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ARTISTS AND CROOKS: A CORRELATIONAL EXAMINATION
OF CREATIVITY AND CRIMINAL THINKING

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Criminal Justice

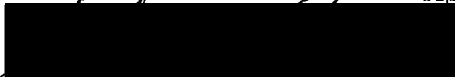
by
Luis Daniel Gascón
September 2007

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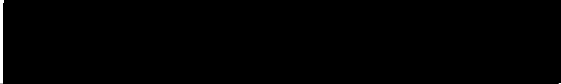
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ABSTRACT

Traditionally creativity was viewed as a mark of artistic talent and beauty, but current endeavors in research have discovered another form of creativity, what is known as *Malevolent Creativity*. This study explores some of the possible correlations between creativity and criminal thinking evident in the literature in an attempt to link the two forms of cognition. An understanding of the concept of Malevolent Creativity can serve the purpose of elucidating another component of the criminal personality. This concept is vital to the field of criminology as it has enormous implications for not only how to further understand criminal behavior, but also as a stratagem through which to develop educational and rehabilitative programs for delinquent and incarcerated youth, targeting those areas of creative thinking responsible for criminality.

DEDICATION

I would like to dedicate this work to parents, Alberto and Marina, for showing me the importance of achieving higher education. Without their support and encouragement, I would not have gotten this far. I would also like to thank my sisters, Laura and Cecilia, for being great examples and teaching me that the rigors of life are best challenged from an educated perspective.

I would also like to thank my closest friend, Louie, for not only making fun of me for being a nerd, but also for never letting me give when I thought I could not handle any more.

I would like to thank my teachers and mentors, Dr. James Kaufman for his relentless encouragement, Dr. Stephen Tibbetts for his guidance, and Dr. Dale Sechrest for "straightening me out".

Finally, I would like to thank all of those close to me, who are not mentioned here, who have been supportive throughout my educational career.

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CHAPTER ONE

INTRODUCTION

Purpose of the Study

The psychological make-up of criminals has been an area of interest for criminologist for the better part of the past century. But one area of criminology that lacks adequate research is that of the criminal cognitive process as a creative process and criminal thinking being a manifestation of that process—identifying a link between creative ability and criminal proclivities.

What could drive someone to commit a crime? Could it be that this person is mentally ill? Studies have shown that there is strong evidence to suggest that the higher an individual's creative ability, the more likely they are to be mentally ill (Jamison, 1993; Ludwig, 1995; Kaufman, 2001, 2002; Carson et al, 2003). This type of creativity is known as the *dark side* of creativity (Ardnt et al, 1999), and also *Malevolent Creativity* (Cropley et al, 2005). The idea of Malevolent Creativity has been applied to criminal organizations, such as terrorists organizations, namely, Al Qaeda, for the creative tactics used in the 9/11 attacks (Cropley et al, 2005). Also,

before forming the Manson family of disaffected youth, Charles Manson had a burgeoning music career and recorded numerous albums, one of which was coincidentally recorded on September 11, 1967. He also managed to record several albums from his jail cell. Charles Manson's music has been emulated by many artists since the 1960s, which has undoubtedly added his notoriety

(http://en.wikipedia.org/wiki/Charles_Manson). What is of greatest concern is the likelihood that a criminal will apply creativity in order to make his or her crime difficult to detect and thus delay or escape identification and of course capture.

Demographic characteristics have also been shown to affect the level of creative ability and criminal inclinations in an individual. Studies have shown that age affects the levels of criminality and creativity (Steffensmeier et al, 1989; Simonton, 1990; Moffit, 1993; Reiss & Roth, 1993; Nussel, 2001; Feist & Barron, 2003; Cheatwood et al, 2005; Gifford et al, 2005; Kim, 2005; Piquero, 2005). Racial differences have also been found in creativity as well as criminality (Hawkins, 1990; Tonry, 1994; Baker, 2001; Zuckerman, 2003; Nghi, 2004; Kim & Marginson, 2005). Gender has also been found to dictate

not only how criminal an individual is likely to become, but also how they will express their creativity (Norlander et al, 2000; Razumnikova, 2004; Calvete, 2005; Kim, 2005; Piquero, 2005). The proposed study attempts to test the relationships of each of these variables as they pertain to levels of creativity and criminality.

Is it possible that this person simply has a diluted sense of self-control? Studies have shown that through the use of the Theory of Mental Self-Government, those individuals with *liberal*, less constricted methods of thinking are more likely to be creative (Sternberg & Zhang, 2001; Zhang, 2005). Do environmental conditions determine or promote creative thinking? It has been suggested that, for school children, in an environment free of perceived boundaries and limitations, creativity can be fostered (Halpern, 2003). Even so, what does creative thinking have to do with criminal thinking?

To date no formal studies have investigated the possible links between creative behavior and criminal behavior. In order to assess each of these variables several tests for each have to be used to assess them accurately. Although, admittedly, the generalization of the results will be extremely limited due to the sampling

method that will be used, the findings may prove to be important in that they may suggest that further inquiries into this area are needed to fully understand the cognitive relationships. Two measures of criminality will be used - a thinking style measure and a sensation-seeking measure - and two measures of creativity will be used - a creative essay and a divergent thinking measure - with the assumption that a relationship will reveal itself once data has been collected.

The literature in psychology and criminology parallel in the noted psychological and behavioral characteristics of creative individuals and deviant individuals, though, as I have suggested above, no formal studies have been conducted exploring the relationship (Agnew, 1992; Hagedorn, 1994; Lynam & Miller, 2001; George & Zhou, 2002; Halpern, 2003; Ecklund, 2005). In order to understand this concept it must first be understood what is meant by the word *creativity* in both the traditional and modern views.

CHAPTER TWO

LITERATURE REVIEW

Creativity

What comes to mind when thinking about creativity? Do you envision the Mona Lisa? What about Michelangelo's David? Or maybe you envision Einstein writing a bunch of gibberish on a chalkboard that means a whole lot to physicists. Whatever it is you think of, prior to reading this you may have thought creativity had little to do with criminality and more to do with artisanship.

Artsy

Traditionally, creativity was measured by experts in specific fields (e.g. paintings, music works, writings), and these works were judged based on their novelty, their unusualness and their quality, or their appropriateness for their intended goal (Halpern, 2003). Creativity is often viewed as being good and useful to society, something done for those civilized members of society for appropriate purposes; *benevolent creativity* (Cropley et al, 2005). Creativity can not only be viewed as an ability, but also a mental process.

Creativity involves "novelty in one or more of the processes that lead to creative outcomes – ways of identifying that a problem exists, defining a problem, generating and evaluating possible solutions, and judging how uniquely and how well the problem is solved" (Halpern, p. 398). One area that lacks research within both psychology and criminology is the concept of the *creative criminal*. Who is to say that creativity can only be manifested artistically?

Personality

How can criminal thinking and behavior be seen as creative? "...creativity is as 'simple' as problem solving, except that the problem or the solution are novel and appropriate" (Halpern, p. 404). Many individuals feel their options for attaining conventional goals are blocked, and thus are forced to use alternative – illegal – means to attain them (Agnew, 1992). After coming into contact with the criminal justice system many individuals feel stigmatized by society and feel they have no other option but to meet their needs by using whatever means they have available to survive (Hagedorn, 1994). This may provide the opportunity for individuals to become creative.

Many individuals lack the confidence in their own conventional abilities, which creates negative moods, forcing individuals to think much more critically to devise novel and creative solutions. The negative moods signal a need for change, stimulating creative thinking.

Conversely, positive moods signal to an individual that there is no need for change, which stifles the creative process altogether (George & Zhou, 2002).

Is creativity reserved for those individuals of high intelligence? The process of creativity does not require high levels of conventional intelligence, only the ability to think outside of the box (Kim, 2005). Persistence, the ability to create one's own reward systems and find satisfaction in the creative process, a propensity towards risky behavior, the likelihood of being the lone dissenter, and nonconformity, are all traits shared by creative individuals (Halpern, 2003). Many of these traits can also be found in deviant individuals (Lynam & Miller, 2004). Creativity has been viewed as the stepchild of education, not a trait that is encouraged in school children; it is discouraged because it does not fit the traditional educational model (Halpern, 2003). Because this is so, deviant individuals are often reprimanded by their

teachers, further isolating them from their peers, subsequently causing these individuals to be more aggressive, impulsive, to have a stronger need for change and action, and to be less socially adjusted (Agnew, 1992; Lynam & Miller, 2001; Eklund, 2005).

The area of personality overlaps with several pertinent concepts here simply because personality encompasses behavioral and attitudinal characteristics, as well as thinking style, mental health and intelligence. Nonetheless, personality in its own right is important to explore.

Criminal Creativity

What does creativity have to do with real criminals? Creativity has been broadly defined as the ability to create a work that is high in quality, effective in reaching a desired goal, and innovative (Sternberg 1988, 1999; Osche, 1990; Lubart, 1994). In order for a criminal act to be creative, it must have four qualities. This type of creativity is known as Malevolent Creativity, which differs from Benevolent Creativity in its intended purpose, and in involves the process and products of creativity (Cropley et al, 2005). The definition for both still

remains the same; for any product to be considered creative, it must exhibit at least four qualities: (1) the product must be relevant and effective, that is, the product must be able to achieve a well-defined goal, (2) the product must be novel; the idea must be new and original, (3) the product must be elegant; it must be fully worked out and well engineered, (4) the product must be generalizable and highly adaptable. Do many crimes or criminals fit this definition?

Terrorism

Cropley et al (2005) use the 9/11 terrorists as an example. Because terrorism relies on the asymmetry between small criminal organizations and larger governmental organizations, innovative and effective means of attack must be devised in order to affect a desired change. "The purpose of asymmetry is to give the impression that powerful economic, military, and political forces cannot protect ordinary people going about daily routines" (White, p. 286). Terrorism is war for the poor. Terrorist organizations have limited funds in comparison to whole countries, making full frontal assaults nothing short of suicide. A few thousands troops pale in comparison to the hundreds of thousands troops that larger countries can

produce. Because this is so, terrorists groups have to sucker-punch their adversaries in order to attain their goal (White, 2002).

Terrorists have to use completely unconventional means that stun and catch their opponents off guard. Does the incident on 9/11 fit the former definition? The attacks achieved the goal of giving the illusion of power to Al Qaeda, the approach of using planes as missiles was novel, the attacks were well engineered; many years in the making, and the attack was adaptable in the sense that although one flight went down before it reached its target, the defeated passengers served the purpose of becoming victims to the power of Al Qaeda. Creativity does not only apply to terrorism, there are other areas which bring together criminality and creativity.

Mental Illness

Creativity can also relate to criminality when you take into account the mental health of those criminals acting out creatively. Several empirical studies (Jamison, 1993; Ludwig, 1995; Kaufman, 2001; Kaufman, 2002) have shown that creativity is positively correlated with mental illness. In short, the more detached a person is from reality or convention, the higher the creative ability that

person will have (Jamison, 1993). In fact, Rank (1932/1989) asserts that this is the purpose of creativity.

Creative Acts. Creativity serves as an act of individuation for those who refuse to accept convention; creative acts are an expression of how the creator thinks the world should be (Ardnt, 1994). Individuals become more socially detached through acts of creativity (Rank, 1932/1989). Because of the structure of certain creative endeavors (i.e. poetry), the acts themselves further the extent of mental illnesses (Kaufman, 2001). Ludwig (1995), found evidence which supports this, and asserts that eminent individuals, those dubbed "creative geniuses" for having received the Nobel Prize, were found to have several mental instabilities, mostly depression and low self-confidence.

Depression. An apparent parallel to the literature in criminology would be that of studies conducted on motivations for shoplifting. Though the studies themselves are quite flawed, it was shown that mental illnesses, such as depression, were positively correlated to an individual's propensity to shoplift (Ray & Briar, 1988). How can this type of mental illness account for extreme criminals such as David Berkowitz?

Latent Inhibition. In the 1950's, animal experimentalists discovered what is known as *Latent Inhibition* (LI). LI is a cognitive inhibitory device; it allows individuals to block out previously determined irrelevant stimuli. Individuals with low levels of LI are able to perceive those stimuli which are hidden from others (Carson et al, 2003). These individuals can perceive, using their five senses, those stimuli that are imperceptible by normal human beings. This phenomenon is associated with schizophrenia. This can explain the tendency of schizophrenics to claim to hear voices.

David Berkowitz, New York's "Son of Sam" killer, claimed that his dog urged him to kill (Flaherty, 1992). In an interview with investigators, Berkowitz stated, "they acted human. But they weren't. They began to howl things. Yell like maniacs. They threw tantrums. Strange things" (Flaherty, p. 161). These voices he heard may have been real, they may have been imagined, but what stands to reason is that David Berkowitz may have had low levels of LI.

How is this linked to creativity? Studies have shown that the minds of creative individuals are more adept to the incoming stimuli of their surrounding environment

("Creativity linked to mental illness," 2003). The LI of an individual serves to block out this stimuli, but because creative individuals have less LI, the stimuli is accepted. Creative individuals are in constant contact with the endless stream of information flowing into their brains from the surrounding environment. "The normal person classifies an object and then forgets about it even though that object is much more complex and interesting than he or she thinks. The creative person, by contrast, is always open to new possibilities ("Creativity linked to mental illness," 2003)."

Studies have also shown that the personality trait, Openness to Experience, is associated with LI, which is associated with divergent and creative thinking (McCrae, 1987). When this inhibitory device is lessened, an individual is able to relate two seemingly unrelated ideas, yielding a creative outcome. This looseness of association is also correlated with the symptoms of psychosis (Carson et al, 2003).

Psychopathy. This discussion of LI brings us to another important issue, the issue of psychopathy as a mechanism to achieve creativity. This is made possible because psychopathy, much like latent inhibition, allows

for "over-inclusive thinking", caused by a weakened inhibitory process (Burch, 2006). Although the two are similar in function, the form of each is distinct. Where LI and schizophrenia are characterized by the perception of undetectable stimuli, psychopaths are known for having no remorse, being shallow and manipulative, egocentric, and superficially charming (Miller et al, 2003). Psychopathy is also related to all forms of deviance, which include, but are not limited to drug use, delinquency, risky sexual activity, and aggression (Miller et al, 2003). Other than mental illness, creativity may also result from an individual's gender, culture or age.

Correlates of Creativity

Gender. The likelihood of one gender to be more creative than another is interesting and has important implications for criminal thinking. Though this is true, nothing can be definitively concluded from the literature. Many studies have been done on the gender differences of creative individuals and what they have shown is that there do exist differences, but not in the way one would expect (Terry, 1979; Norlander et al, 2000; Baker, 2001; Razumnikova, 2004).

Razumnikova (2004) found that men were more likely to be creative, which was measured by the amount of brain activity experienced during divergent thinking, than women, overall, but also that women were more likely to be creative when task-oriented. It was also found that the more androgynous a person is, that is, the more traits an individual has typically belonging to the opposite sex, the more creative that individual would likely be due to the fact that that individual has altered, reversed, or completely rejected the views of traditional male and female roles (Torrance, 1963; Terry, 1979; Norlander et al, 2000). Because of the cognitive patterns of androgynous individuals, these individuals are predisposed to creative thinking. These individuals are also likely to be more destructive and aggressive, and are likely to be involved in delinquent activities such as drawing graffiti (Norlander et al, 2000). Though androgynous individuals are more creative, this is not to say that they are also likely to be more criminal.

