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Psychosocial Correlates of Criminal Behavior: Identity Styles of Male Inmates in The Utah State Prison

Joseph M. White
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PSYCHOSOCIAL CORRELATES OF CRIMINAL BEHAVIOR:
IDENTITY STYLES OF MALE INMATES IN
THE UTAH STATE PRISON

JOSEPH M. WHITE

1994
PSYCHOSOCIAL CORRELATES OF CRIMINAL BEHAVIOR:
IDENTITY STYLES OF MALE INMATES IN
THE UTAH STATE PRISON
by
Joseph M. White

A thesis submitted in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE in
Family and Human Development

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UTAH STATE UNIVERSITY
Logan, Utah
1994
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Joseph M. White
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ABSTRACT

Psychosocial Correlates of Criminal Behavior: Identity Styles of Male Inmates in the Utah State Prison

by

Joseph M. White, Master of Science
Utah State University, 1994

Major Professor: Dr. Randall M. Jones
Department: Family and Human Development

One hundred ninety-four inmates responded to a measure that taps Erikson's fifth stage of psychosocial development, dealing with the issues of identity. Information concerning previous and current criminal activity, along with basic demographic information, was also collected. Cross-checks conducted on selected information within the Utah State Department of Correction's computer system suggest validity for inmate self-reports. The criminal behavior questions were addressed in two main sections: previous and current criminal behavior.

Results illustrate consistent relationships that exist between criminal behavior and cognitive identity style (the corollary to Marcia's identity statuses). The identity styles represent the process involved with personal decision making and problem solving. Individuals with the style
labeled "Information Orientation" thoroughly consider relevant information before decisions and commitments are made; those with a "Normative Orientation" are primarily concerned with the expectations of significant others; and those with a "Diffuse/Avoidant Orientation" procrastinate and fail to resolve confronting problems.

Findings suggest that previous criminal behavior was related to cognitive identity style; current criminal behavior was not. Specifically, Diffuse/Avoidant individuals are more likely to engage in substance use at a younger age than their criminal peers, get arrested younger, be involved in multiple arrests and convictions, have spent a longer time in prison and/or jail, and to have previous and current property convictions.

Inmates with a Normative style tend to use substances at an older age than their criminal cohorts, are about four years older at first arrest, have fewer arrests and convictions, spend less time incarcerated, and are more likely to have had a previous and current drug offense. Information-oriented individuals tend to straddle these extremes on most variables and show no profound trends in the data. Discrimination between Diffuse/Avoidant and Normative individuals has been found previously in substance use research.

(90 pages)
CHAPTER I
INTRODUCTION

Problem

During the past decade Utah's inmate population has increased 161%, from 1,022 in 1980 to 2,669 in 1992 (Franchina, 1993 pp. 124, 125). The state of Utah had a resident population of 1,461,037 in 1980. By 1990 the population had grown to 1,722,850, an 18% increase (1990 Census Brief: Cities and Counties of Utah: First in a Series of 1990 Census Analysis, 1991). The growth in the inmate population eclipsed that of the state almost tenfold. Other states have experienced similar growth explosions among inmates (Maguire & Flanagan, 1991) and is reflected by the national rate of prison growth which has, over the last two decades, vastly exceeded U.S. population growth.

Is it logical to deduce that a steady increase in the resident population is justification for an extraordinary increase in crime? The increasing lure to crime may be due to a variety of factors, including deterioration in morality, degeneration in basic values, and a lack of serious consequences for offenses. However, from a developmental viewpoint, deviant behavior may be the result of unsuccessful resolution of several of the earlier stages of "psychosocial development," resulting in undesirable problem solving and decision making strategies.
Conceptual Framework

The term "psychosocial development" originates from the study of social and psychological development and has blossomed into a widely recognized theoretical perspective (Erikson, 1963). The basic tenets of the theory suggest that individuals go through successive stages of development and confront relevant psychosocial issues that need to be resolved within generally prescribed time lines. If issues like trust, autonomy, and initiative are left unresolved, resolution of future issues like industry, identity, and intimacy will be thwarted.

An individual's adult development purportedly rests on the resolution of identity issues which are generally resolved during adolescence. As people figure out who they are, patterns of coping are acquired that influence decision making and problem solving. The identity crisis influences the style or approach people use to resolve interpersonal and intrapersonal issues and is the style with which they will approach life.

Identity has been operationalized as four general outcomes or statuses--Identity Achievement, Moratorium, Foreclosure, and Diffusion (Marcia, 1966). Identity Achievement is characterized by high levels of exploration and commitment toward specific values and beliefs in life; individuals in a state of Moratorium are engaged in high exploration but are as yet unwilling to make specific
commitments. Foreclosures have experienced relatively little exploration yet have made firm commitments regarding values, beliefs, choice of occupation, and other areas of interest. Individuals who are characterized by Diffusion have engaged in little exploration and have made few, if any, commitments in life.

The "identity statuses" have spawned much research in the realm of psychosocial development over the past three decades. Recently, the identity statuses have been conceived as "cognitive identity styles" or strategies for processing information. Berzonsky's (1988) model defines a processing orientation that underlies the statuses and elicits the process by which self-relevant information and experience is interpreted, incorporated, and implemented into the individual's identity. Information, Normative, and Diffuse/Avoidant Orientations reflect specific techniques the individual will most likely use when serious problems and consequential decisions are pending.

Individuals using an Information Orientation seek out information in order to efficiently resolve particular issues confronting them. A Normative-oriented person typically looks to those in authority (past or present) to make decisions for them. Diffuse-oriented people are avoidant when confronted with problems.
Objectives

Existing literature addressing criminal behavior in the context of psychosocial development among adult inmates is nonexistent. Therefore, relationships between identity and deviant behavior among adolescents will be used as a reference point. A potentially similar relationship between identity development and criminal behavior among adults will be investigated.

