49290	0.47891	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	0.40979	0.26997	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	0.38397	0.67812	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.76400	-0.16579	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	0.23058	0.20455	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	0.78473	-0.04832	Q64.-WOULD DEFEND SUPERVISOR
Q65	0.79143	-0.11007	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	0.73560	0.03454	Q66.-RESPECT CURRENT SUPERVISOR
Q67	0.83607	-0.03444	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	0.84653	0.09473	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	0.74666	0.37175	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	0.76672	0.04206	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	0.71399	0.00394	Q71.-DEFEND MY HONEST MISTAKE
Q72	0.85461	0.00478	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.80330	-0.02077	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	0.68574	-0.22038	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	0.42617	0.58804	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.74572	0.12736	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.38516	0.37729	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.64142	0.41795	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	0.84022	0.10586	Q79.-LIKE SUPERVISORS COMPANY
Q80	0.74542	-0.05764	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	0.70597	-0.15958	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	0.33134	0.13743	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.41865	0.49127	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	0.33127	0.57058	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	0.10648	0.04993	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	0.76383	-0.30379	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.82151	-0.04087	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	0.78837	-0.25469	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	0.73660	0.00054	Q89.-RECOG & RESPECT MY DECISIONS
Q90	0.79972	-0.22027	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	0.78770	-0.28870	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	0.78255	-0.20280	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.22186	0.07966	Q93.-VIOLATION WOULD BE RIGHT
Q94	0.82266	-0.28631	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	0.69735	-0.40652	Q95.-SUPERVISOR'S SKILLS RESPECTED

Initial Factor Method: Principle Components
Factor Pattern

	FACTOR3	FACTOR4	
Q51	0.17699	-0.25025	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	-0.11623	0.13271	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.00536	-0.12975	Q53.-SUPERVISOR REPRESENTS ME
Q54	-0.12366	0.09435	Q54.-I RESPECT MY SUPERVISOR
Q55	0.00834	0.37084	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	0.39205	0.17516	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.30756	-0.05927	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	-0.34032	-0.04285	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	-0.30485	-0.18487	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	0.08876	0.30751	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	-0.22617	0.03614	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.12355	-0.05231	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	0.34987	0.44449	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	0.08966	0.05183	Q64.-WOULD DEFEND SUPERVISOR
Q65	0.17139	0.08304	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	0.05637	0.16344	Q66.-RESPECT CURRENT SUPERVISOR
Q67	0.06449	-0.14534	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	-0.05591	-0.15195	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	-0.03659	0.09050	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	0.13875	-0.21591	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	0.24256	-0.19988	Q71.-DEFEND MY HONEST MISTAKE
Q72	0.09677	-0.17385	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.18792	-0.10136	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	-0.09230	0.07433	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	-0.26699	0.02415	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.20586	-0.19535	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.47873	0.03708	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.07951	-0.17997	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	0.08264	-0.17312	Q79.-LIKE SUPERVISORS COMPANY
Q80	0.16698	-0.22497	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	-0.03624	-0.04325	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	0.47238	0.36790	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.07860	0.29721	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	-0.34627	0.25198	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	0.09469	0.35845	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	-0.29161	0.23461	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.02217	-0.11242	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	-0.32418	0.19306	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	0.09979	-0.06234	Q89.-RECOG & RESPECT MY DECISIONS
Q90	-0.15268	0.13188	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	-0.23462	0.09919	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	-0.10230	-0.00985	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	-0.12203	-0.27410	Q93.-VIOLATION WOULD BE RIGHT
Q94	-0.25748	0.05170	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	-0.25239	0.04611	Q95.-SUPERVISOR'S SKILLS RESPECTED