Males were found to be more criminal than females (Kim & Kim, 2005; Calvete, 2005; Piquero, 2005). Many boys are found to be more psychopathic, antisocial, and aggressive, whereas females were found to suffer from depression and

have a negative self-image (Kim & Kim, 2005; Calvete, 2005). Males are also much more likely to justify using violent behavior as a solution, and are more impulsive and careless (Calvete, 2005).

Culture. Creativity can often be found in the interaction between an individual and their culture. Those individuals who speak more than one language are more creative in that the different linguistic constructs of each language, often not comparable, force uniqueness in explaining idiomatic concepts (Baker, 2001). The rigidity of some cultures, such as Asian cultures, do not allow for creativity. Some facets of Confucianism are found to block creativity. The more emphasis a culture places on traditional thoughts and ideas, the more hindered the creative process becomes (Kim & Margison, 2005).

In Western cultures, the opportunity to be creative is more readily available because of its individualistic nature, as opposed to collectivist societies, such as many Asian cultures. This difference in creative ability can be understood by each culture's ability to conceptualize creativity differently. Creative individuals or products are viewed as creative in the context of their own social

structure (Nghii, 2004). What about criminality? Are there significant cultural, ethnic, or racial differences?

Many would suggest that the significant differences between ethnic groups and their level of criminality or delinquency, as a whole, largely depend on their socioeconomic status and position in society, rather than some genetic difference (Hawkins, 1990; Tonry, 1994; Zuckerman, 2003). In most cases, deprivation of some kind is a cause for desperate measures, often illegal ones (Hawkins, 1990). Crime rates among any racial or ethnic group in deprived conditions are comparable, as to suggest that it was not the group that resides in crime-ridden conditions, but the conditions themselves that are the root causes of crime (Reiss & Roth, 1993; Hawkins, 1993). Differences in the level of criminality do, in fact, exist between racial or ethnic groups, but are mainly a function of the disadvantages of those minority groups (Zuckerman, 2003).

Socioeconomic Status. Not much research has been conducted on the relationship between creativity and socioeconomic status. But in the absence of research in this area, other factors may be considered that affect personality, thinking style, and in turn creativity.

Researchers have found that it is not necessarily the socioeconomic status that negatively affects an individual's personality, but the social ties an individual has while impoverished (Todd & Worrell, 2000). Other studies suggest that, in youth especially, socioeconomic status, but poverty specifically, in combination with susceptible traits in personality and behavior, as well as deviant peer associations contribute to the onset of risky sexual behavior, coupled with increased rebelliousness, impulsivity, delinquency, depression and other mental health issues (Brook et al, 2006). In a study done of extremely impoverished youth in Montreal, Pagani et al (1999) found that when maternal education and early childhood behavior were controlled, poverty had a profound affect on academic failure and severe delinquency. The research in this area shows that age plays a significant role in the relationship between personality, thinking style and delinquency.

Age. Much of the literature of delinquency would suggest that crime is a young man's game. Crime tends to peak at earlier ages (e.g., ages 15-24), making crime a normal rather than abnormal activity in youth, and drops steadily as an individual ages (Steffensmeier et al, 1989;

Moffit, 1993; Reiss & Roth, 1993). Thus, individuals mature out of crime. Juveniles are much more prone to crime because they are more susceptible than adults to the association of delinquent peers (Gifford et al, 2005; Piquero, 2005). Their crimes often involve multiple offenders and concurrent felonies (Cheatwood et al, 1990). Youth are more violent; individuals under the age of 15 made up 30% of all violent arrests in 1995 (Butts & Snyder, 1997). Does this mean that creativity is also a young man's game?

Older age is often correlated with higher levels of creativity in light of the fact that knowledge is often higher, allowing older individuals to express themselves in a variety of different ways (Kim, 2005). Creativity is not based solely on an individual's intelligence, however. An individual's personality promotes creativity the older an individual grows; the individual becomes more open and tolerant, traits which are directly linked to creativity (Feist & Barron, 2003). It has been argued that aging causes a loss or decline of sensory and cognitive functions that play a significant role in creative activity (Kastenbaum, 1991). These declines, however, are not substantial enough to suggest that aging individuals lose

their creativity, the "presumed handicaps" that old age bring about are largely irrelevant and are often overcome during the creative process (Lindauer et al, 1997).

Creativity in the "second half" of life, as it is referred, depends largely on creative potential at younger ages, which is likely due to the fact that creativity as a method of self-expression becomes second nature (Kastenbaum, 1991). Furthermore, creativity can undergo resurgence in the later years of life, especially the last years (Simonton, 1990; Nussel, 2001; Cohen, 2006). During this period of maturity, creativity actually promotes good mental and sometimes physical health (Landau and Maoz, 1987; Hickson and Housley, 1997; Fisher and Specht, 1999; Cohen, 2006).

A Propulsion Model

We have looked at creativity in the framework of terrorist tactics, individual personality and mental illness, but what about the creative product itself? How can a product be considered creative, in this case crime? Sternberg et al (2002) propose that by using a *Propulsion Model*, creative products can be seen as creative for their contributions to a field-any particular area of study. The

authors state that there are eight types of contributions to a field.

The first of these is *Replication*, which shows that a field is where it should be and should not be moved. Creative products simply solidify the current state of a field. Rather than the product itself being novel the approach is different and validates a contribution. For instance, instead of stealing a driver's license to commit identify fraud, a criminal could steal mail. Both reach the same end, but are different in their approach, proving that identity theft is difficult to detect.

Redefinition makes it such that a field can be viewed from a different perspective. To illustrate this take bank robbery for example. Two men armed with firearms hold up a bank and make off with two hundred thousand dollars. Viewed from a different perspective however, the bank robbers would not have made off with as much money had the bank manager not purposely left the vault unlocked after the last cash pick-up. Either way you look at the crime a large sum of money is missing. However, depending on how you look at the crime can understanding of why the crime occurred.

Forward Incrementation pushes a field forward where it is already going. Going back to the identity theft example, it is known that with the advent of the internet people would become more and more vulnerable to identity theft because of the amount of information disclosed on the internet. In keeping with this example, *Advanced Forward Incrementation* pushes a field beyond where it was thought the field could go, which is to say that no one was aware of how fast computer hackers would begin to acquire information from individuals via the internet.

Reconstruction/redirection directs a field back to where it had been, but because of the contribution is advanced in a completely different direction. Criminologists long ago reached the conclusion that deviance had a basis in an individual's biological makeup. Now it is understood that most biological determinants alone are not causes of deviance, but it is the interaction between social relationships and those biological determinants that cause deviance.

Reinitiation directs a field back to where it had begun, but then pushes the field in a different direction. *Integration* brings together two distinct or seemingly opposed contributions to make one. This last contribution

can simply be understood as combining two criminological theories to explain a criminal phenomenon.

Crime and criminal thinking can be viewed as a *Replication* of the field, which serves to solidify the state of a field as it currently exists, seen through the pervasiveness of crime.

All forms of crime, white-collar crime, fraud, cyber crime, violent crimes, and property crimes, serve to solidify that crime is a prevalent phenomenon. They serve to establish that crime is exactly where it should be, as a field. Replications of this field - crime - are important because they validate or invalidate the usefulness of approaches to crime that have been presented. When is replication necessary in creative contributions? This need may be associated with using a method of committing a crime that seemed to be relevant to only one type of crime, but is useful in other instances. Sternberg et al (2002) use the example of forgers who attempt to reproduce the exact work of well-known artists. This example also includes check forgers, and other crimes of fraud. How can law enforcement use the concept of creativity to aid in preventing or responding to crime?

Creativity and Law Enforcement

The researcher has discussed how some criminals can be considered creative, but so what? What does this have to do with law enforcement? This is yet another paradigm in which to view crimes and criminals: in law enforcement's ability to create ways to circumvent the attempts of, and apprehend criminals. Cropley and Cropley (2005) posited a model of *Functional Creativity*, which stated that for a product to be creative, it have to be novel, relevant, and effective. Again, how is this useful or even related to law enforcement? How can using this kind approach help?

The Untouchables

During Prohibition, in the nineteen twenties and thirties, America made a mistake and helped create a criminal enterprise: the Mob. Though not as strong, the Mob has survived as one of the most prolific criminal enterprises ever. One of the Mob's most notorious bosses was Al Capone. In Chicago in the nineteen thirties, Al Capone was declared public enemy number one for his involvement in violence against rivals, racketeering, money laundering, bribery and bootlegging, but law enforcement was unable secure any convictions against the kingpin (Capeci, 2004). When officials were able to get secure

witnesses, they would not be willing to testify or would be found dead under mysterious circumstances (shot to death).

Eliot Ness, along with the "Untouchables," used brutal and unconventional tactics and were the first to cut into Capone's bootlegging supply lines, crippling his ability to pay off key figures in law enforcement (Zion, 1994).

Because no other conviction could be secured, in the fall of 1931, Al Capone was convicted of tax evasion and was sentenced to 11 years in prison (Capeci, 2004).

Because Al Capone's organization was so tightly run with fear, money and intimidation, proving illegal activity was nearly impossible. Law enforcement officials had to use creative tactics to make sure that this he was brought to justice. How was this strategy creative? If one were to look at it in from the view of Functional Creativity it is easy to see. For any outcome to be creative it has to be novel, relevant and effective. This tactic certainly was all three. Jailing a mob boss of the magnitude of Al Capone for tax evasion was simply unheard of, but the Untouchables did it. This strategy was certainly relevant, before the evidence of tax evasion was found, the hopes of Al Capone ever seeing the inside of jail cell for his day-to-day activities were slim to none, but the chances of him

seeing a jail cell for tax evasion were assuredly higher. No matter what the reason, the strategy yielded the desired goal: Al Capone received much deserved jail time.

The strategy used by the Untouchables to secure Al Capone's conviction served as an example for law enforcement agencies across the country. Soon after Capone's conviction countless mob bosses began going to jail for tax evasion (Capeci, 2004).

Future Implications

Not only can methods for using law to convict felons be creative, but so can methods of investigation. Forensics teams across the country are now solving cases that without the technology would have more than likely gone unsolved. With the use of fingerprint analysis, wound pattern analysis, DNA analysis, and other techniques of this nature, crimes are much more easily solved (Byers, 2002; Wise, 2004).

If law enforcement were to continuously devise new ways of detecting and apprehending criminals, we would have no problems; crime would be a thing of the past. The problem is that criminals are also devising new ways to commit crime, creating a competition of sorts. When this phenomenon occurs, the creativity of one product or

approach is diminished, or possibly rendered obsolete by the effectiveness of a new competing product (Cropley & Cropley, 2005).

Cropley et al (2005), use the example of the competition of air combat vehicles between Britain and Argentina during the Falklands War of 1982. The Argentinean aircraft suffered a loss in effectiveness when enhancements were made to the British Harrier V/STOL aircraft giving it greater air-combat ability. For law enforcement agencies to be successful in the fight against crime, they must view their own approaches as a competition of creativity (Cropley et al, 2005).

Creative Decay

Cropley et al (2005) state that although creativity would be quite beneficial for use in anti-crime tactics, but that all creativity suffers a rate of decay. They state that from the moment a product is put to use, the novelty of this creative idea or product begins to dwindle. Because novelty is an integral part of the usefulness of creativity, any reduction in novelty will result in the decline in creativity.

An example of this would be the use of fingerprint analysis; although investigators are now able to identify a

person through the use of his or her fingerprints, criminals can circumvent this tactic by using gloves (Wise, 2004). Though there are still other ways of identifying what types of gloves were used, the process is a lot more lengthy and the chances of being able to use this evidence in court is very slim due to the evidence being somewhat circumstantial. To thwart the advances in criminal activity, law enforcement agencies have to remain on the cusp of innovativeness.

Theoretical Perspectives

In criminology several theories have been posited in the attempt to explain a range of crime phenomena. Strain theory suggests that an individual engages in delinquency as a response to unfavorable conditions within their neighborhood, family, school, and social life (Agnew, 1989). Biological theories suggest that, due to hereditary traits, certain individuals have what is called *Conditional Free will*, which is free will within the parameters of their genetic predisposition toward rashness and irrationality (Fishbein, 1995). Life-course theory asserts that adult offending is largely dependent on adolescent offending as well as the absence of positive, conventional

transitions or turning points (Moffit, 1993). The theory of mental self-government, though not a criminological theory, seeks to explain the various cognitive processes, or what are called *Thinking Styles* of individuals of differing abilities (Sternberg & Zhang, 2001).

Theory of Mental Self-Government

The theory of mental self-government seeks to identify the various thinking styles and intellectual abilities of individuals, some of which promote creative abilities. This theory suggests that there are 13 thinking styles, which are classified in five dimensions, Functions, Forms, Levels, Scopes, and Leanings.

Functions: *legislative* thinkers prefer engaging in activities in a creative manner, *executive* thinkers are concerned with approaching a task within set guidelines, and *judicial* thinkers enjoy evaluating the products of others. Forms: *monarchic* thinkers prefer to complete tasks one at a time, *hierarchic* thinkers enjoy juggling several prioritized tasks at once, *oligarchic* thinkers work on several tasks at once without prioritizing them, *anarchic* thinkers work on tasks, allowing for flexibility and ignoring set guidelines. Levels: *local* thinkers enjoy tasks with concrete details; *global* thinkers enjoy looking

at tasks holistically and abstractly. Scopes: *internal* thinkers enjoy working on tasks individually; where as *external* thinkers enjoy opportunities where relationships can be developed. Leanings: *liberal* thinkers enjoy tasks that involve novelty and ambiguity, *conservative* thinkers enjoying working on tasks with existing rules (Sternberg & Zhang, 2001).

The study conducted by Zhang (2005) was to prove that the theory could identify, outside of an academic setting, whether or not thinking styles were, at least in part, socialized and dependent on an individual's environment. This and many other theories of cognitive psychology and intelligence can prove useful to criminology. The various components of this theory pertaining to creativity are similar to many known aspects of criminal behavior (see above). This theory may prove useful in better understanding the criminal mind. These creative styles would assume an individual thinks in this manner because they do not wish to adhere to the inhibiting rules that go along with completing a task. Studies in this area may show that criminals do employ these thinking styles to attain conventional goals, much in the same way as non-criminals, but only in performing unconventional tasks;

crimes, in essence. This area is important to the field because, as Zhang's study shows, an individual's environment has an effect on the thinking styles employed by those individuals. This may clarify why certain individuals in comparable conditions - low socioeconomic status - become criminal and others do not. General Strain Theory provides an explanation for why this adaptation occurs.

General Strain Theory

Because many paths are blocked, individuals have to devise methods to fulfill their needs (Agnew, 1992). Those needs that have to be fulfilled can range from monetary, to social, or to psychological-compensatory needs. These crimes are used to quell psychological distresses brought about by various sources of what Merton (1938) called *Strain*. When one of these psychological distresses is brought about by strain, the normal responses are negative emotions, which include disappointment, depression and fear (Agnew, 1992).

Agnew (1992) identifies the various types of strain: a strain that prevents one from achieving positively valued goals, the removal or the threat of removal of positively valued stimuli, and the presence of negative, or noxious,

stimuli. Agnew (1992) also identifies the adaptations, or coping mechanisms, for strained individuals. Behavioral coping mechanisms include minimizing adverse outcomes, thereby protecting positively-valued stimuli using deviant behavior, and vengeful behavior, when adversity is experienced, an attempt is made to try and rid oneself of that adversity; the tendency to use delinquent behavior in this instance is particularly high. As discussed above, when individuals are presented with problems, they are forced to engage their creative abilities in order to overcome them.