The following assumptions are implied in this study: (a) individuals who engage in one type of problem behavior are likely to participate in other problem behaviors (i.e., the "problem behavior syndrome" [Jessor, 1987]), (b) inclination toward problem behavior is mediated by developmental differences in psychosocial domains, particularly with regard to identity development (Jones, 1992; Jones, 1994), and (c) psychosocial deficiencies can be identified prior to manifestation of criminal or socially deviant behavior (for a taxonomy of risk factors which resemble psychosocial deficiencies, see Rutter, 1987; Werner, 1989).

Information regarding psychosocial development among inmates may be valuable in identifying correlates of deviant behavior. If so, findings may provide useful information for professionals working in the field and those involved in penalogical studies. For example, psychosocial measures may assist the Planning and Research Unit of the Utah State
Department of Corrections (UDC) in accomplishing one of its major goals—to "conduct program evaluations on the Sex Offender Treatment Program, the Intensive Drug Supervision Program, and the Parole Stabilization Program" (Franchina, 1993, p. 109). Psychosocial measures used in this study may also be effective in assessing cognitive problem-solving skills among inmates, one of the nine components of the UDC's Recidivism Reduction Model (Franchina, 1993, p. 61).

There are two major questions considered in this study. First, is there a relationship between cognitive style and previous criminal behavior among Utah inmates, (i.e., previous convictions, age at first arrest, length of time in prison, etc.)? Second, does cognitive style differentiate current criminal activities among Utah inmates?
"Long a national disgrace, the American prison is an out-of-control dumping ground for lower class 'losers.' Now, with the new federal and state commitment to mandatory minimum sentences and to stronger penalties for crimes involving the possession of weapons, the penal system is near the breaking point" (Bartollas, 1990, p. 11). Drug-related arrests have played a major part in the recent growth of the inmate population. Federal sentencing for drugs alone was up 283% from 1980 to 1990 (Bureau of Justice Statistics, 1992). Along with the dismal outlook that overshadows the system, the daily reality of life inside the prison illuminates specific issues that perpetrate system stress. Issues such as overcrowding, boredom, racial unrest, intimidation by inmate gangs, violent environments, loss of staff control, and the presence of contraband markets augment the stress that propels the system toward a breaking point (Bartollas, 1990).

History of the Penal Institution

Prisons originated and continue to exist for several reasons:
1. **isolation** of the deviate—denial of the law violator to freely dwell among the law abiders in an attempt to preserve social order,

2. **retribution**—when a criminal "pays his debt to society" based on the severity of the crime,

3. **individual deterrence**—(a) incapacitation—confined criminals not victimizing law abiding citizens, (b) personal reform—imprisonment itself as the primary motivator toward socially acceptable change,

4. **modeling of unpleasant consequences**—perspective law violators disinclined to act if cognizant of swift and severe consequences, and

5. **rehabilitation**—viewed through the medical model, attempting to extinguish underlying agents causing the illness (Pellegrini & Meyers, 1992).

**Growth**

Despite philosophically guided efforts toward reducing criminal behavior, the prison population has grown steadily with the U.S. population over the last century (see Figure 1). During the 1970s inmate populations began to rise at an exponential rate (see Figure 2) with the momentum projected to continue (Travisono, 1989, p. 41). The population of the United States has grown from 92 million in 1910 to 252 million in 1991 (U.S. Bureau of the Census, 1992, p. 8). The prison population has grown from 66,000 in 1910 (Travisono, 1989, p. 41) to 855,958 state and federal
prisoners as of June 30, 1992 (Bureau of Justice Statistics, 1993a, p. 10).

The rate of incarceration in the U.S. was 79 per 100,000 in 1925 and 96 in 1970 but jumped to 138 in 1980, 200 in 1985, and 271 per 100,000 in 1989 (Maguire & Flanagan, 1991, p. 604). The rate of incarceration reached a record 319 sentenced offenders per 100,000 residents as of June 30, 1992 (Bureau of Justice Statistics, 1993a, p. 10).

The racial composition of the prison population is telling as well. Minorities in prison are clearly the majority. In 1986, 60% of the state prison populations were ethnic minority. In 1991 that figure rose to 65% (Bureau of Justice Statistics, 1993b, p. 3). The U.S. population in 1980 consisted of 83% Caucasian with 17% minority. In 1990 the Caucasian population dropped to 80% while the minority
composition rose to 20% (U.S. Bureau of the Census, 1992, p. 17). In comparison to the 20% national average, a 65% minority inmate average illustrates the gross racial imbalance that continues to exist within the prison.

Rehabilitation Efforts

Since the call for prison reform in the 70s, treatment and rehabilitation efforts within the penal system have failed to achieve their intended effect (Murphy & Dison, 1990) and inmate populations continue to increase faster than the nation's rate of population growth. Many believe that "almost nothing works" and "with few and isolated exceptions...rehabilitative efforts that have been reported so far have had no appreciable effect on recidivism" (Martinson, 1974, cited in Louis & Sparger, 1990, p. 149).
Martinson's assessment of the system's correctional treatment programs almost two decades ago sparked lengthy and ongoing debate. The resulting view has been that treatment programs, in general, are an ineffective approach to delinquent and criminal behaviors. Cynicism and hopelessness prevail among many involved in rehabilitation efforts (Louis & Sparger, 1990).