Initial Factor Method: Principal Components
Factor Pattern

	FACTOR5	FACTOR6	
Q51	0.26276	-0.07635	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.41628	-0.04069	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.35030	0.00716	Q53.-SUPERVISOR REPRESENTS ME
Q54	-0.01191	0.03295	Q54.-I RESPECT MY SUPERVISOR
Q55	0.10486	0.30364	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	-0.02590	0.60137	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.24853	0.24375	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	-0.00218	0.11996	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	0.05143	0.10806	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	-0.25702	-0.21718	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	-0.01856	0.02012	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.02198	-0.00439	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	-0.14700	0.36574	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	-0.08220	-0.01959	Q64.-WOULD DEFEND SUPERVISOR
Q65	-0.05773	0.02293	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	-0.03304	-0.06360	Q66.-RESPECT CURRENT SUPERVISOR
Q67	-0.12501	-0.01520	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	-0.13452	0.04517	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	-0.13573	-0.03395	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	-0.06386	0.07737	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	0.16598	-0.16298	Q71.-DEFEND MY HONEST MISTAKE
Q72	-0.06880	-0.02998	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.13766	-0.17216	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	0.04411	-0.01750	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	-0.03470	0.19260	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.26963	-0.06035	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.05556	0.01796	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	-0.03974	0.04052	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	-0.18355	0.08622	Q79.-LIKE SUPERVISORS COMPANY
Q80	-0.27947	-0.01248	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	0.32625	-0.08463	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	-0.17596	-0.32810	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.04360	-0.27347	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	0.22485	-0.01402	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	0.51751	-0.02099	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	0.04693	-0.00337	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.16049	-0.06972	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	0.03013	0.00436	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	-0.25275	-0.12348	Q89.-RECOG & RESPECT MY DECISIONS
Q90	-0.14313	-0.04327	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	-0.14004	-0.02085	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	-0.28022	0.01796	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.01638	0.38694	Q93.-VIOLATION WOULD BE RIGHT
Q94	-0.02921	0.01427	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	-0.12682	-0.03522	Q95.-SUPERVISOR'S SKILLS RESPECTED

Initial Factor Method: Principal Components
Factor Pattern

	FACTOR7	FACTOR8	
Q51	0.23876	0.41764	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.02079	0.18519	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.11284	0.08715	Q53.-SUPERVISOR REPRESENTS ME
Q54	0.03074	0.01715	Q54.-I RESPECT MY SUPERVISOR
Q55	-0.08408	0.05056	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	-0.18989	-0.01923	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.06968	-0.23675	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	-0.11972	0.00282	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	-0.17392	-0.12528	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	0.14735	-0.40985	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	-0.02824	0.06168	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	-0.13489	0.13710	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	0.01711	0.09337	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	-0.14171	0.15069	Q64.-WOULD DEFEND SUPERVISOR
Q65	-0.13223	0.10807	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	-0.02526	0.31159	Q66.-RESPECT CURRENT SUPERVISOR
Q67	-0.14856	-0.01972	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	-0.07862	0.03212	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	0.00120	0.02559	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	0.00536	-0.32022	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	-0.11202	-0.15711	Q71.-DEFEND MY HONEST MISTAKE
Q72	-0.00728	-0.09120	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.00465	-0.04653	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	-0.23308	-0.00732	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	-0.08627	0.16334	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.00947	-0.09778	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.35707	-0.06595	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.08079	-0.07203	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	-0.08842	-0.11071	Q79.-LIKE SUPERVISORS COMPANY
Q80	-0.13683	0.17138	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	-0.17251	-0.05927	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	0.10597	0.12408	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.16674	0.08932	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	-0.07796	0.05095	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	-0.07243	-0.22987	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	0.13052	-0.11060	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	-0.04044	0.05595	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	0.17816	-0.11708	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	-0.05920	-0.01519	Q89.-RECOG & RESPECT MY DECISIONS
Q90	0.10162	0.07848	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	0.15806	-0.11842	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	0.07975	0.06894	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.65162	0.07065	Q93.-VIOLATION WOULD BE RIGHT
Q94	0.09839	-0.11804	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	0.12772	0.00287	Q95.-SUPERVISOR'S SKILLS RESPECTED

APPENDIX G

FACTOR ANALYSIS - VARIMAX ROTATION

Rotation Method: Varimax Rotation
Rotated Factor Pattern

	FACTOR1	FACTOR2	
Q51	0.22897	0.37274	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.58755	0.18775	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.51783	0.43333	Q53.-SUPERVISOR REPRESENTS ME
Q54	0.82627	0.31802	Q54.-I RESPECT MY SUPERVISOR
Q55	0.57345	0.09869	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	0.13976	0.19978	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.18586	0.56160	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	0.17191	0.20208	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	0.16911	0.33844	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	0.24929	0.20046	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	0.04060	0.12447	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.56960	0.46749	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	0.03986	-0.01226	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	0.57652	0.39841	Q64.-WOULD DEFEND SUPERVISOR
Q65	0.58291	0.43079	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	0.54720	0.24009	Q66.-RESPECT CURRENT SUPERVISOR
Q67	0.57304	0.57469	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	0.56682	0.50487	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	0.41577	0.34475	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	0.43629	0.69235	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	0.35656	0.71704	Q71.-DEFEND MY HONEST MISTAKE
Q72	0.55335	0.62760	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.49356	0.62281	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	0.63691	0.31179	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	0.11949	0.08995	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.32829	0.69451	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	-0.05591	0.42119	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.20016	0.52622	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	0.49960	0.61884	Q79.-LIKE SUPERVISORS COMPANY
Q80	0.48442	0.53256	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	0.54660	0.47184	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	0.12673	0.15199	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.12527	0.11131	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	0.11736	-0.04440	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	0.02589	0.06772	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	0.87662	0.13059	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.56785	0.52880	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	0.87904	0.14718	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	0.51710	0.46703	Q89.-RECOG & RESPECT MY DECISIONS
Q90	0.81144	0.20267	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	0.85996	0.22051	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	0.75055	0.28214	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.14562	0.06638	Q93.-VIOLATION WOULD BE RIGHT
Q94	0.86183	0.27869	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	0.84541	0.15084	Q95.-SUPERVISOR'S SKILLS RESPECTED