Hypotheses

Current studies of creativity tend to neglect the delinquent behavior of their subjects. Current studies of delinquency behavior tend to neglect their subjects' creative abilities. Understanding the criminal cognitive structure and abilities can be yet another method with which to understand the prevalence of crime.

This study intended to substantiate whether or not a link existed between the variables creativity and criminal thinking patterns. The current literature in both fields, criminology and psychology, evince that many behavioral

aspects of creative delinquent individuals are similar, but one may ask why. Are there any other factors associated? Does gender play a role in an individual's creativity and criminal thinking?

Studies have shown that men are much more likely to be creative, depending on the task (Razumnikova, 2004). Others have suggested that both males and females have a tendency to be creative, but it is their level of androgyny that determines their level of creativity (Norlander et al, 2000). When considering levels of delinquency, researchers have come to a consensus, males are much more delinquent than females (Calvete, 2005; Kim & Kim, 2005; Piquero, 2005). What about race and ethnicity, do they play a role in an individual's level of creativity and criminality?

In explaining the level of delinquency, the literature suggests that the creativity of individuals from various cultural backgrounds depends on their culture's acceptance and encouragement of creativity (Baker, 2001; Nghi, 2004; Kim & Margison, 2005). Does age factor into this equation?

It has been suggested that crime is a young man's game, but is creativity? The psychology literature suggests that creativity does not decrease with age. But the criminology literature suggests that criminality

decreases with age, as the delinquents have more to lose, or simply outgrow their criminal proclivities. The literature suggests that there are differences among each of the variables, but what is clear is that creativity is linked to criminality; the degree to which this is true is the purpose of this study.

As suggested from the literature in the previous section, there are many parallels in the behavior and mental processes of criminal and creative individuals. Those individuals who are met with difficulty, and experience negative emotions are more likely to think creatively to solve problems and are less inhibited by traditional approaches, which often prove useless (George & Zhou, 2002). Those individuals who are more prone to risky behavior and nonconformity are likely to be both creative and criminal due to their looseness of thought, and ability to think beyond limitations (Halpern, 2003; Lynam & Miller, 2004). A person's mental illness is both a predictor of creativity and criminal cognitive patterns in that those individuals are more detached from reality and choose to see reality how they think it should be, often not regarding preset regulations (McCrae, 1987; Jamison, 1993; Ludwig, 1995). To test whether or not a relationship does

exist between creativity and criminal thinking, the proposed study proposed the following: Creativity, criminal thinking, and impulsivity are positively correlated and thus, college students with higher levels of creativity will have higher levels of criminal thinking patterns and impulsivity.

Gender differences in creative expression and criminality have been studied at some length, what has been found is basically that males and females express creativity differently, proving not that males or females are more creative than the other, but that there exist differences in cognitive processes (Terry, 1979; Norlander et al, 2000; Baker, 2001; Razumnikova, 2004). But where criminality is concerned, the glaring truth is that males are vastly more criminal than females. The fact of the matter is that males and females respond differently to stressors; males are much more likely to respond aggressively, violently, and females are much more likely to respond intrinsically - negative self-images, depression, feelings of inadequacy, etc. (Kim & Kim, 2005; Calvete, 2005; Piquero, 2005). To assess whether or not creativity and criminality in males and females, this proposed study suggests the following: Male college

students will have higher levels of creativity and criminal thinking

Literature has suggested that due to the rigidity of certain cultures, the number of languages an individual speaks, and the collectiveness or individuality of a culture, effect the level of creativity of an individual. Those individuals that belong to cultures that are more accepting of creative expression are found to be much more creative than cultures that value adherence to tradition, eg. Asian cultures (Kim & Margison, 2005). Also, the range of creative ability and expression is also determined by the culture with which an individual identifies because each culture has it's own method by which to gauge creative, what may be creative to one culture may not be to another (Nghu, 2004). The assumption is that minority groups will be found to be more creative because of their ability to think in both the framework of their own culture and as well as the American culture in which they reside that is more accepting of creativity (Baker, 2001; Kim & Margison, 2005; Nghu, 2004). To assess whether or not race or ethnicity can predict an individual's level of creativity and criminality, this study proposed the following: Minority groups with multicultural backgrounds

will have higher levels of both creativity and criminal thinking

The last area of interest is the variable age. Studies have shown that crime peaks at earlier ages and steeply declines as individuals grow older, due to the fact that as one grows older, one becomes much less willing to behave irresponsibly, having much more to lose (Steffensmeier et al, 1989; Cheatwood et al, 1990; Moffit, 1993; Reiss & Roth, 1993; Gifford et al, 2005; Piquero, 2005). Creativity has also been studied in relation to age, and it was found that, depending on creativity in younger years, creativity may increase in the last years of life. Creativity does not require than an individual be intelligent, but is found more often in individuals with open minds, who are much more tolerant individuals overall (Simonton, 1990; Nussel, 2001; Feist & Barron, 2003). To assess the level of relatedness of an individual's age to creativity and criminality, this study proposed the following: Age is positively correlated with higher levels of creativity and negatively correlated with levels of criminal thinking among college students

This study is intended to fill the gap in literature and provide both psychologists and criminologists another paradigm in which to consider criminal motivation.

CHAPTER THREE

METHODOLOGY

Online Survey

Sample

Approximately 474 California State University, San Bernardino (Cal State) students were surveyed, based on their availability to the researcher. The sample largely included undergraduate students from the Department of Psychology. The mean age of the students who responded to the survey was 27.3. Posters were placed on bulletin boards in the Psychology Department and professors asked their undergraduate classes to participate in a survey that was available online and were offered extra credit by the Department of Psychology for participating in a current study being carried out on campus. Because the variables of age, gender, and ethnicity are all being tested, an equal number of men and women, of various ages, and various ethnic backgrounds were be selected from the total number of survey responses, however, due to missing data, only 386 of the original participants could be included in this analysis, limiting the ability of the researcher to use a

normal distribution of participants and vastly skewing the distribution of males and females.

Design

The study was a bivariate analysis, a 2x3 correlational design with two dependent variables (Creativity and Criminality), and three independent variables (Gender, Age, and Ethnicity). The study involved collecting data using an online survey. The participants responded to an 80-item measure of criminality, adapted from the original Psychological Inventory of Criminal Thinking Styles (PICTS), developed by Walters (1995), a 40-item measure of sensation seeking behavior, the Sensation Seeking Scale Version 5.0 (SSSV), developed by Zuckerman et al. (1987), and a 40-item measure of personality, the Five Factor Model of personality (FFM), developed by Goldberg (1982). Participants also responded to an open-ended Consensual Assessment item (CAT)—a creative essay (Baer et. al., 2004). An open-ended divergent thinking measure was also used in this study, an item of unusual or alternative uses, to assess ideational fluency. These three measures were used to investigate associations between the two dependent variables.

After the responses were collected, 10 undergraduate students, raters, were given a cover sheet to place with a list of data they were given so they could later be identified, but these data were not included in this analysis. The raters were anonymous, but were assigned a number from 1 to 10 in order to distinguish between them. Each rater read and assessed each creative essay for its creativity, reading each essay over twice, first scoring them "low", "medium", or "high", then assigning each essay a score from 1 to 6; "1" being least creative and "6" being most creative.

From the divergent thinking item, the researcher developed a matrix of responses; the most recurrent to the least recurrent (the most unique). Originality, or divergent thinking, was assessed by the number of least recurrent or least frequent responses. This measure yielded the fluency of the individual; fluency is measured by the number of responses. The responses were reversed scored, for each original response -mentioned only 1 to 3 times in the distribution- a score of "3" was given. For less original responses -mentioned 4-9 times in the distribution- a score of "2" was given. And for the least

original responses -mentioned 10+ times in the distribution- a score of "1" was given.

This divergent thinking score was added and compared to the scores each participant received on the PICTS. The scores added up from the Likert scale on the PICTS identified which subscale corresponded with each participant's criminal thinking style, overall yielding their criminality. Based on this comparison, the relationship between a participant's creativity and criminality was assessed.

Instruments

Psychological Index of Criminal Thinking Styles. The PICTS is an 80-item self-report measure used to assess the eight thinking styles believed to be associated with criminality (PICTS, version 4.0). *Mollification* (Mo) assesses an individual's tendency to blame their own criminal involvement on others. *Cutoff* (Cu) measures the tendency of participants to rely on short phrases, such as "fuck it", to quell regular crime deterrents. *Entitlement* (En) measures an individual's sense of privilege, which permits them to commit crime. *Power orientation* (Po) is the necessity to have power over others. *Sentimentality* (Sn) explains the belief that good deeds can erase any harm done

due to a criminal lifestyle. *Superoptimism* (So) is the belief that one will be able to suspend the negative consequences of behavior that others have suffered. *Cognitive indolence* (Ci) is evident in those individuals that favor shortcuts, or the quickest route to an end or around a problem. *Discontinuity* (Ds) reflects the likelihood to become sidetracked by events in an individual's surroundings (Walters, 2001).

In addition to the thinking styles, the measure also scores Special scales, *current criminal thinking* (CUR) and *historical criminal thinking* (HIS), the former of which is used in this analysis to assess criminal thinking. Lastly, the scale also assesses 5 Factor scales, which correlate factors within the various criminal thinking styles, but are not used in this analysis. These scales are *problem avoidance* (PRB), *interpersonal hostility* (HOS), *self-assertion* (AST), *denial of harm* (DOH), and *fear of change* (FOC). Participants were given a Likert scale type response system when responding to each item. Each subscale of the PICTS used eight items in the assessment of each thinking style, to which participants answered "strongly agree", "agree", "undecided", or "strongly disagree", and will receive 4, 3, 2, and 1 point(s),

respectively (Walters, 2001; Walters, 2002; Palmer & Hollin, 2004). In order to assess reliability, duplicate questions were included in the survey to ensure consistency of responses.

Sensation-Seeking Scale. The Sensation-Seeking Scale, developed by Zuckerman et. al. (1978) is a 20-item self-report measure, which gauges the previous involvement in and proclivities toward sensation seeking behavior. Zuckerman described sensation-seeking behavior as the need of an individual to achieve and sustain a desirable level of stimulation (Zuckerman, 1964). Included in the scale are four subscales of sensation seeking behavior. *Thrill and adventure seeking* (TAS) assesses involvement in sports or physically risky activities such as spelunking or skydiving. *Experience seeking* (ES) assesses the likelihood that an individual will engage in experiences such as art or music. *Disinhibition* (Dis) assesses social sensation seeking through drinking, sexual activity, and partying. Lastly, *boredom susceptibility* (BS) assesses the reluctance toward engaging in menial, routine or repetitive activities (Zuckerman, 1994). The scale is a five point Likert scale and includes an overall score of sensation seeking potential. The answering format of the scale is a

dichotomous forced choice. Respondents were able to use the following responses: "very inaccurate", "inaccurate", "somewhat accurate", "accurate", or "very accurate". The overall α coefficient of this measure has been calculated at .87 (Aluja & Garcia, 2005; Haynes, Miles & Clements, 2000). Duplicate questions were also included in the survey for this measure in order to assess reliability.

Consensual Assessment Technique. All participants were given uniform instructions and identical sets of materials. The participants were instructed to write a story no longer than four paragraphs, focusing on fear. This measure involves inter-rater reliabilities. CAT measures have a validity that has been calculated at a coefficient α that exceeds .70 for novices and as high as .90 for experts rating for creative writing ability; often even higher (Baer et. al., 2004; Kaufman et. al., 2005). This measure relies upon the ability for individuals to recognize creativity in their peers. The reliability of this type of assessment has been found to be quite high, with an α of .957. Specifically with the assessment of writing samples, the inter-rater agreement was calculated at an α between .73 and .81 (Baer et. al., 2004). The creative essays were not included in this analysis due to

the low availability of the data during the drafting of this work.

Divergent Thinking. Participants were be given uniform instructions for this section of the survey as well. They were asked to write as many unusual or alternative uses for a toothpick they could, within a five minute period. Each participant was notified that they were to time themselves for that portion of the survey. The purpose of this measure was to investigate the amount of ideational fluency—the number of ideas—an individual has in providing unusual uses for an item, which is invariably linked to creativity (Snyder et. al., 2004). The concept of ideational fluency, alone, is a sufficient measure of an individual's divergent thinking; validity was found to have a α of .83 (Chan et. al., 2000).

Operationalizations

Criminality. This variable is defined by the characteristics as found in the operationalizations of each associated measure. The PICTS describes individuals who are more likely to be criminal as those who have a tendency to externalize blame for consequences of offending and offer rationalizations and excuses for committing crimes, have low frustration tolerance and a tendency to remove

deterrents to criminal behavior with drugs, mental impairments, or short phrases, have an attitude of privilege or ownership, often including a tendency to misidentify wants and needs, have a need to achieve a sense of control and authority over others, have a belief that the negative consequences of criminal behavior can be avoided indefinitely, have poor critical reasoning and over-reliance on cognitive short-cuts in dealing with social problems, and are inconsistent in thinking and behavior (Walters, 2001; Palmer & Hollin, 2004).

Creativity. Due to the method of assessment, the definition of creativity essentially lies within the understanding of each individual rater. Though this is true, each rater will be asked to look for elements harmonious with those of *Functional Creativity*. Each essay and each toothpick use must be relevant and effective, they must be able to achieve a well-defined goal, and each must be novel—the ideas must be new and original—and presented uniquely (Cropley & Cropley, 2005).

CHAPTER FOUR

ANALYSIS

Results

These data include descriptive information such as the age, gender, ethnicity, scores on the Psychological Index of Criminal Thinking Styles (PICTS), as well as creativity scores from both the Ideational Fluency (IF) item as well as the creative essay item, for each participant. Several methods were used to illustrate and explain relationships between each variable. Scattergrams were used to graphically represent distributions of scores for each variable. To assess statistical significance a two-tailed Pearson's r test for correlation was used, which gave scores of significance at both the $\alpha=.05$ level (*) and $\alpha=.01$ level (**). Also, bar graphs were used to represent the variable ethnicity as compared to the creativity and criminal thinking variables. These data represent the findings gathered from 474 California State University, San Bernardino (CSUSB) students.

Sample Demographics

Gender. Table 1 is the distribution of male and female participants. This table shows that 67.1% of the 474

participants were male; females only made up 10.5% of the participants for which data on gender could be collected. These figures are inconsistent with the demographic characteristics of the CSUSB. Data from the CSUSB Statistical Factbook shows that the term average for the 2004-2005 school year for female students was 8,408.6, 66.5% of the total 12,637.3 students (www.csusb.edu). Males at the university were vastly overrepresented in this study.

Table 1: Gender

	Frequency	Percentage	Valid Percent	Cumulative Percent
Male	50	10.5%	13.6%	13.6%
Female	318	67.1%	86.4%	100.0%
Total	368	77.6%	100.0%	

Ethnicity. The ethnic distribution of the participants in this study also did not accurately represent the population of students at the university, as shown in Table 2. Of all participants, Caucasians were the most numerous participants with 161, making up 34% of all participants. Caucasians were then followed by Mexican/Mexican-American participants with 68, and Hispanic/Latino participants with 50. The Native American/Other group made up 7.2% of the usable sample, with 34 participants. There were also 23

Black/African American participants, 17 Chinese/Asian participants, 9 Bi-Racial/Black, 4 Missing/Unknown, and 2 Indian participants.

According to the CSUSB Statistical Factbook, however, in the Fall quarter of 2004, the ethnic make-up of the student body was as follows: 1% Native American, 12.7% African American, 34.7% Hispanic, 8.4% Asian/Pacific Islander, and 40.1% White.