Different perspectives about the effectiveness of rehabilitation have evolved but most share a common belief that few programs work or that they might be effective for only a small portion of the population. Rehabilitation ineffectiveness has justified the view that existing programs should not be recommended as mainline correctional administrative policy (Louis & Sparger, 1990). Some feel that successful programs exist but might not be appropriate for entire populations of inmates. For example, specific treatment strategies for sex offender groups may significantly reduce their rate of recidivism and yet be ineffective with the rest of the inmate population. This has led to more specialized and focused intervention.

Existing Interventions

Specific treatments revolve around drug and alcohol addiction and violent and sexual offenses. The ultimate goal of each approach is to alter an individual's thinking and identifications into a law-abiding attitude, purging
criminal mentality. Several styles (Louis & Sparger, 1990) of group therapies exist:

1. **the process-centered group**—centers on an individual's interactions with other group members;

2. **the task-oriented group**—consists of therapeutic tasks;

3. **the interpersonal discussion group**—involves discussion and feedback of personal behaviors allowing individuals to gain insight into their personality and relationship with others in the group;

4. **the expressive-projective group**—examines catharsis and expressiveness, and;

5. **the analytic group**—engages its members in analyzing and seeking emotional meaning and unconscious motivations for their behaviors.

Despite good intent, recidivism rates in 1991 were astounding. Four out of five inmates in maximum, medium, and minimum security facilities had prior sentences to probation or incarceration (Bureau of Justice Statistics, 1993b, p. 28). The effectiveness of current programs and treatment strategies must be questioned. Do these programs address the root cause of an individual's inability to make appropriate decisions and cope with life stressors in a socially acceptable manner? For most inmates, apparently not.
Utah Department of Corrections

Utah has found moderate success with its correctional programs. Even though the incarceration rate more than doubled in the last decade, Utah has the lowest rates in the western states and is among the lowest in the nation. In 1992, Utah's neighboring states, Nevada, Arizona, Colorado, Wyoming, and Idaho, had incarceration rates of 472, 401, 258, 229, and 224 per 100,000, respectively. Utah's incarceration rate was only 152 per 100,000 of the population (Franchina, 1993, p. 130-131).

Utah Correctional Industries (UCI) has found success employing inmates and offering skills, training, and work experience in various types of occupational opportunities. In terms of inmate employment percentage, the UCI is seventh in the nation (13.4%). Current areas of operation within the UCI include: a sign shop, print shop, license plates, furniture, data entry, micrographics, road crew, asbestos abatement, dairy, meat processing, aquaculture, and support workers. Inmates can learn a skill or trade that offers responsibility and socially acceptable self-reliant avenues that will assist with reintegration into mainstream society. Even though UCI saves state and government agencies close to four million dollars a year, the most impressive feature is the low recidivism demonstrated in one particular area of operation. The Asbestos Abatement program followed its workers over a 4-year period and recorded a mere 20%
The recidivism rate (Franchina, 1993, pp. 35-54). But, results must remain inclusive, as some inmates were not even released until year three and others may have returned to prison after year four.

The mission statements of each correctional facility in Utah emphasize a commitment to safety and security of staff, offenders, and community, and to the development of programs that identify, control, and modify the inappropriate behavior of offenders. In line with these objectives, the UDC has adopted a Recidivism Reduction Model based on a successful, holistic approach used in the Correctional Services of Canada. "The comprehensive model has significantly reduced the level of recidivism in Canada by returning offenders to society with the skills and attitudes necessary to succeed" (Franchina, 1993, p. 61). The catalyst for this movement came from state legislation in 1992 which appropriated over one million dollars to three state agencies: Public Education, Higher Education, and the Department of Corrections. If these programs prove successful, inmate population growth should be slowed dramatically.

**Juvenile Populations**

Many of the delinquent youth population ultimately relocate in the adult penal system as a result of ineffective youth prevention/intervention efforts. Although the adolescent population has been shrinking, juvenile
confinement in public and private facilities has steadily increased over the past decade: 71,922 in 1979, 83,402 in 1983, and 91,646 in 1987 (Thornberry, Tolnay, Flanagan, & Glynn, 1991). The juvenile delinquent population (those incarcerated in public detention centers, age 10-20) has increased steadily in the state of Utah as well, from 297 to 311 to 405 in 1960, 1970, and 1980, respectively. In 1970 Utah's incarceration rate among those aged 10-20 was 125 per 100,000. In 1980 it was 137 (Cahalan, 1986), and increased to 197 per 100,000 in 1987 (Thornberry et al., 1991).

Though Utah has had a steady increase, the state has one of the lowest incarceration rates for delinquents in the nation. Nevertheless, the trends are surging upward. Overcrowded detention centers (resulting in violent and multiple offenders "let off easy"), juveniles not punished as severely as adults, and intervention programs that fail to move adolescents from the cyclical nature of criminal behavior are just a few examples of a youth problem that continues to exist.

Psychosocial Development

According to Erikson (1963), individuals should successfully resolve key issues during each stage of psychosocial development. In order to resolve the identity issues of adolescence, the previous developmental stages which deal with trust vs. mistrust, autonomy vs. shame and
doubt, and initiative vs. guilt need to be resolved.

Following resolution of the earlier stages of human development, adolescents and young adults confront three succeeding stages of development--industry vs. inferiority, identity vs. role confusion, and intimacy vs. isolation--each with its own set of relevant issues.

Most adolescents experience an "identity crisis," during which they search for a comprehensive meaning to their existence--identifying who they are based on an amalgamation of past identifications, present competencies, and future aspirations (Erikson, 1963). Adolescence is a period marked by varying degrees of exploration and commitment to different values, occupations, and lifestyles.