Rotation Method: Varimax Rotation
Rotated Factor Pattern

	FACTOR3	FACTOR4	
Q51	0.09784	0.18099	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.11390	0.01748	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.08100	-0.00950	Q53.-SUPERVISOR REPRESENTS ME
Q54	0.14535	0.08084	Q54.-I RESPECT MY SUPERVISOR
Q55	0.13154	0.05826	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	-0.15349	-0.08568	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.09444	0.07655	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	0.83580	0.00143	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	0.70096	-0.13172	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	0.22801	0.52069	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	0.78183	0.18086	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.09001	0.09655	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	0.15882	0.37294	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	0.20998	0.20036	Q64.-WOULD DEFEND SUPERVISOR
Q65	0.12850	0.21097	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	0.27120	0.32106	Q66.-RESPECT CURRENT SUPERVISOR
Q67	0.22438	0.09487	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	0.38591	0.07977	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	0.55433	0.33485	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	0.18692	0.07233	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	0.09832	0.14081	Q71.-DEFEND MY HONEST MISTAKE
Q72	0.21465	0.14859	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.12586	0.23581	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	0.12457	-0.02884	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	0.78346	0.05102	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.22482	0.14730	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.15299	0.53852	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.48172	0.21600	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	0.32348	0.11263	Q79.-LIKE SUPERVISORS COMPANY
Q80	0.14151	0.14131	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	0.12839	-0.05494	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	-0.02865	0.75483	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.45139	0.59632	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	0.74831	0.12310	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	0.04375	0.09185	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	0.11182	0.05247	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.22020	0.09025	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	0.16386	0.05312	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	0.17800	0.25502	Q89.-RECOG & RESPECT MY DECISIONS
Q90	0.13795	0.17584	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	0.08956	0.08504	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	0.12650	0.12934	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.12853	-0.06506	Q93.-VIOLATION WOULD BE RIGHT
Q94	0.12662	-0.00457	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	-0.01405	0.00326	Q95.-SUPERVISOR'S SKILLS RESPECTED

Rotation Method: Varimax Rotation
Rotated Factor Pattern

	FACTOR5	FACTOR6	
Q51	-0.04839	-0.02149	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.02733	0.34590	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.00076	0.21630	Q53.-SUPERVISOR REPRESENTS ME
Q54	0.12863	0.03594	Q54.-I RESPECT MY SUPERVISOR
Q55	0.47298	0.22575	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	0.77589	0.04285	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	0.29260	0.27008	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	0.00786	-0.01582	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	-0.04435	0.01160	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	-0.02097	0.08245	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	-0.02267	-0.01287	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.17841	-0.04493	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	0.63933	0.03140	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	0.20473	-0.09034	Q64.-WOULD DEFEND SUPERVISOR
Q65	0.27650	-0.04253	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	0.17511	-0.05549	Q66.-RESPECT CURRENT SUPERVISOR
Q67	0.11854	-0.14887	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	0.10074	-0.17724	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	0.09618	-0.06774	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	0.10831	-0.02036	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	-0.01583	0.12181	Q71.-DEFEND MY HONEST MISTAKE
Q72	0.06529	-0.08453	Q72.-SUPERVISOR IS FRIENDLY
Q73	-0.00699	0.10518	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	0.11995	0.07498	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	0.12383	-0.07373	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.01738	0.18999	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.17178	0.10340	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.04692	-0.07017	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	0.17302	-0.17707	Q79.-LIKE SUPERVISORS COMPANY
Q80	0.15908	-0.38037	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	-0.00305	0.28139	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	0.12907	-0.01413	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	-0.06222	0.15306	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	-0.04059	0.28309	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	0.09928	0.66574	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	0.02754	0.19119	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.02087	0.07875	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	-0.00327	0.16338	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	0.06123	-0.21714	Q89.-RECOG & RESPECT MY DECISIONS
Q90	0.06779	-0.07598	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	0.00483	-0.01731	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	0.10032	-0.24914	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.03409	-0.11994	Q93.-VIOLATION WOULD BE RIGHT
Q94	0.01001	0.05232	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	-0.02245	-0.07493	Q95.-SUPERVISOR'S SKILLS RESPECTED