Table 2: Ethnicity

	Frequency	Percent	Valid Percent	Cumulative Percent
Indian	2	.4%	.5%	.5%
Chinese/Asian	17	3.6%	4.6%	5.2%
Bi-Racial/Black	9	1.9%	2.4%	7.6%
Black/African American	23	4.9%	6.3%	13.9%
Caucasian	161	34%	43.8%	57.6%
Mexican/Mexican-American	68	14.3%	18.5%	76.1%
Hispanic/Latino	50	10.5%	13.6%	89.7%
Native American/Other	34	7.2%	9.2%	98.9%
Missing/Unknown	4	.8%	1.1%	100.0%
Total	368	77.6%	100.0%	

Age. Figure 1 represents the age ranges of the participants in this study. The majority of participants between ages 21 and 25, 44% of all student participants, followed by participants between 16 and 20 with 23%, the 40+ group with 12%, participants between 26 and 30 with

11%, and lastly participants between 31 and 39 with 10%. Again, the CSUSB Statistical Factbook proves that the participants in this study are not representative of the CSUSB student body. The average age in this study was found to be 26.58, whereas the average age of undergraduate students at the university is 24.7 (www.csusb.edu).

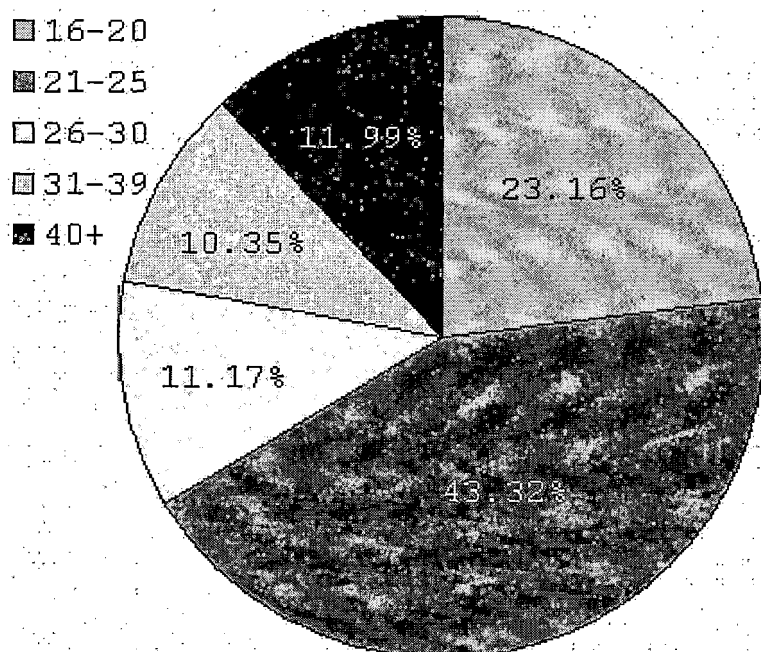


Figure 1: Age Groups

Where correlations were concerned, the general hypothesis in this work was that criminality, criminal thinking and impulsivity are positively correlated.

Appendix J is a Pearson's r table of correlations for the the variables Cutoff (Co), Entitlement (En), Superoptimism (So), Cognitive Indolence (Ci), Discontinuity

(Dis), Current Criminal Thinking (CUR), Historical Criminal Thinking (HIS), Problem Avoidance (PRB), Ideational Fluency (IF), Creativity (CES), and age of the participant (age). Walter (2001) states that because the subscales for criminal thinking all are used to assess the same condition, they will all have very strong correlations with one another, but CES is not a subscale within the PICTS, yet does show strong correlations with each of the subscales, making CUR a reliable correlate of CES. CES is correlated with En where $r=.193^*$, with Po where $r=.176^*$, with Ci where $r=.128^*$, with CUR where $r=.142^*$, with HIS where $r=.125^*$, and with PRB where $r=.139^*$. These statistics are only a few of the examples of correlations between variables. IF is not significantly correlated at any level with any of the PICTS subscales. The only significant correlation present in this table is the correlation between IF and CES where $r=.133^*$. Age was also measured against CUR.

Criminal Thinking Styles

Age. Appendix A is a scattergram showing the distribution of age and CUR scores. It is seen here that most scores cluster at younger ages and higher CUR scores, however, the relationship is not linear. Nonetheless, this

relationship was found to be statistically significant ($r=.179^*$), and is consistent with the literature, which suggests that criminal tendencies are most prevalent at ages between 18 and 24 (Steffensmeier et al, 1989; Cheatwood et al, 1990; Moffit, 1993; Reiss & Roth, 1993; Gifford et al, 2005; Piquero, 2005).

Gender. Appendix B shows the distribution of CUR scores for each gender. The graph shows that the highest concentration of scores for both sexes was within the 25-45 range, 40% of all males and 38% females. Males, however, sharply decline beyond this point. Where in the 46-52 range, 36% of all females scored within this range, only 13% of all males scored similarly ($r=.200^*$).

Ethnicity. Caucasians in this study were shown to have the highest criminal inclinations (over 70% scored within the highest ranges, 35-45 and 46-56), as shown in Appendix C. These figures are misleading, however, in that this was likely due to the high number of Caucasian participants in this study (161 of 368). Interestingly, when a test for correlation is performed, ethnicity and CUR are found to be significantly negatively correlated ($r=-.108^*$).

Creative Essay

Age. By simply looking at Appendix D, it is apparent that the vast majority of scores are provided by younger participants. This is not surprising seeing as 44% of all participants are between the ages of 21 and 25. No relationship found when tested for significance.

Gender. Below, on Table 3, it can be observed that male and female scores clustered in the medium (13-21) creativity score range. A total 47.55% of all participants scored within this range. Scores sharply decrease on either side of this range. Females had a higher concentration of scores in this range with 49.37% of all females having medium scores of creativity. This finding contradicts the literature review, but it is important to note that 34% of all males received no score versus only 22% of females. Controlling for this difference shows that males and females are evenly matched with high scores of creativity, each with more than 27%. However, 18% of all males received a low score, where only 8% of females received a low score for creativity. No relationship found when tested for significance.

Table 3: Creative Essay Score and Gender

	Male	Female
Low (4-12)	12.00%	6.92%
Medium (13-21)	36.00%	49.37%
High (22-33)	18.00%	21.70%
No Score	34.00%	22.01%
Total	100.00%	100.00%

Ethnicity. In the literature review it was suggested that those cultures which are most restrictive and value strict adherence to tradition would be the least likely to have creative ability (Baker, 2001; Kim & Margison, 2005; Nghi, 2004). However, these data show little variation in the percentage of scores among the different ethnic groups, as shown in Appendix E. Nearly all ethnic groups had the highest percentage of scores in the medium (13-20) range. The Native American group split their scores between the Low and Medium group, but this was because there were only two Native American participants. No relationship found when tested for significance.

Ideational Fluency

Age. The relationship between Age and ideational fluency is shown on Appendix F. More than 50% in each group, scored within the low (1-11) range. Also, more than

30% of each group received no score. No relationship found when tested for significance.

Gender. Much like the creative essay, more males failed to respond to the ideational fluency portion of the survey, 52% of males in all, while only 36.5% of females did not respond, shown on Table 4. The highest concentration of scores, however, is within the Low (1-11) range; 91.67% of all males and 89.11% of females scored within this range. Both males and females had 8% of scores within the medium (12-23) range, and only 1.98% of females scored high (24-33). No relationship found when tested for significance.

Table 4: Ideational Fluency and Gender

	Male	Female
Low (1-11)	91.67%	89.11%
Medium (12-23)	8.33%	8.91%
High (24-33)	0.00%	1.98%
Total	100.00%	100.00%

Ethnicity. Over 80% of participants in each ethnic group scored within the Low (1-11) range, shown in Appendix G on the previous page. No relationship was found when tested for significance.

Sensation-Seeking Scale

Age. As mentioned in the literature review, research shows that youth tend to be much more impulsive, however these data show little difference between participants in any age group (Steffensmeier et al, 1989; Cheatwood et al, 1990; Moffit, 1993; Reiss & Roth, 1993). Appendix H shows that at least 40% of participants in any age group scored in the 84-115 range and with the exception of the 40+ group, more than 40% of participants in any age group scored within the highest range, 115-147. No relationship found when tested for significance.

Gender. The literature has suggested that there are differences in the impulsivity of males and females. It was suggested that males were genetically predisposed to violence, aggression and impulsivity (Terry, 1979; Norlander et al, 2000; Baker, 2001; Razumnikova, 2004). The data show otherwise, however; males and females were found to be almost completely evenly matched. Table 4.5 shows that some 50.5% of females and 44.7% of males scored within the 84-115 range, and 45.9% of females and 46.8% of males scored within the 116-147 range. Although this is so, no relationship was found when tested for significance.

Table 5: Overall Sensation-Seeking and Gender

	Male	Female
20-51	0.00%	1.31%
52-83	8.51%	2.30%
84-115	44.68%	50.49%
116-147	46.81%	45.90%
Total	100.0%	100.0%

Ethnicity. Appendix I shows that most ethnic groups had comparable scores. Most scored within the 116-147 range, with more than 40% of participants in any ethnic group, with the exception of the Mexican/Mexican American group with 38.24%. No relationship was found when tested for significance.

Inter-Measure Analysis

Dummy Variables. In order to better understand this relationship dummy variables were constructed in order to conduct a more robust statistical analysis and test for significance. Data on the ethnicity of the participants was dichotomized to assess the participants' "level of ethnicity" against scores of CES, IF, CUR, and OSS as shown in Appendix J. The three largest groups of participants (Asians 163, Caucasians 68 and Bi-racial/Black 51), were grouped to give levels of "Asianness" (ASN), "Whiteness" (WHT), "Latinness" (LTN) and "Blackness" (BLK), respectively. ASN was found to have a score of -.109

Current Criminal Thinking and Creative Essay Score.

Appendix K is a frequency scattergram of the Creativity item (CES) and CUR. This figure shows the tendency of scores to cluster for lower range CUR scores (13-23 points) and medium range CES scores (4-12 points). This suggests that those individuals who are least likely to be criminal are likely to be moderately creative. This was found to be true in 58.33% of the cases in both categories. With the exception of the low range CUR scores, most individuals scored in the medium range creativity scores, 47.55% of all responses. Unfortunately, 23.64% of all respondents did not provide a creative essay, limiting this study. CUR is only one measure of criminal thinking on the PICTS, but is the best, seeing as how it is a score of the level of criminal thinking at the time the survey was administered, like the IF measure of creativity, whereas the other six pertinent subscales on the PICTS give information regarding the type of criminal thinker an individual may be, the CUR measure is used here to represent the criminal thinking of each participant. A significance test of correlations was conducted using a Pearson's r test, and it was found that these two variables shared a significant relationship ($r=.128^*$).

Current Criminal Thinking and Ideational Fluency.

Appendix L is a frequency scattergram of scores for Current Criminal Thinking (CUR) and Ideational Fluency (IF). The distribution of scores in this figure shows a moderate correlation between these two variables. As shown in this figure, low scores of IF are somewhat evenly spread across the higher range CUR scores. It was observed in the data that many participants either did not respond to the IF item, approximately 38.59%. No relationship was found when tested for significance.

Current Criminal Thinking and Overall Sensation-Seeking Score. Appendix M shows CUR scores on the x-axis and OSS scores on the y-axis. The graph indicates that the most likely relationship of these variables was between the low range OSS scores (20-51) and low to mid range CUR scores (24-34). A significance test of correlations was conducted using a Pearson's r test, and it was found that these two variables shared a significant relationship ($r=.531^*$).

Creative Essay Score and Ideational Fluency. Appendix N represents the relationship between the variables CES and IF, both measures of creativity. This graph that Low (1-11) IF scores are highly concentrated in the medium (13-21)

CES range. A significance test of correlations was conducted using a Pearson's r test, and it was found that these two variables shared a significant relationship ($r=.135^*$).

Creative Essay Score and Overall Sensation-Seeking Score. As noted in the literature, both creative and impulsive individuals share personality traits, which in turn influence their criminality. Appendix O illustrates the strength of the relationship between these two variables. With medium (13-21) scores of creativity, 49.72% of all OSS scores were spread across both the 84-115 and 116-147 ranges. No relationship was found when tested for significance.

CHAPTER FIVE

DISCUSSION

Findings

No definitive conclusions could be reached from the findings of this study, although some hypothesized patterns did appear. The purpose of the study was to explore a correlation between criminal thinking and creative ability. The major components of the survey instrument were found to be very reliable; $\alpha=.977$ for the PICTS, $\alpha=.844$ for inter-rater reliability on the creative essay, and $\alpha=.935$ for the SSSV. Figure 4.2 shows no significant correlation between the two variables CUR and IF. The relationship between CUR and CES was found to be significantly correlated using a Pearson's r ($r=.128^*$). No strong correlations were observed when the measure IF was tested against each PICTS subscale or when comparing the CES to SSSV. The measure CES was found to have strong positive correlations with each of the PICTS subscales, including CUR.

When attempting to show a correlation between gender and CES, IF or CUR, males were found to have medium range scores of CES (13-21) and low range scores of IF (1-10) correlate with higher scores of CUR (46-56). The data

suggests that males who have moderate levels of creativity are more likely to have high criminal thinking patterns, which is not supported by the literature. This may be misleading due to the fact that 86.41% of the sample was male (N=318). Female participants seem to exhibit no discernable pattern when looking at either CUR or IF, most likely due to the fact that only 13.59% of the sample was female (N=50). No accurate assessment of gender as it relates to either measure of creativity or criminality could be obtained due to the disparity in the gender of the participants sampled.

CUR, CES, and IF were also difficult to assess once the data was cross-tabulated against ethnicity. There were no apparent patterns unless dummy variables were created. Each of these groups had their levels of "Asianness", "Whiteness" and "Blackness" put into the Pearson's r test for correlation against the variables CUR, CES, and IF. Those participants with a high level of "Asianness" were found to have their ethnicity be inversely correlated with CUR (-.107*), and no apparent significant correlation with either measure of creativity whatsoever. This finding conflicts with the literature, which suggests that those cultures that value strict adherence to tradition are less

creative, although the literature does not speak much of the criminal tendencies of Asian cultures, in particular (Baker, 2001; Kim & Margison, 2005; Nghi, 2004). Those participants with high levels of "Whiteness" showed no correlation with either measure of creativity or CUR, which is not consistent with the literature. American culture is thought to value diversity and creativity, and would suggest that Caucasian individuals would at least show moderately high levels of creativity (Kim & Margison, 2005). And finally, those participants with a high level of "Blackness" were found to be moderately correlated with CUR (.216*) and HIS (.258*). The latter finding is inconsistent with what the literature has suggested, those individuals with multicultural backgrounds are mostly likely to be creative. The high level of CUR may be the result of the sample of "Bi-racial/Black" participants included those individuals who did not identify themselves as belonging to any one ethnic group, and as such suggests that those individuals who are able to speak more than one language better equipped to express themselves creatively due to different cultural paradigms (Baker, 2001; Kim & Margison, 2005; Nghi, 2004).

The final hypothesis asserted by the researcher was that age, creative ability and criminal thinking would be found to be positively correlated. These data suggests that this assumption is only true for one variable. No significant correlation could be found between the age of the participants and their creative ability ($r=.091$ against IF and $r=.072$ against CES). But the age of the participants was found to have a significant positive correlation with CUR ($r=.242^*$). The majority of the participants (159), fit within in the 21-25 age range, which is found to be consistent with the literature in regards to the criminal tendency of younger individuals (Steffensmeier et al, 1989; Cheatwood et al, 1990; Moffit, 1993; Reiss & Roth, 1993; Gifford et al, 2005; Piquero, 2005).