The growing and developing youths...are now primarily concerned with what they appear to be in the eyes of others as compared with what they feel they are, and with the question of how to connect the roles and skills cultivated earlier with the occupational prototypes of the day. In their search for a new sense of continuity and sameness, adolescents have to refight many of the battles of earlier years...and are ever ready to install lasting idols and ideals as guardians of a final identity. (Erikson, 1963; p. 261)

These identifications are integrated into the ongoing process of cognitive conceptualization of self to which the individual refers in order to deal with life's problems. Countering the labile nature of adolescence, the degree of exploration and commitment will ultimately determine a stable sense of identity. By adulthood, identity issues should be somewhat resolved.
Identity Statuses

Measures of identity development have emerged in response to Erikson's (1963; 1968) emphasis on psychosocial development. Marcia (1966) conceived four "identity statuses" that represent varying levels of identity exploration and subsequent commitments--Achievement, Moratorium, Foreclosure, and Diffusion. Adams and Jones (1983) summarized the statuses as follows:

An individual who has achieved an identity has made a self-defined commitment following a period of questioning and searching (crisis). An individual who is currently engaged in this questioning and searching process is defined as being in a state of moratorium. Foreclosed persons have accepted parental values and advice without question or examination of alternatives. Individuals who are diffused show no sign of commitment nor do they express a need or desire to begin the searching process. (1983, p. 249)

The bulk of identity research has utilized self-report or interview measures modeled on Marcia's statuses (Bourne, 1978; Waterman, 1982).

Identity research relevant to this study has established a relationship between the identity statuses and (a) substance use (Jones & Hartmann, 1988); (b) substance abuse (Jones, Hartmann, Grochowski, & Glider, 1989); (c) motivations for substance use (Christopherson, Jones, & Sales, 1988); and (d) health compromising sexual behavior (King, 1993). Findings are theoretically consistent, indicating that the identity statuses share substantial
variability with initial and continued use of substances, and risky sexual practices.

Recent studies have related identity development to potentially problematic behavior in the areas of hopelessness, depression, and suicide ideation (Adams, in press). A most promising aspect of identity research is the recent publications focused entirely on interventions based on functional levels of identity development (Archer, 1994).

**Substance Use**

Jones and Hartmann (1988) assessed identity development and drug use in a sample of 12,988 adolescents from 7th to 12th grade. Discriminant analyses of substance use generated significant differences among the identity statuses, placing substance users consistently within the diffused status. Foreclosed respondents reported the lowest frequencies of experience with substances. Controlling for age, diffused youths were twice as likely to have tried cigarettes and alcohol, three times as likely to have tried marijuana, four times as likely to have tried inhalants, and five times as likely to have tried cocaine when compared to their Foreclosed peers. The Achieved and Moratorium respondents reported frequencies of experience that fell between the two extremes.

Jones et al. (1989) surveyed 54 respondents, half of which were in a drug and alcohol treatment center and a matched sample of adolescents attending public schools, and
found the clinical respondents to be significantly less "psychosocially mature" than the nonclinical group. In other words, they had lower scores on measures of Achievement and Moratorium, and higher scores on Foreclosure. A more psychosocially mature individual would score higher on Achievement and Moratorium, indicating a sense of exploration and commitment to values and goals that may bring success and happiness in dealing with life.

Cognitive Identity Styles

An individual's identity is an unconscious "self-constructed theory of the self" through which life's events are understood. The interpretation of these events is incorporated into their "self-theory," influencing their behavior. The resulting self-structure "contains the cognitive schemata and scripted behavioral strategies that govern problem-solving" (Berzonsky, 1992, p. 195).

Berzonsky (1988) has operationalized the process of identity development by factoring Marcia's (1966) four identity statuses into three "cognitive identity styles" (hereafter referred to as cognitive styles). Each distinct style reflects the process behind coping, problem solving, and decision making. "By at least adolescence, individuals should have the cognitive ability to analyze issue-relevant information in a critical fashion and to evaluate their own thinking" (Berzonsky, 1990, p. 166). Cognitive styles characteristically employ different social-cognitive
approaches (an integrated collection of behaviors and cognitive responses) to personal decision making and problem solving (Berzonsky, 1993; Berzonsky, Trudeau, & Brennan, 1988). Berzonsky compared the cognitive identity styles with Marcia's identity statuses:

Self explorers, moratoriums and achievers, are Information-oriented, they seek out, elaborate, and evaluate relevant information before making decisions and committing themselves. Foreclosures are Norm-oriented. They focus on the normative expectations held for them by significant referent others, parental figures being an example. Uncommitted diffusions tend to delay and procrastinate until the hedonic cues in the immediate situation dictate a course of behavior. Their Diffuse/Avoidant Orientation involves attempts to avoid confronting problems as long as possible. (Berzonsky, 1990, p. 161)

These orientations furnish the individual with an internal system that will process, revise, and utilize self-relevant information. By late adolescence, most individuals have the cognitive complexity to utilize each of the three cognitive styles but one style tends to govern their behavior. Recent work has ventured into adult identity functioning in relation to adaptive versus maladaptive defense mechanisms (Berzonsky & Kinney, 1994), validating the cognitive style measure as useful among adults.

"Findings that relate cognitive style...to the identity statuses mirror and help to explain the identity-substance use/abuse relationships" (Jones, 1994). Cognitive styles have been found to correlate with alcohol and work-related problems among naval personnel (late adolescents, young adults) within their first 2 years of enlistment (Jones,
Ross, & Hartmann, 1992). Individuals with a Diffuse/Avoidant Orientation displayed greater alcohol and work-related problems when compared to individuals with Information or Normative-oriented styles.