Rotation Method: Varimax Rotation
Rotated Factor Pattern

	FACTOR7	FACTOR8	
Q51	0.60270	0.25005	Q51.-SUPERVISOR DEFENDS MY ACTIONS
Q52	0.39926	0.00883	Q52.-SUPERVISOR HELPS COMPLETE TASKS
Q53	0.34593	0.17165	Q53.-SUPERVISOR REPRESENTS ME
Q54	0.09495	0.03931	Q54.-I RESPECT MY SUPERVISOR
Q55	0.09234	-0.02038	Q55.-MY COMMITMENT MATCHES SUPERVISOR
Q56	-0.00595	0.01007	Q56.-EXTRA EFFORTS FOR WORK GROUP
Q57	-0.00094	0.22493	Q57.-SUPERVISOR WOULD RECOMMEND ME
Q58	-0.02093	0.04503	Q58.-SOCIALIZE WITH SUPERVISOR
Q59	-0.07144	0.02510	Q59.-SHARE INTERESTS WITH SUPERVISOR
Q60	-0.46192	0.01085	Q60.-SUPERVISOR ASKS MY ADVICE
Q61	0.01108	0.05635	Q61.-BORROW PERSONAL ITEMS FOR SUPER.
Q62	0.25013	-0.09929	Q62.-CREATES ATMOS. CONDUCIVE TO WORK
Q63	-0.02688	0.05366	Q63.-WORK BEYOND JOB DESCRIPTION
Q64	0.18931	-0.13241	Q64.-WOULD DEFEND SUPERVISOR
Q65	0.17059	-0.11838	Q65.-FEEL LOYAL TO SUPERVISOR
Q66	0.31950	-0.07439	Q66.-RESPECT CURRENT SUPERVISOR
Q67	0.05851	-0.07863	Q67.-LIKE SUPERVISOR AS A PERSON
Q68	0.07522	0.02143	Q68.-SUPERVISOR IS FUN TO WORK WITH
Q69	0.00707	0.02121	Q69.-WANT CONTACT WITH SUPERVISOR
Q70	-0.16838	0.13327	Q70.-SUPERVISOR NOT FRIENDLY TO ME
Q71	0.09443	-0.07179	Q71.-DEFEND MY HONEST MISTAKE
Q72	0.03294	0.05697	Q72.-SUPERVISOR IS FRIENDLY
Q73	0.16739	-0.00181	Q73.-SUPERVISOR IS LOYAL TO ME
Q74	0.08394	-0.20787	Q74.-SUPERVISOR IS AVAIL. FOR QUESTIONS
Q75	0.08771	0.06668	Q75.-SUPERVISOR AND I GO FOR A MEAL
Q76	0.17726	0.09313	Q76.-SUPERVISOR DEFENDS ATTACK BY OTHER
Q77	0.04206	0.34729	Q77.-SUPERVISOR BRAGS ABOUT MY JOB
Q78	0.00599	0.19213	Q78.-TALK ABOUT NONWORK SUBJECTS
Q79	-0.05335	0.03385	Q79.-LIKE SUPERVISORS COMPANY
Q80	0.16903	-0.08359	Q80.-DIFFICULT TO DISLIKE SUPERVISOR
Q81	0.19554	-0.12485	Q81.-SUPERVISOR WORKS ON DELAY OF MINE
Q82	0.07351	-0.14281	Q82.-CONSIDERS ME MOST KNOWLEDGABLE
Q83	0.09181	0.02114	Q83.-SHARES PERSONAL PROBLEMS WITH ME
Q84	0.06373	-0.03748	Q84.-INVITED TO SUPER. HOME INFORMALLY
Q85	-0.00265	-0.09463	Q85.-ASKED ME TO WORK PAST QUIT. TIME
Q86	-0.03641	0.08869	Q86.-RESPECT SUPERVISORS KNOWLEDGE
Q87	0.24432	0.00492	Q87.-TRUST SUPERVISOR W/MY INTERESTS
Q88	-0.04684	0.14896	Q88.-IMPRESS. W/SUPERVISOR'S KNOWLEDGE
Q89	-0.01103	-0.07770	Q89.-RECOG & RESPECT MY DECISIONS
Q90	0.07468	0.04714	Q90.-SUPERVISOR IS AMONG TOP IN US
Q91	-0.09480	0.12258	Q91.-ADMIRE SUPERVISOR'S PROF. SKILLS
Q92	0.02721	0.07413	Q92.-SUPERVISOR IS ADMIRED WHEN ENCOUNT
Q93	0.10194	0.80801	Q93.-VIOLATION WOULD BE RIGHT
Q94	-0.03827	0.10772	Q94.-SUPERVISOR EARNED MY RESPECT
Q95	0.01944	0.08280	Q95.-SUPERSISOR SKILLS RESPECTED