Limitations

Several limitations threatened the validity of this study. To begin with, the sample size was small. The original sample size consisted of 474 participants, but due to missing data, an analysis of the original sample could not be conducted, leaving only 368 participants to be studied. Secondly, the number of females (318) far

exceeded the number of males (50) studied, further hindering validity. Furthermore, the number of Asian participants far outweighed that of participants of other ethnicities. Caucasians participants made up 34% of the sample, having the remaining participants distributed across the six other ethnic categories. Also a hindrance to the validity of this study was the length of survey. Because the survey was so lengthy, 23.1% of the participants chose to skip the measures of creativity, providing only data regarding their criminal thinking. All of these limitations are detrimental to the generalizability of these findings. Due to the sampling method, the proposed study has very limited generalizability. The sample placed under scrutiny was not representative of CSUSB students. Divergent thinking measures, as measures of creativity, have been widely criticized due to the fact that the validity of the measures are noticeably dependent on the conditions under which they are administered (McCrae, 1987).

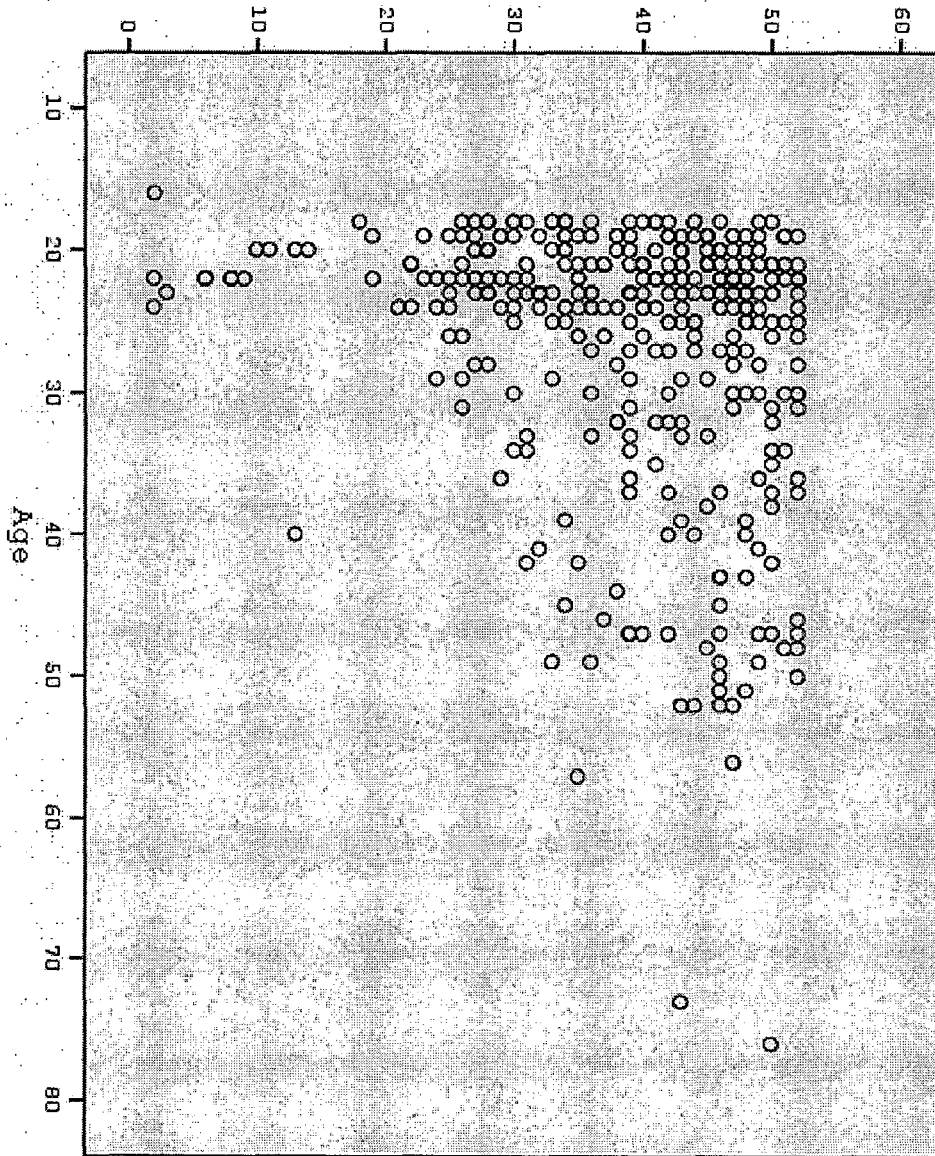
Suggestions for Future Research

For future research, the researcher suggests further analyzing the correlation between creativity and

criminality in individuals with multicultural backgrounds. Individuals should be asked how many languages they speak, what those languages are, and the cultural or ethnic background with which they most identify. The findings in this analysis show that these variables were among the most highly correlated and merit further attention. More measures should be used to assess the level of creativity, which would more accurately represent creative ability and may limit the incidence of missing data that limit validity. The length of the survey should be shortened in order to reduce the likelihood of participant mortality. Lastly, data on a larger sample size, with more complete data, should be collected in order to establish a higher level of generalizability, which may dilute some inherent limitations to social research.