Synthesis of Findings

Psychosocial measures have been used to: (a) identify adolescents prone to developing substance abuse problems, (b) identify substance abusers within adolescent populations, (c) identify individuals who engage in risky sexual practices, and (d) explain motivations for participation in these behaviors.

Typically, individuals with a Diffuse/Avoidant Orientation are more likely to engage in socially deviant behaviors that emanate from inadequate problem solving, decision making, and coping strategies. Diffused adolescents demonstrate "low cognitive integrative complexity, restrict their attention focus in interpersonal interactions, and, tend to avoid facing personal problems--opting to rely upon other-directed problem solving strategies" (Jones et al., 1992, p. 248). These adolescents may be those most in need of prevention/intervention efforts (Jones, 1992; Jones, 1994).

A creative approach to dealing with the adolescent problem may be to identify adolescents with inadequate cognitive styles of coping and facilitate mature development
The obvious immediate remediation for the adolescent problem is to shift those in a state of Diffuse/Avoidance into a more functional style of coping and problem solving (Jones, 1994). The trick in doing so is to identify the mechanisms of change, the elements which act as a causative agent in moving individuals from one stage of identity development to another (Jane Kroger, personal communication, February 5, 1994) and is the task at hand for researchers interested in intervening with identity development.

Psychosocial correlates of deviant behavior among adolescents make it reasonable to expect similar correlates among adult prison populations. Though the phase of identity development is initiated during adolescence, many continue to struggle with it throughout the lifespan, particularly in early adulthood. The purpose of this study is to relate identity styles of cognitive orientation to choices of criminal activity. Specifically, the study will examine relations between cognitive style and previous criminal activity (including age at first drug use, alcohol use, and arrest; number of arrests, convictions, and times an offenses occurred per inmate; length of time previously spent in prison and/or jail; and previous conviction categories) and current criminal behavior (including parole violation, degree of primary offense, primary offense, and current conviction category).
CHAPTER III
METHODS

The methods used in exploring the nature of criminal behavior as it relates to identity development within the individual are examined in this chapter. The 13 hypotheses driving the investigation are introduced, followed by characteristics of the sample. Information regarding measurement, research design, and specific procedures for data collection completes the chapter.

Hypotheses

The following hypotheses are presented as an overview and are further delineated in Chapter IV:

Research Question #1: Is there a relationship between cognitive style and previous criminal activity?

1. There is no relationship between cognitive style and age at first illegal drug use.
2. There is no relationship between cognitive style and age at first alcohol use.
3. There is no relationship between cognitive style and age at first arrest.
4. There is no relationship between cognitive style and number of arrests per inmate.
5. There is no relationship between cognitive style and number of convictions per inmate.
6. There is no relationship between cognitive style and number of times an offense occurred per inmate.

7. There is no relationship between cognitive style and length of time previously spent in prison.

8. There is no relationship between cognitive style and previous conviction categories.

Research Question #2: Is there a relationship between cognitive style and current criminal behavior?

9. There is no relationship between cognitive style and age (though age is not a crime, it was placed with the "current questions" because it reflects the current status of the individual).

10. Parole violation is independent of cognitive style.

11. Degree of felony of the primary offense (most serious active offense) is independent of cognitive style.

12. There is no relationship between cognitive style and primary offense

13. There is no relationship between cognitive style and current conviction categories.

Sample

Males (N=194) within the adult prison population of the Utah State Department of Corrections comprised the sample
for this study. Of the 194, 17 were excluded from the analysis due to incomplete response, leaving a working sample of 177. Ages ranged from 17.37 to 69.61 with a mean age of 32.13 and standard deviation of 10.36. The age distribution was somewhat skewed. Therefore, the median age, 30.61, is also reported. Educational level varied with inmates finishing, on average, 11.39 years of schooling. The lowest grade of completed schooling was 6th while the highest was 18 (master's degree). Inmates were more often not married, 77.3% (divorced or never married), than married 22.6%, and had an average of 1.20 dependents. Average age at first arrest was 19.32, at first alcohol use, 14.12; and at first illegal drug use, 15.12. The total amount of time served in prisons and/or jails averaged 4.83 years.

Measurement

Inmates completed a two-part, 55-item questionnaire which explored demographic/criminal history and cognitive style (see Appendix A).

Demographics and Criminal History

Sixteen items tap demographic information regarding personal, educational, and criminal history. Personal history questions involved date of birth, age at first alcohol use, and age at first illegal drug use. Educational background was obtained by asking the last grade of schooling completed, any degrees received outside of prison,
if high school or college courses were taken during previous incarcerations, and if any degrees were obtained while inside prison.

Information concerning criminal history and current criminal activity was obtained by asking if it was the inmate's first time in prison, if they were parole violators, their current conviction, previous convictions, number of arrests, age at first arrest, and total length of time served in prison and/or jails. Four criminal behavior categories were used: (a) property, (b) violent/personal, (c) drug, and (d) sex (a fifth category, public order, was omitted from analysis due to infrequent response).

Cognitive Style

The second portion of the questionnaire was the 39-item Cognitive Style Inventory (Berzonsky, 1988), chosen because of "fit" with the subjects being sampled. The inventory provides a greater ability to classify individuals than other measures (Jones, Akers, & White, in press), and uniquely addresses the developmental processes involved with coping and problem solving (Berzonsky, 1992). Cognitive style was measured by asking inmates to respond to statements such as "I've spent a great deal of time thinking about what I should do with my life" (Information Orientation) on a scale from 1 (very much like me) to 5 (very much unlike me).
Internal reliability (coefficient alpha) for the instrument has previously been calculated at .73 for the Diffuse/Avoidant scale, .66 for the Normative scale, and .62 for the Information scale (Berzonsky, 1992). Test-retest comparisons over a 5-week interval were .86 for the Information scale, and .78 for both the Normative and Diffuse/Avoidant scales (Berzonsky, 1990).

The measure has evidence of construct validity through convergent relations with Grotevant and Adams' (1984) Objective Measure of Ego Identity Status, which utilizes the four identity statuses mentioned earlier: Achieved, Moratorium, Foreclosure, and Diffused. Correlations between the Diffusion status X Diffuse/Avoidant style ($r = .62$) and the Foreclosure status X Normative style ($r = .47$) were substantial (Berzonsky, 1989). The Achieved status X Information style yielded a notable correlation as well ($r = .25$) (Berzonsky, 1989). The Moratorium status X Information style was not significant ($r = .06$); but, when the effects of commitment were partialed out ($r = -.63$), an ample correlation was generated ($r = .34$) (Berzonsky, 1992).

Research Design

A correlational design was employed to examine relationships between cognitive style and criminal activity. The relationship between cognitive style, age, and degree of felony was also examined.
Issues dealing with the personal nature of the questionnaire and quality of response were a concern with the particular population being sampled. The Bureau of Justice Statistics (1993b) (a branch of the U.S. Department of Justice) offered the following statement regarding information obtained from inmates:

Independent researchers, studying how truthfully prison inmates respond to survey questions, have found that the responses generally agree with data from official records. Also, findings aggregated from the inmate surveys do not differ appreciably from information reported by correctional authorities, and information from separate surveys fit coherent and consistent patterns. (p. 2)

Guaranteed confidentiality was promised to assist with honesty and reliability of inmate response.

Another concern with the survey involved inmate response to current and past convictions. According to prison officials, sex offenders are least likely to report their crime accurately due to its ignoble status among inmates and fear that other inmates may see their response.

To strengthen the self-report data, additional demographic and "public-access" criminal information was obtained through the state computer system (for the 91% who offered inmate identification numbers). This provided a relatively simple means of validating the self-reported demographic and criminal information. If general information was reported consistently, greater confidence could be placed in cognitive style responses.
Items available for cross-checking with the state computer system include: last grade completed, parole violation, convicted offenses during the past 12 years, and total number of convictions. Results of this cross-check analysis are discussed in Chapter IV.

Ethnicity was the only item not allowed for retrieval from the state computer system. Based on the UDC annual report, the inmate racial composition for October 1992 consisted of 68.5% Caucasian, 16% Hispanic, 9% Black, and 6% other (Franchina, 1993, p. 133). In 1990, the State of Utah's racial makeup included 93.8% Caucasian, 4.9% Hispanic, 0.7% Black, and 5.5% other (1990 Census Brief: Minorities of Utah: Second in a Series of 1990 Census Analysis, 1991). Though the state's inmate ethnic minority composition is well below the national average, the previous comparison illustrates the racial imbalance between Utah's general population and Utah's inmates. This trend is consistent with the overabundance of minority inmates throughout the nation.

Procedures

The Personal Opinion Survey was administered by the author in the UINTA 5 "Reception and Orientation" facility in Bluffdale, Utah. This facility houses approximately 130 new inmates awaiting psychological evaluation, sentencing
reports, and housing assignments. Four sessions conducted
during a 6-week interim produced a sample size of 194.

Inmates were informed they were participating in a
research project for Utah State University that was
interested in their personal opinions regarding values,
beliefs, etc. They were informed their responses would
remain confidential—not to be shared with family,
therapists, parole or probation officers, police, judges,
etc. Brief instructions at the beginning of the
questionnaire explained the protocol and informed
respondents of the voluntary nature and confidentiality of
their participation. The surveys were dispensed directly to
the inmates in their cells. The author explained the
instructions and informed inmates he would return in 15 to
20 minutes to retrieve the surveys.
CHAPTER IV
RESULTS

Analyses of the data are reported in this section. First, a unique opportunity to assess consistency in response and accuracy of self-report items through cross-referencing with the state computer system is provided. Second, a brief discussion of reliability and validity estimates, along with the measurement scoring procedures, is offered. Finally, results of the statistical tests conducted on the 13 hypotheses suggested in Chapter III are reported.

Inmate Data Base

Where possible, cross-checks were conducted using computer-retrieved information in order to validate self-reports. The following variables were considered: last grade of schooling completed, violation of parole, specific criminal categories, and total number of crimes. Prior to presenting the results for each comparison, expected direction of the "cross-check differences" is suggested along with an explanation for these expectations.

Grade

The "last grade completed" self-report question should be similar to the computer information as both retrieve this information from the same source--the inmate. Among inmates
offering identification numbers and last-grade information (n = 143), 74.8% agreement exists for those claiming either to have not reached 12th grade or to have reached 12th grade or higher.

A possible explanation for some of the discrepancy rests in the fact that the computer data's report of the last grade completed is from the time the inmate first came into the system. It is conceivable that the inmate returned to school and advanced through a higher grade than was reported on the computer. This may explain why 47.1% claimed to have finished 12th grade on the self-report survey while the computer reports only 43.2% completing 12th grade.

Visual inspection reveals only minor discrepancies, with reported grades completed generally being off by only a year. Generally, the majority of respondents gave consistent information with the state data base.

Parole Violation

Inmate-reported parole violation should mirror the computer-reported parole violation as the reason for current incarceration. These data (n = 152) should be similar because most inmates are aware of their current parole situation and know the exact stipulations. The frequency of correctly reported response was, indeed, similar--89.5% of the time. Of the self-reported parole violators, 38.1% admitted to the infraction while the computer reported
36.6%. A phi coefficient (φ = .78) was calculated for this dichotomous variable and supports compatibility in response.