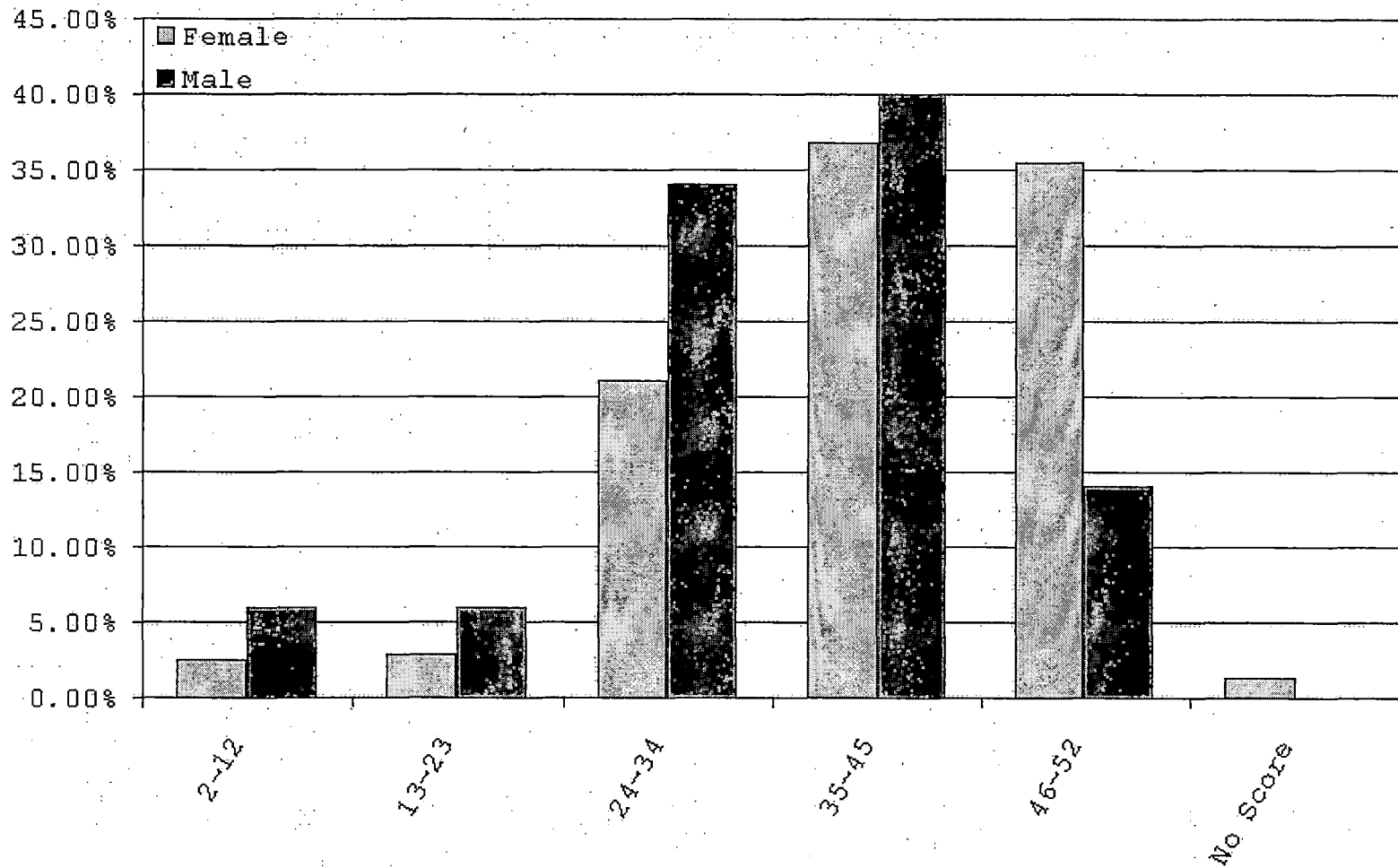
APPENDIX A
CURRENT CRIMINAL THINKING AND AGE

Current Criminal Thinking



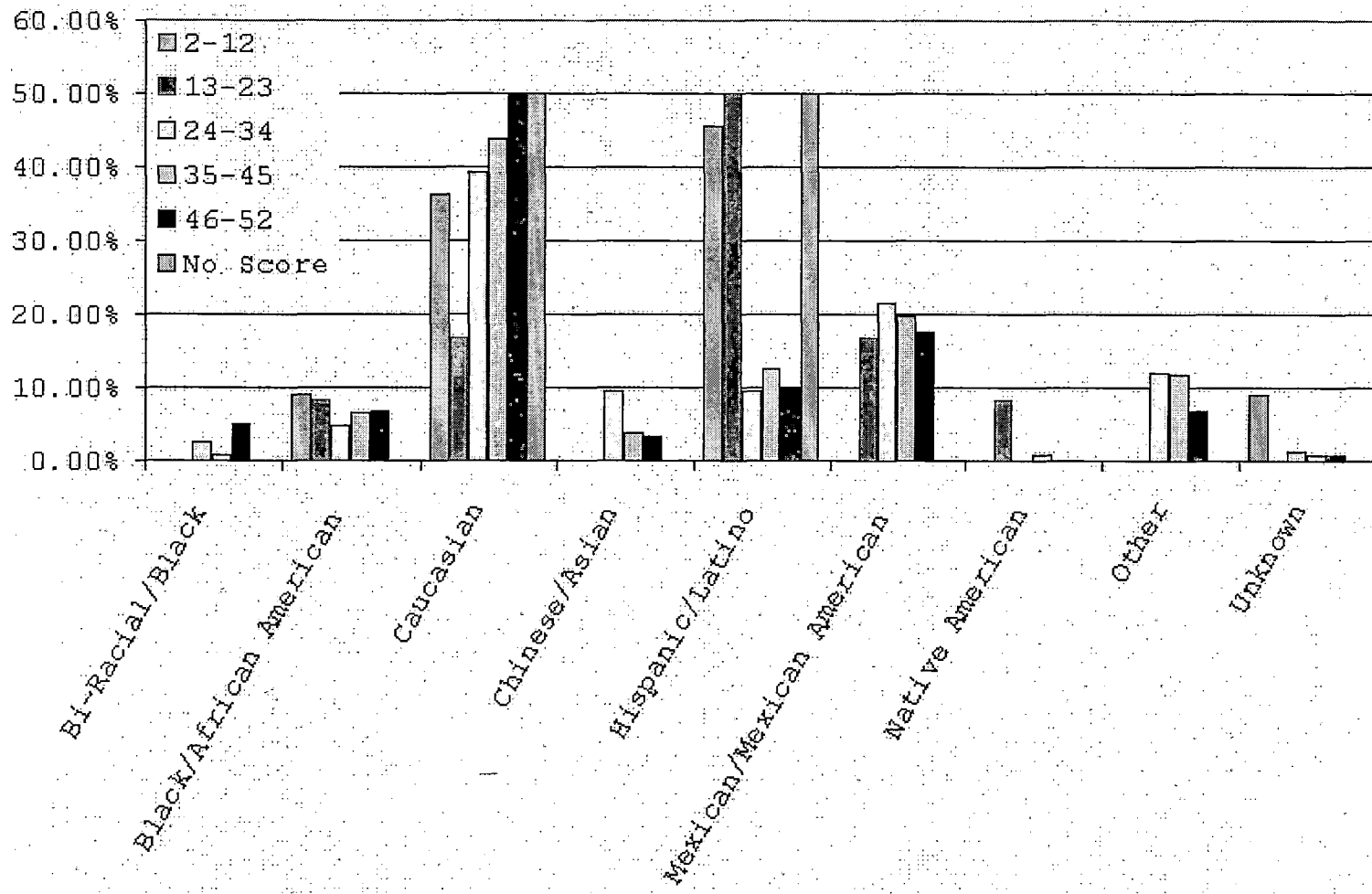
APPENDIX B

CURRENT CRIMINAL THINKING AND GENDER



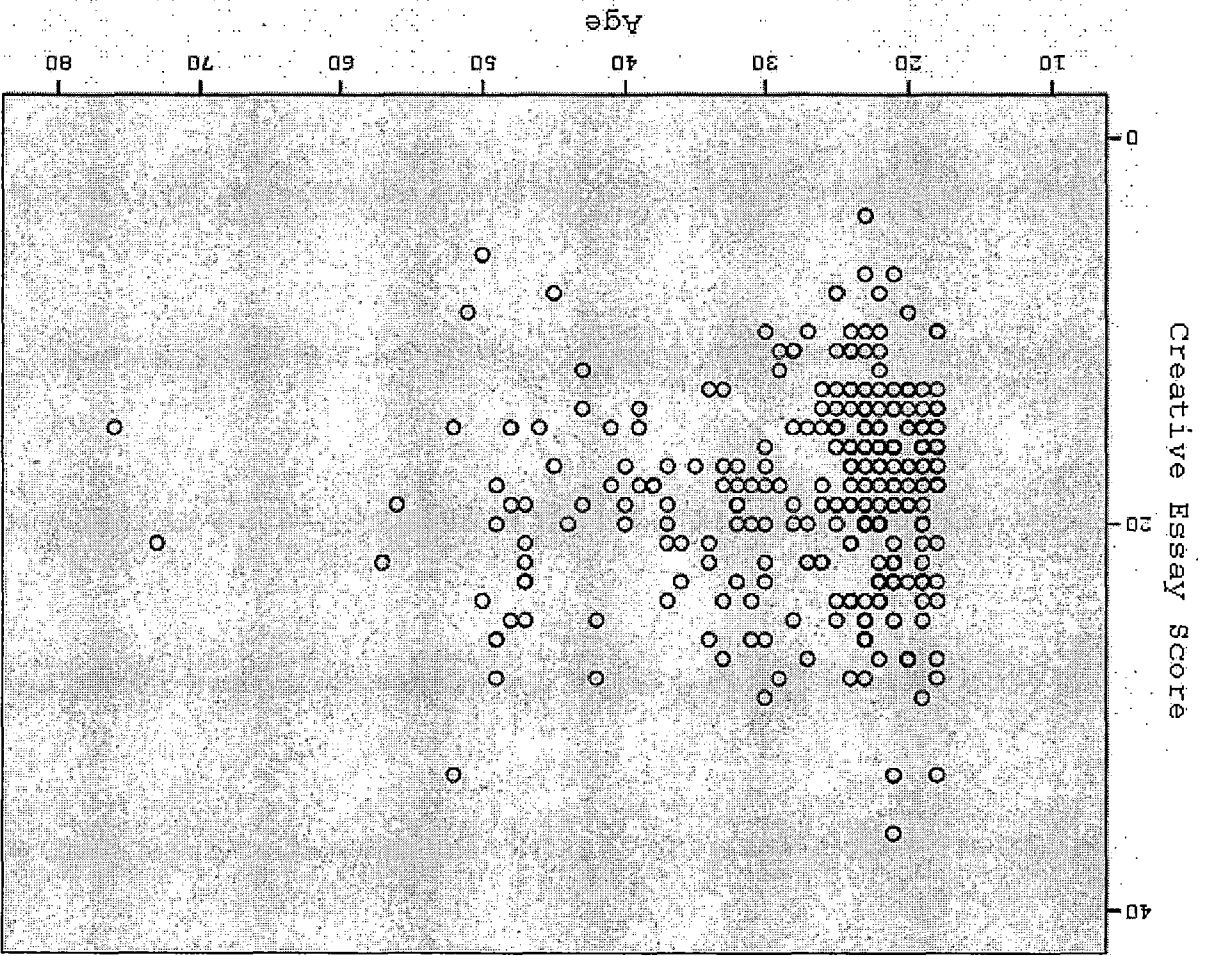
APPENDIX C

CURRENT CRIMINAL THINKING AND ETHNICITY

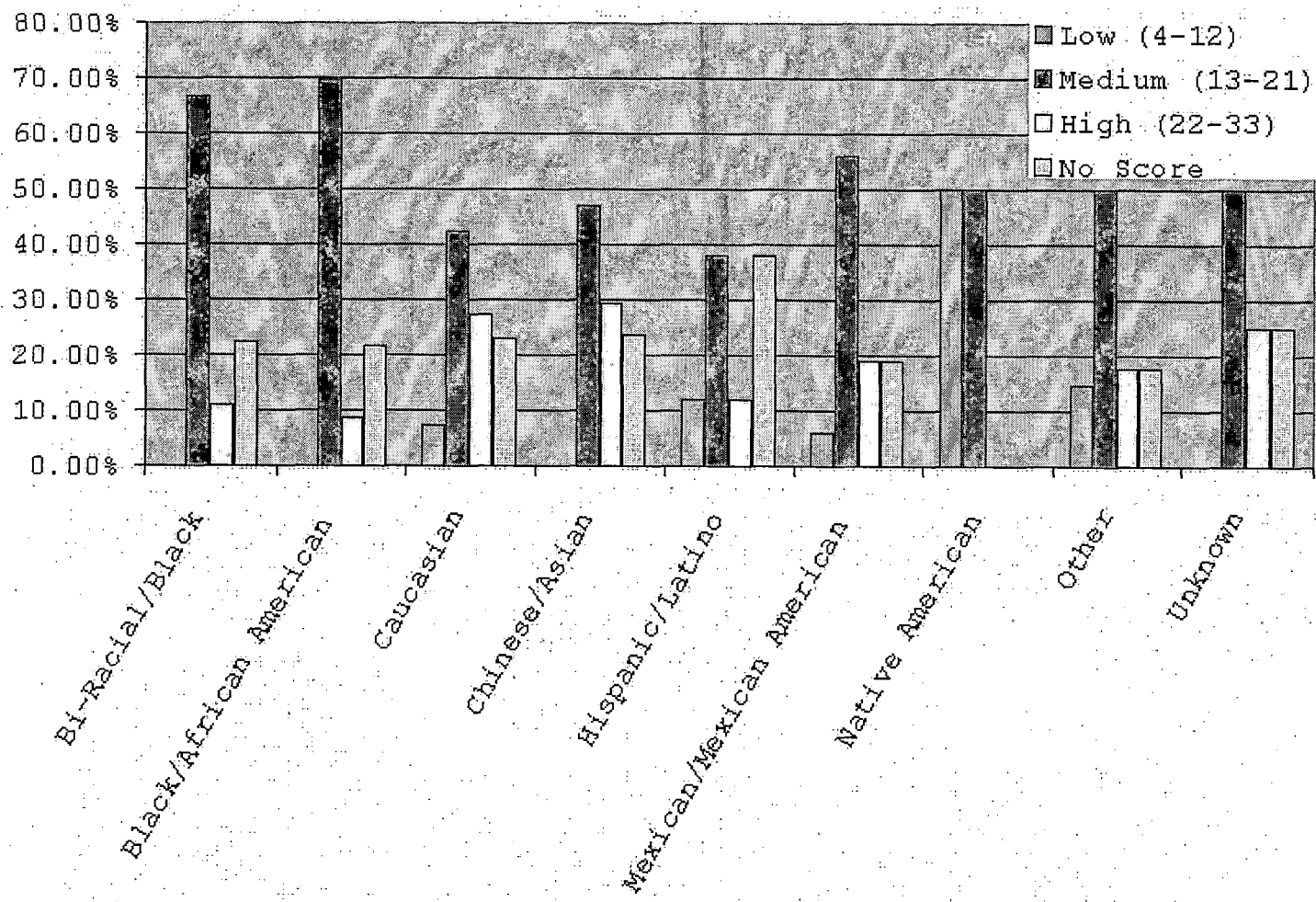


APPENDIX D

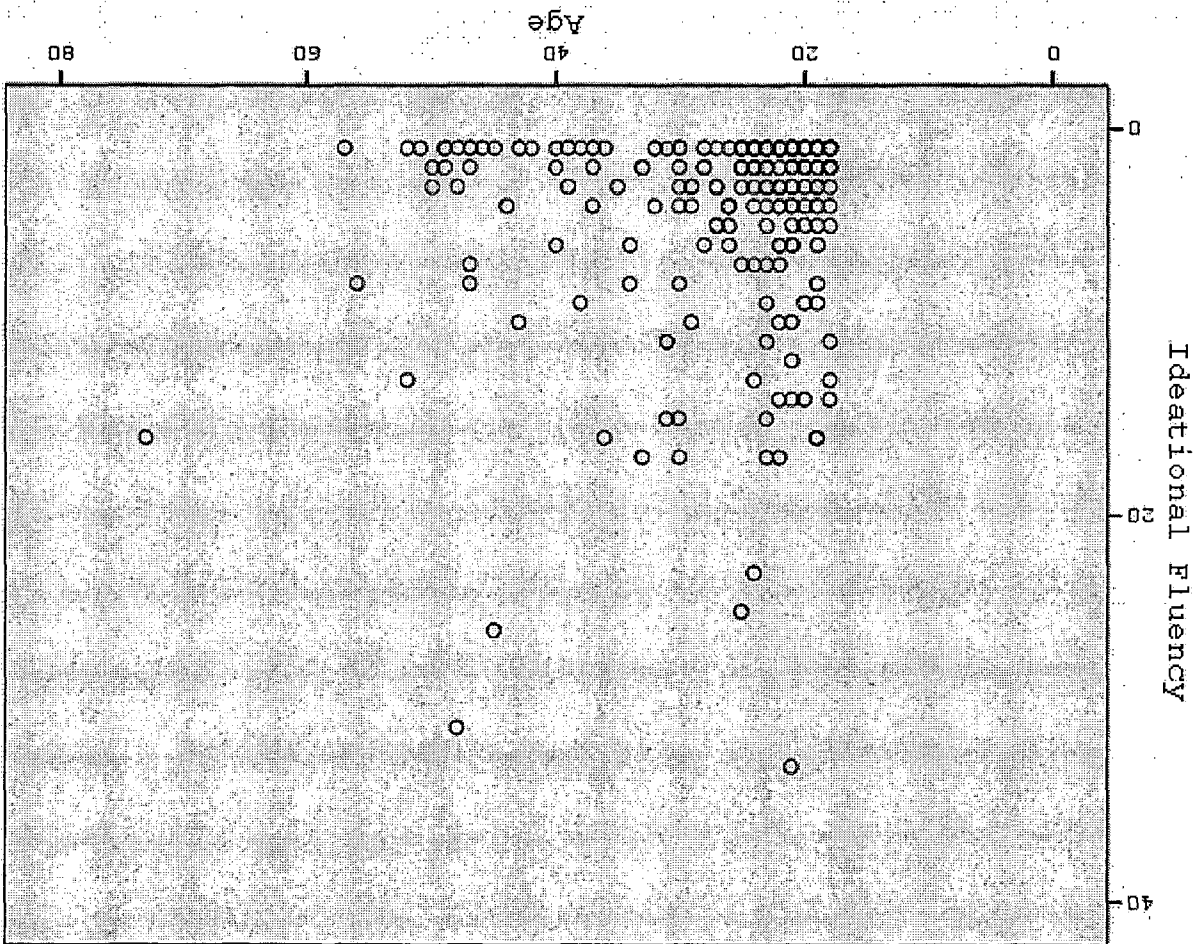
CREATIVE ESSAY SCORE AND AGE



APPENDIX E
CREATIVE ESSAY SCORE AND ETHNICITY

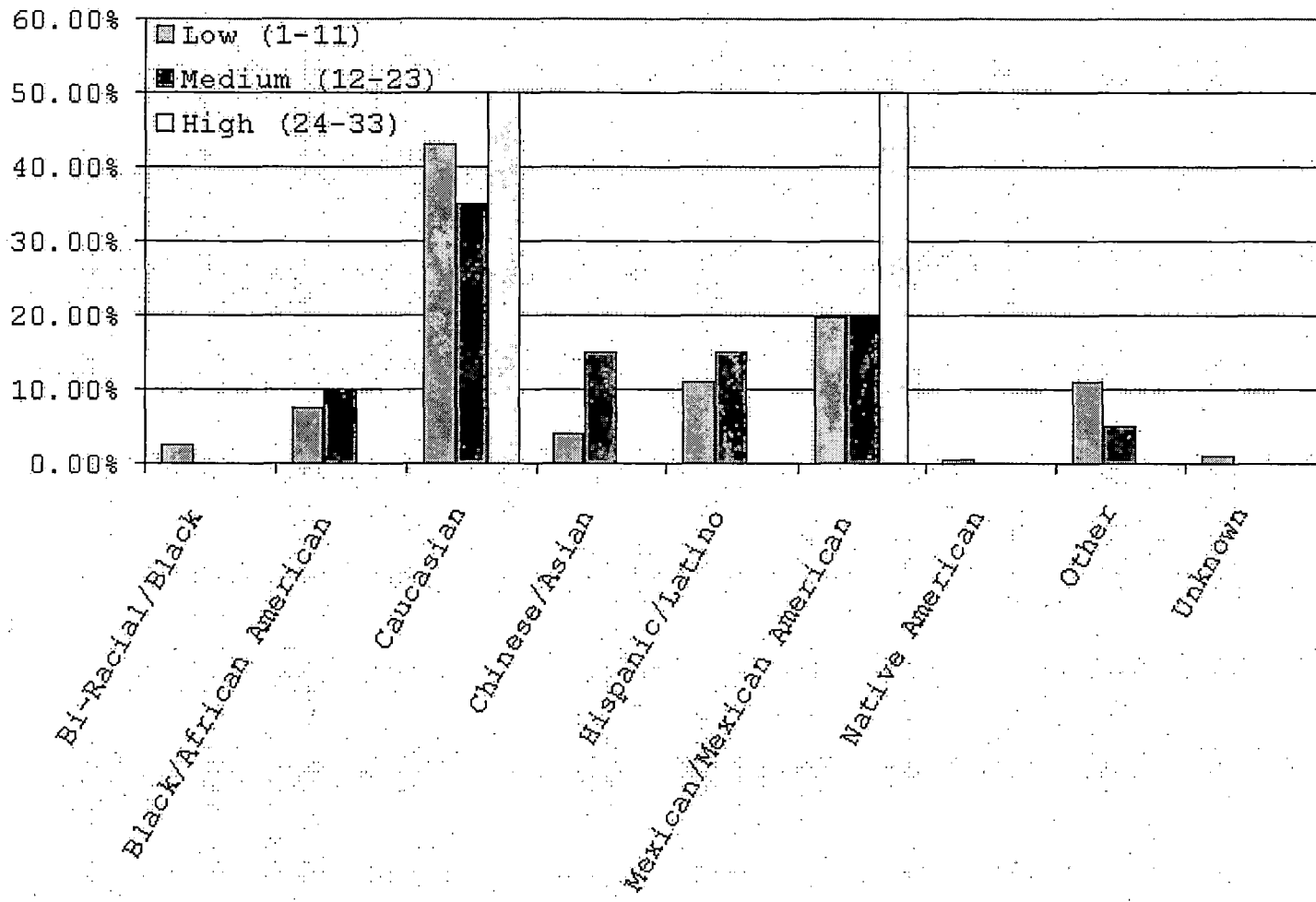


APPENDIX F
IDEATIONAL FLUENCY AND AGE

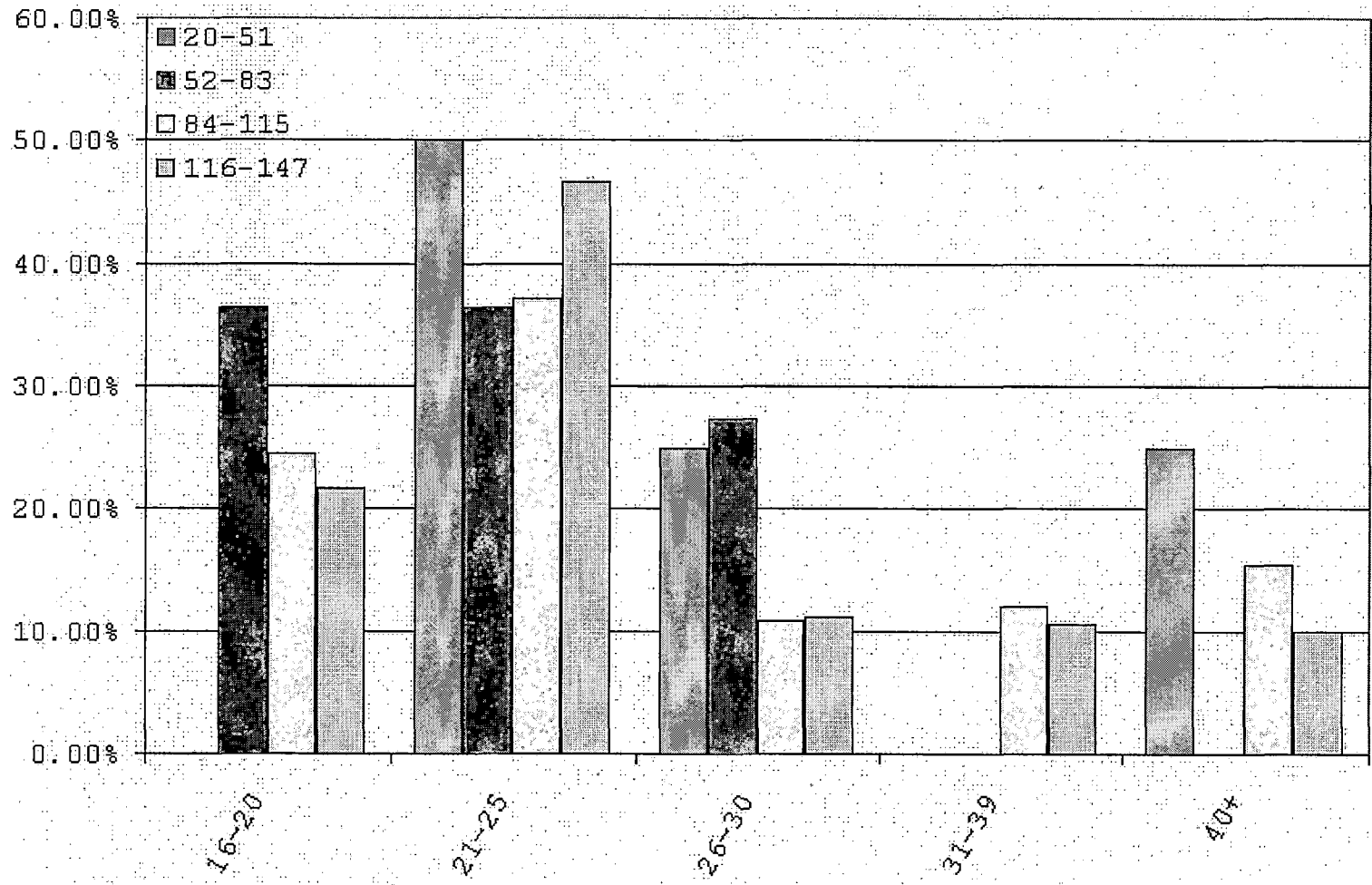


APPENDIX G

IDEATIONAL FLUENCY AND ETHNICITY



APPENDIX H
OVERALL SENSATION-SEEKING AND AGE



APPENDIX I
OVERALL SENSATION-SEEKING AND ETHNICITY

	20-51	52-83	84-115	116-147
Bi-Racial/Black	0.00%	0.00%	33.33%	66.67%
Black/African American	0.00%	4.55%	54.55%	40.91%
Caucasian	0.65%	1.94%	50.32%	47.10%
Chinese/Asian	0.00%	5.88%	41.18%	52.94%
Hispanic/Latino	2.38%	7.41%	42.86%	47.62%
Mexican/Mexican-American	1.47%	4.41%	55.88%	38.24%
Native American	50.00%	0.00%	0.00%	50.00%
Other	0.00%	0.00%	55.88%	44.12%
Unknown	0.00%	0.00%	0.00%	100.00%
Total	1.14%	3.13%	49.72%	46.02%