Of the 152 respondents answering this question, only 5 claimed not to be a parole violator while 11 claimed to be a violator when, according to the computer, they were not. This discrepancy may be explained by inmates who were unaware of charges against them, not fully aware of how the "system" works (unaware of actual parole violation, felt imprisonment was for current charge only and not in addition to a parole violation), misunderstanding the question, or the parole violation not yet available in the computer system. Important to note is that 50 and 86 (136 total, out of 152, or 89.5%) correctly reported "yes" or "no," respectively, to this question.

**Criminal Categories**

Self-reported categories may be expected to be higher than the state computer data due to overreporting (e.g., reporting crimes arrested for as well as convicted) and/or out-of-state crimes. Percentage of correctly reported convictions by category (see Table 1) was obtained by matching inmates who reported one or more convictions within a certain category against computer-reported convictions for those categories.

Overall totals for criminal categories revealed comparable patterns. All categories were generally
Table 1

**Percentage of Consistently Reported Conviction Categories**

<table>
<thead>
<tr>
<th>Computer Categories</th>
<th>n&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Property</th>
<th>Violent/Personal</th>
<th>Drugs</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
<td>112</td>
<td>80.1%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Violent/Personal</td>
<td></td>
<td></td>
<td>80.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drugs</td>
<td>41</td>
<td></td>
<td></td>
<td>85.7%</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td>89.4%</td>
</tr>
</tbody>
</table>

<sup>a</sup>n's are those reported by the state computer system before comparisons were made.

<sup>b</sup>Inmates can be in more than one category at a time.

consistent with frequencies for number of crimes within each category.

In reporting property crime convictions, 41.2% confessed to at least one conviction while 25.4% claimed at least two. According to the computer, these estimates are similar, with 35.7% convicted at least once for property crimes and 21.4% convicted at least twice.

Violent/Personal crime convictions are a different story. Self-reporters claim more convictions (83) than are accounted for on the computer (52). Again, some crimes may be reported which never made it to the state level or may be out-of-state offenses not in the state's computer system. Discrepancies may also exist as inmates may report a "less
infamous" crime to avoid possible identification, for example, as a sex offender.

Of those reporting drug crimes, only 61.9% claim at least one conviction and 23.8% claim two. Similarly, the computer reported 70.7% with one and 22.0% with two convictions.

As expected, sex convictions were under reported. Only seven people claimed one conviction, three claimed two, and one claimed three convictions versus the computer information declaring that 21 of the 161 were convicted for one sex crime, two were convicted for two, and one for three. Considering the nature of this crime and the infamy it holds within prison walls, the disparity is not surprising.

Total Offenses

The total number of self-reported crimes was expected to be higher than the computer's total number of convicted crimes because of crimes that never reached the state prison system and/or out-of-state crimes that will never be a part of the state system. Two "groupings" were compared within each inmate's record: one conviction and two or more convictions.

A 70% agreement was found for self-reported versus computer-reported number of convictions using this grouping technique. Among the overall total number of self-reported crimes, 36 inmates (23.2%) claimed to have only one
conviction while the computer reported 44 inmates (28.8%) with only one conviction. Inmates who reported two or more convictions, 76.8%, can be compared to the 71.2% reported by the computer.

Collectively, of the 161 inmates on the computer system, there were, overall, more computer-reported crimes (476) than self-reported crimes (427). This anomaly may be due to inmates underreporting certain previous crimes. For example, an inmate may feel that reporting one previous occurrence of theft was sufficient, rather than reporting that he had three previous theft convictions. Given the memory required for inmates to accurately report all convictions (note—-inmates were asked to give their best estimate if they had trouble remembering), the numbers are relatively close.

Cross-Check Summary

Comparisons between self-report and computer information support the validity of self-report for this study. It should be restated for clarity that 161 out of 177 inmates (91%) offered inmate identification numbers which allowed entrance to the state's "public access" inmate information data base.

In general, most variables reflect expected trends and are relatively similar to each other. Discrepancies that do exist are minor and, rather than assuming inmates have lied, may reflect general measurement error. For the most part,
these findings support the statement issued by the Bureau of Justice Statistics (1993b) that "[inmate] responses generally agree with data from official records...[and] do not differ appreciably" (p. 2).

Reliability and Validity

Cronbach alpha coefficients were calculated to determine internal consistency of the cognitive style subscales. The subscale estimates include: Information .72; Normative .60; and Diffuse/Avoidant .79. These estimates are similar to previous research utilizing this measure (Berzonsky, 1990; Berzonsky & Sullivan, 1992; Jones et al., 1992) and suggest acceptable levels of internal reliability.

Correlation coefficients (Pearson's r) between the three subscales demonstrate directionality and provide evidence of construct validity for the measure. Interscale correlations verified theoretically relevant relationships—Information vs. Normative (r = .54), Information vs. Diffuse/Avoidant (r = -.20), and Normative vs. Diffuse/Avoidant (r = -.14). These, too, were comparable to results reported in previous studies.

Both the Information and the Normative cognitive styles contain elements of strong commitment to lifestyle, values and beliefs and is reflected in the moderate (r = .54) positive correlation. Information and Diffuse/Avoidant scores should exhibit opposite or nonrelated trends, as
noted by the ($r = -.20$) weak negative correlation, because levels of commitment for Diffuse/Avoidant respondents are theoretically low. Finally, the Normative and Diffuse/Avoidant scores should also exhibit opposite or nonrelated trends ($r = -.14$), as levels of commitment for Normative scores are typically high while Diffuse/Avoidant scores are typically low. Conceptually, as well as empirically, all correlations support theoretically prescribed relationships.