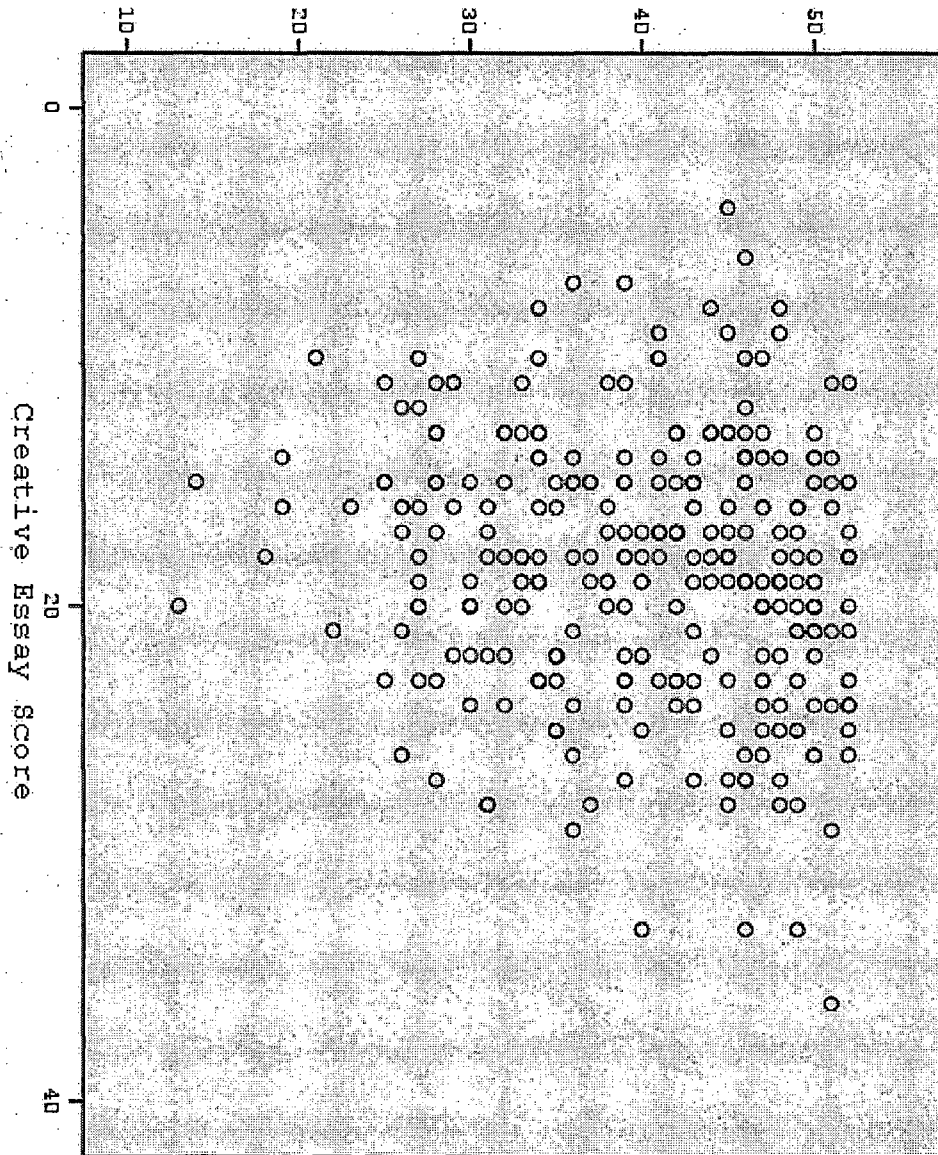
APPENDIX J
DUMMY VARIABLE CORRELATIONS

	Asianness	Whiteness	Blackness	Latinness
Gender	-.009	.013	-.035	.060
Age of Respondent	.099	-.289*	-.006	.209*
Ethnicity	.346*	.564*	.320*	-.602*
Employment Status	.119*	-.097	-.002	.019
Current Criminal Thinking	.048	-.114*	-.039	.120*
Historical Criminal Thinking	.066	-.103	-.057	.115*
Ideational Fluency	-.039	.009	-.002	-.008
Creative Essay Score	-.033	-.127*	.007	.096
Overall Sensation-Seeking	-.072	-.021	-.038	.109*
Emotional Stability	-.037	-.012	.011	.032
Openness to Experience	.025	.059	-.117*	-.025

APPENDIX K

CURRENT CRIMINAL THINKING AND CREATIVE ESSAY SCORE

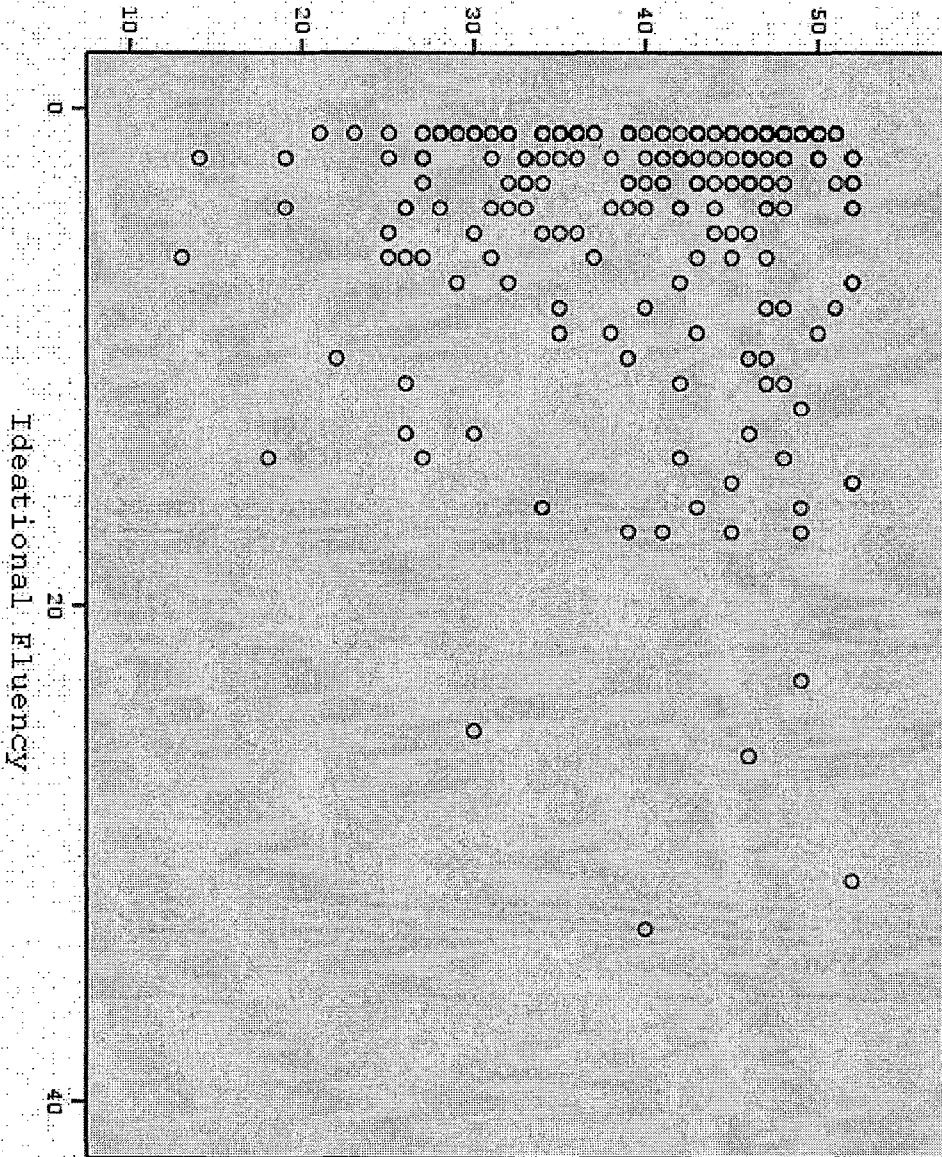
Current Criminal Thinking



APPENDIX L

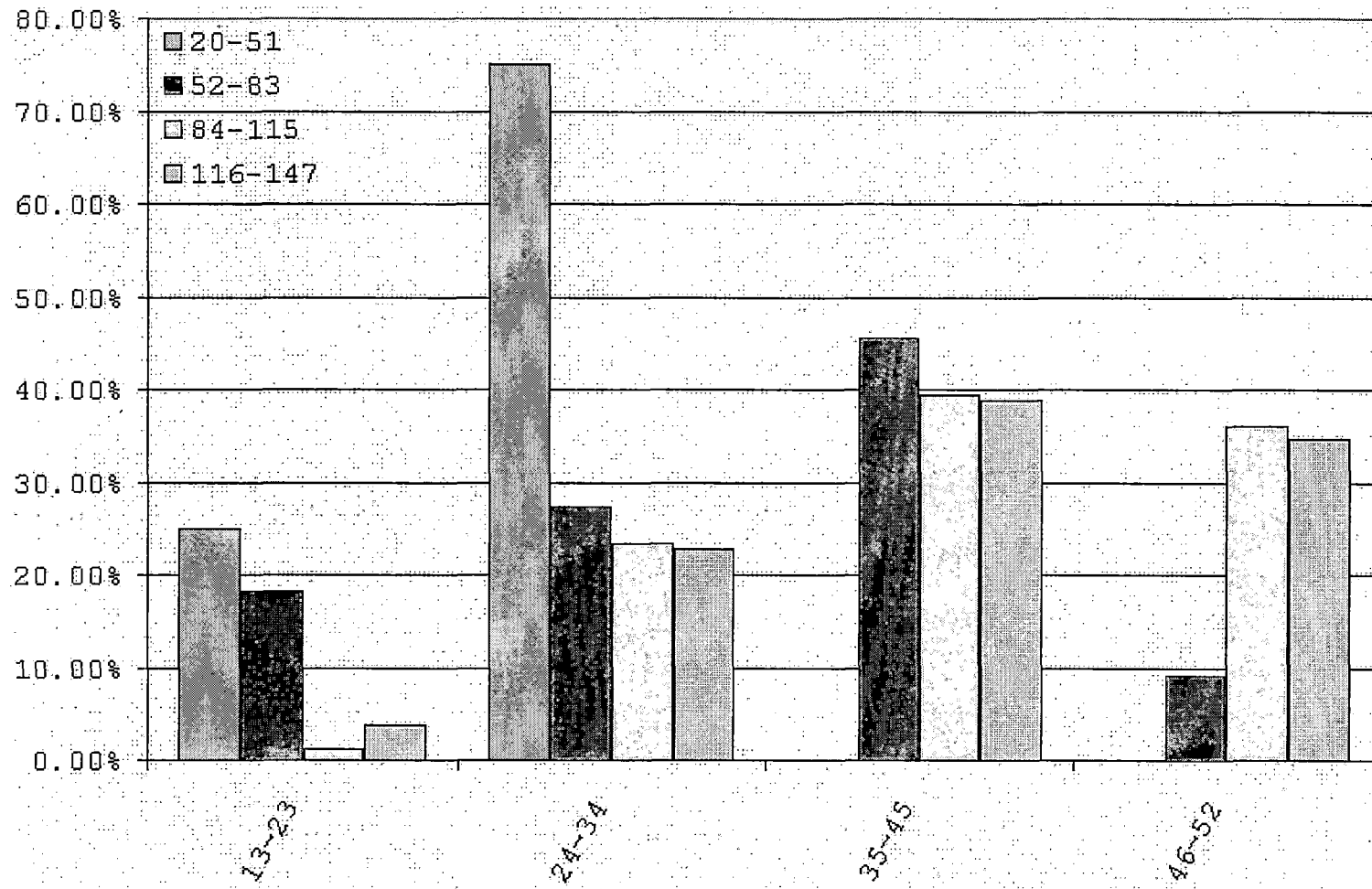
CURRENT CRIMINAL THINKING AND IDEATIONAL FLUENCY

Current Criminal Thinking



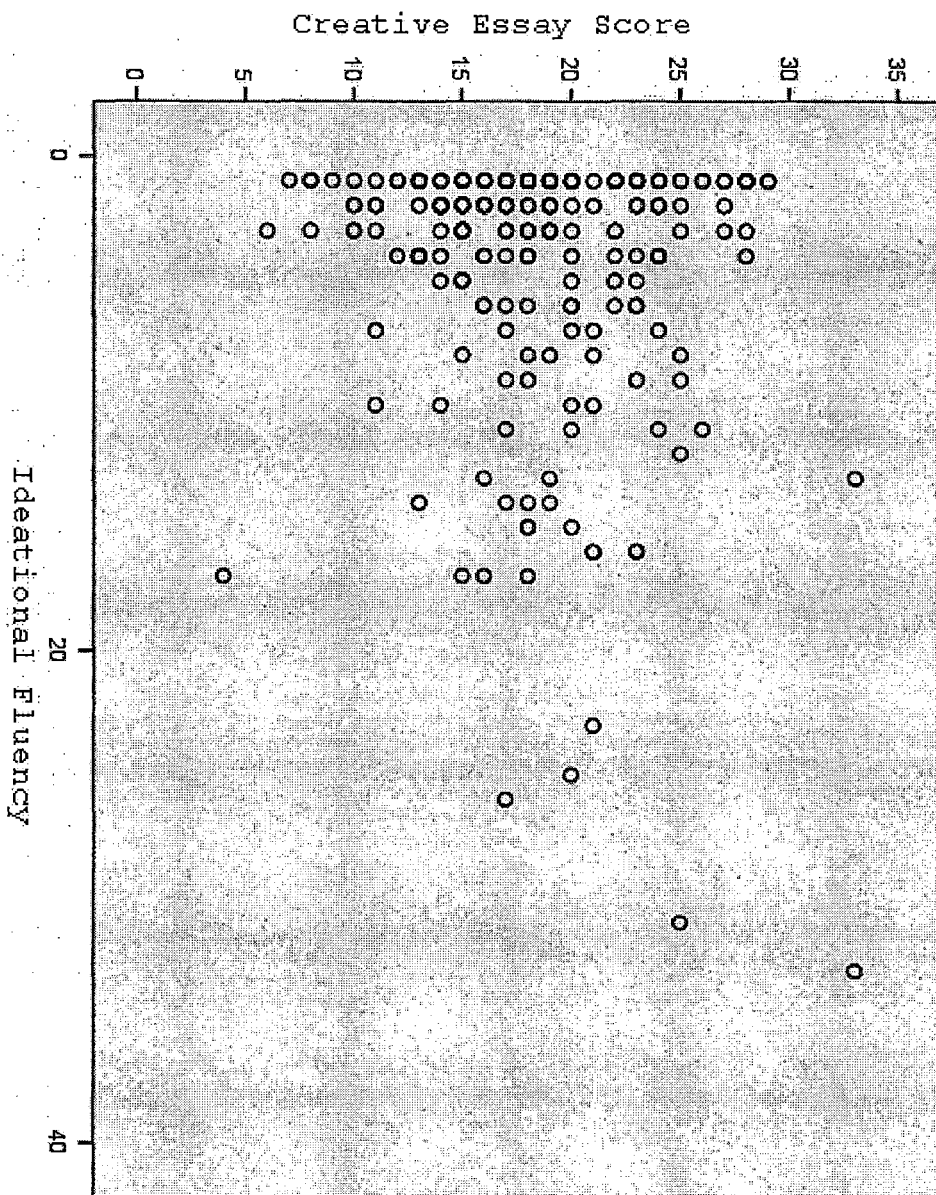
APPENDIX M

CURRENT CRIMINAL THINKING AND OVERALL SENSATION-SEEKING



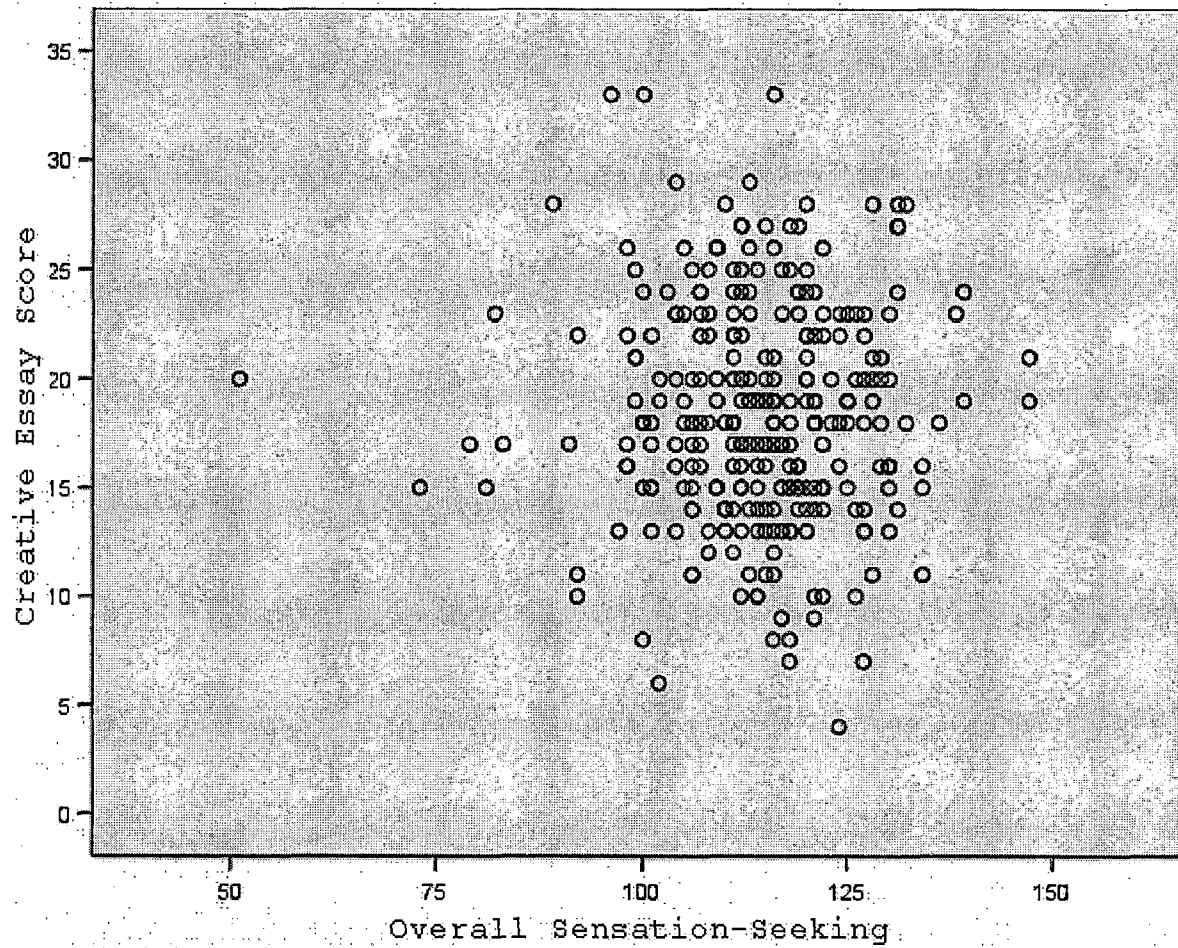
APPENDIX N

CREATIVE ESSAY SCORE AND IDEATIONAL FLUENCY



APPENDIX O

CREATIVE ESSAY SCORE AND OVERALL SENSATION-SEEKING



APPENDIX P

PSYCHOLOGICAL INDEX OF CRIMINAL THINKING STYLES

PSYCHOLOGICAL INVENTORY OF CRIMINAL THINKING STYLES -
LAYERPERSON EDITION
(Version 4.0)

Glenn D. Walters, Ph.D.
Adapted by James C. Kaufman, Ph.D.

Directions: The following items, if answered honestly, are designed to help you better understand your thinking and behavior. Please take the time to complete each of the 80 items on this inventory using the four-point scale defined below:

- 4= strongly agree (SA)
- 3= agree (A)
- 2= uncertain (U)
- 1= disagree (D)

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
1	I will allow nothing to get in the way of me getting what I want...	4	3	2	1
2	I find myself blaming society and external circumstances for the problems I have had in life...	4	3	2	1
3	Change can be scary...	4	3	2	1
4	Even though I may start out with the best of intentions I have trouble remaining focused and staying "on track"...	4	3	2	1
5	There is nothing I can't do if I try hard enough...	4	3	2	1
6	When pressured by life's problems I have said "the hell with it" and followed this up by doing whatever I want to do...	4	3	2	1
7	It's unsettling not knowing what the future holds	4	3	2	1
8	I find myself blaming people who are	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
	hurt when I behave badly by saying things like "they deserved what they got" or "they should have known better"...				
9	One of the first things I consider in sizing up another person is whether they look strong or weak...	4	3	2	1
10	I occasionally think of things too horrible to talk about...	4	3	2	1
11	I am afraid of losing my mind...	4	3	2	1
12	The way I look at it, I've paid my dues in life just like anyone else, and am therefore justified in taking what I want ...	4	3	2	1
13	The more I get away with in life, the more I think there's no way I will ever be caught...	4	3	2	1
14	I believe that breaking the law is no big deal as long as you don't physically hurt someone...	4	3	2	1
15	I would not hesitate to get money in any way (legally or illegally) if my friends or family needed help...	4	3	2	1
16	I am uncritical of my thoughts and ideas to the point that I ignore the problems and difficulties associated with these plans until it is too late...	4	3	2	1
17	It is unfair that bank presidents, lawyers, and politicians get away with all sorts of illegal and unethical behavior every day and yet I could still be arrested for a much smaller crime...	4	3	2	1
18	I find myself arguing with others over relatively trivial matters...	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
19	I can honestly say that the I think of everyone's welfare before engaging in potentially risky behavior...	4	3	2	1
20	When frustrated I find myself saying "screw it" and then engaging in some irresponsible or irrational act...	4	3	2	1
21	New challenges and situations make me nervous...	4	3	2	1
22	If I was ever caught committing a crime, there's no way I'd be convicted or sent to prison...	4	3	2	1
23	I find myself taking shortcuts, even if I know these shortcuts will interfere with my ability to achieve certain long-term goals...	4	3	2	1
24	When not in control of a situation I feel weak and helpless and experience a desire to exert power over others...	4	3	2	1
25	Despite any bad things I may have done, deep down I am basically a good person...	4	3	2	1
26	I will frequently start an activity, project, or job but then never finish it...	4	3	2	1
27	I regularly hear voices and see visions, which others do not hear or see...	4	3	2	1
28	When it's all said and done, society owes me...	4	3	2	1
29	I have said to myself more than once that if I didn't have to worry about anyone "snitching" on me I would be able to do what I want without getting caught...	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
30	I tend to let things go which should probably be attended to, based on my belief that they will work themselves out...	4	3	2	1
31	I have used alcohol or drugs to eliminate fear or apprehension before doing something risky...	4	3	2	1
32	I have made mistakes in life...	4	3	2	1
33	I sometimes think that I would be willing to do anything, even something illegal, in order to live the life I have coming...	4	3	2	1
34	I like to be on center stage in my relationships and conversations with others, controlling things as much as possible...	4	3	2	1
35	When questioned about my motives for making poor choices, I have justified my behavior by pointing out how hard my life has been...	4	3	2	1
36	I have trouble following through on good initial intentions...	4	3	2	1
37	I find myself expressing tender feelings toward animals or little children in order to make myself feel better after engaging in irresponsible behavior...	4	3	2	1
38	There have been times in my life when I felt I was above the law	4	3	2	1
39	It seems that I have trouble concentrating on the simplest of tasks	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
40	I tend to act impulsively under stress	4	3	2	1
41	I should not be made to appear worthless in front of friends and family when it is so easy to take from others ...	4	3	2	1
42	I have often not tried something out of fear that I might fail...	4	3	2	1
43	I tend to put off until tomorrow what should have been done today...	4	3	2	1
44	Although I have always realized that I might get caught for doing something, I would tell myself that there was "no way they would catch me this time"...	4	3	2	1
45	I could justify doing illegal activities such as selling drugs, burglarizing homes, or robbing banks by telling myself that if I didn't do it someone else would...	4	3	2	1
46	I find it difficult to commit myself to something I am not sure of because of fear...	4	3	2	1
47	People have difficulty understanding me because I tend to jump around from subject to subject when talking...	4	3	2	1
48	There is nothing more frightening than change...	4	3	2	1
49	Nobody tells me what to do and if they try, I will respond with intimidation, threats, or I might even get physically aggressive...	4	3	2	1
50	When I act irresponsibly, I will perform a "good deed" or do something nice for someone as a way of making up for the harm I have caused...	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
51	I have difficulty critically evaluating my thoughts, ideas, and plans...	4	3	2	1
52	Nobody before or after can do it better than me because I am stronger, smarter, or slicker than most people are...	4	3	2	1
53	I have rationalized my irresponsible actions with such statements as "everybody else is doing it so why shouldn't I"...	4	3	2	1
54	If challenged I will sometimes go along by saying, "yeah, you're right," even when I know the other person is wrong, because it's easier than arguing with them about it...	4	3	2	1
55	Fear of change has made it difficult for me to be successful in life...	4	3	2	1
56	The way I look at it, even if I've done bad things, it's okay, because I never intended to hurt anyone...	4	3	2	1
57	I still find myself saying, "the heck with working a regular job, I'll just take it"...	4	3	2	1
58	I sometimes wish I could take back certain things I have said or done ...	4	3	2	1
59	Looking back over my life, I can see now that I lacked direction and consistency of purpose...	4	3	2	1
60	Strange odors, for which there is no explanation, come to me for no apparent reason...	4	3	2	1
61	I think that I can use drugs and avoid the negative consequences (such as addiction) that I have observed in	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
	others...				
62	I tend to be rather easily sidetracked so that I rarely finish what I start...	4	3	2	1
63	If there is a short cut or easy way around something, I will find it...	4	3	2	1
64	I have trouble controlling my angry feelings...	4	3	2	1
65	I believe that I am a special person and that my situation deserves special consideration...	4	3	2	1
66	There is nothing worse than being seen as weak or helpless...	4	3	2	1
67	I view the positive things I have done for others as making up for the negative things...	4	3	2	1
68	Even when I set goals I frequently do not obtain them because I am distracted by events going on around me...	4	3	2	1
69	There have been times when I tried to change but was prevented from doing so because of fear...	4	3	2	1
70	When frustrated I will throw rational thought to the wind with such statements as "screw it" or "the hell with it"...	4	3	2	1
71	I have told myself that with a better job, I would never have had to do irresponsible or questionable things...	4	3	2	1
72	I can see that my life would be more satisfying if I could learn to make better decisions...	4	3	2	1

		<u>SA</u>	<u>A</u>	<u>U</u>	<u>D</u>
73	There have been times when I have felt entitled to break the rules or behave poorly in order to pay for a vacation, new car, or expensive clothing that I told myself I needed ...	4	3	2	1
74	I rarely consider the consequences of my actions...	4	3	2	1
75	A significant portion of my life has been spent trying to control people and situations...	4	3	2	1
76	There are times when I have done bad things and not gotten caught, and sometimes I feel overconfident and feel like I could do just about anything and get away with it...	4	3	2	1
77	As I look back on it now, I was a pretty good person even if I've done irresponsible things...	4	3	2	1
78	There have been times when I have made plans to do something with my family and then cancelled these plans so that I could hang out with my friends, and behave irresponsibly...	4	3	2	1
79	I tend to push problems to the side rather than dealing with them...	4	3	2	1
80	I have used good behavior or various situations to give myself permission to do things that may be irresponsible or dangerous...	4	3	2	1

APPENDIX Q
SENSATION-SEEKING SCALE

ARNETT INVENTORY OF SENSATION SEEKING (Arnett, 1994)

1. I can see how it would be interesting to marry someone from a foreign country.
2. When the water is very cold, I prefer not to swim even if it is a hot day.
3. If I have to wait a long time, I'm usually patient about it.
4. When I listen to music, I like it to be loud.
5. When taking a trip, I think it is best to make as few plans as possible and just take it as it comes.
6. I stay away from movies that are said to be frightening or highly suspenseful.
7. I think it's fun and exciting to perform or speak before a group.
8. If I were to go to an amusement park, I would prefer to ride the rollercoaster or other fast rides.
9. I would like to travel to places that are strange and far away.
10. I would never like to gamble with money, even if I could afford it.
11. I would have enjoyed being one of the first explorers of an unknown land.

12. I like a movie where there are a lot of explosions and car chases.
13. I don't like extremely hot and spicy food.
14. In general, I work better when I'm under pressure.
15. I often like to have the T.V. on while I'm doing something else, such as reading or cleaning up.
16. It would be interesting to see a car accident happen.
17. I think it's best to order something familiar when eating in a restaurant.
18. I like the feeling of standing next to the edge on a high place and looking down.
19. If it were possible to visit another planet or the moon for free, I would be among the first to sign up.
20. I can see how it must be exciting to be in a battle during a war.

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