Cognitive Style Scoring Procedures

It is suggested that choice of criminal behavior, as well as criminal history, is dependent on cognitive style. Cognitive style scores were calculated based on responses to a five-point Likert scale from "least like me" to "most like me." The inventory contains three subscales, Information, Normative, and Diffuse/Avoidant styles of orientation. The items for each of the scales were tallied and transformed into a Z-score, as suggested by Berzonsky and Sullivan (1992). An individual's cognitive style was distinguished as the highest Z-score among the three. For the ensuing hypothesis testing, cognitive style represents one independent, categorical variable with three levels.

Hypotheses Testing

Two major questions guide the present research. The hypotheses being tested follow each of the research
questions. A brief description of operationalization of the variables follows each hypothesis along with statistical tests. Further discussion on practical implications from the hypothesis testing appears in Chapter V.

Criminal History

Research Question #1: Is there a relationship between cognitive style and previous criminal activity?

H0₁: There is no relationship between cognitive style and age at first illegal drug use.

Age at first illegal drug use was answered in a self-report format and compared with cognitive style. Cognitive style was entered as the independent variable, having three levels. In this, and succeeding hypotheses (except for H₀₁₀ and H₀₁₁), the Kruskal-Wallis test was used as a more conservative alternative to the more popular inferential tests.

It should be noted that ANOVA was originally used for the hypothesis testing and produced comparable results. Concern with the critical nature of these results (i.e., the potential influence with policy decisions) along with concern over the violation of assumptions necessary for ANOVA (i.e., nonrandom sample, variables that exhibit nonnormal distributions, and variables that demonstrate unequal variances) justified use of the more conservative nonparametric test.
The Kruskal-Wallis uses a chi-square distribution and tests whether variables are from the same population. The resulting Kruskal-Wallis $H$ statistic produces a statistical probability and is reported as a chi-square ($\chi^2$) value, corrected for ties. Although the Kruskal-Wallis tests for shifts in the population median, mean scores are reported for ease of interpretation. The observed statistic suggests the probability of whether or not age at first illegal drug use is basically the same for all three cognitive style groups.

Additionally, eta's were calculated in order to offer a general idea of shared variability between cognitive style and the variable of interest. These variables supplement statistical tests by offering information that assist with practical interpretation of the data.

Previous work has demonstrated that diffused adolescents are more likely to use drugs at an earlier age (e.g., Jones & Hartmann, 1988). With this knowledge, an alternative hypothesis was formulated:

$H_{a_1}$: There is a relationship between cognitive style and age at first illegal drug use, individuals with a Diffuse/Avoidant style are more likely to use drugs at an earlier age.

The directional, one-tailed Kruskal-Wallis, $\chi^2 = 5.38$ ($N = 147$), was significant ($p < .05$), suggesting that age at first illegal drug use is related to cognitive style, supporting the alternative hypothesis. Calculations of the
Kruskal-Wallis within each cognitive style pairing illustrates the unique contributions.

Individuals with a Diffuse/Avoidant style, $\chi^2 = 5.75$, use illegal drugs at a significantly ($p < .05$) younger age (14.30) than those with a Normative (16.33) style. The disparity between Information (14.91) and Diffuse/Avoidant (14.30) was not significant ($\chi^2 = .58, p > .05$). Normative versus Information style was also not significant ($\chi^2 = 1.10, p > .05$). The corresponding eta value (.18), squared, indicated that 3.4% of the variability in age at first illegal drug use was shared with cognitive style.

$H_0_2$: There is no relationship between cognitive style and age at first alcohol use.

Age at first alcohol use was answered in a self-report format and was compared with cognitive style. Similar to the first hypothesis, previous work has demonstrated that diffused adolescents are likely to use alcohol at an earlier age (e.g., Jones & Hartmann, 1988). Again, based on previous work, an alternative hypothesis was formulated:

$H_{a_2}$: There is a relationship between cognitive style and age at first alcohol use, individuals with a Diffuse/Avoidant style are more likely to drink alcohol at an earlier age.

The one-tailed Kruskal-Wallis, $\chi^2 = 3.65$, ($N = 162$) $p > .05$, does not support this hypothesis. There was no difference in age at first alcohol use across cognitive styles. The ages for the Information group, 14.00, Normative group, 14.82, and Diffuse/Avoidant group, 13.60,
reflect the expected trend, but differences between the group means are not significant. Likewise, the relatively weak $\eta = .14$ corresponds with the insignificant $\chi^2$ statistic.

$Ho_3$: There is no relationship between cognitive style and age at first arrest.

Age at first arrest ($N = 171$) was answered in a self-report format and was considered dependent on cognitive style. A significant value ($p < .05$) was found using the Kruskal-Wallis ($\chi^2 = 6.89$), suggesting that age at first arrest is related to cognitive style.

The Diffuse/Avoidant group average age of 17.06 was significantly younger ($\chi^2 = 6.16, p < .05$) than the Normative group average age of 21.10. The Information group age of 20.49 followed the same trend, but was not different from the Diffuse/Avoidant ($\chi^2 = 3.51, p > .05$), and Normative group ($\chi^2 = .00, p > .05$). The corresponding eta (.19), squared, indicated that 3.8% of the variability in age at first arrest was shared by cognitive style.

$Ho_4$: There is no relationship between cognitive style and number of arrests.

Number of arrests was measured in a self-report format and reflects the total number of arrests in the inmate's lifetime. Cognitive style was considered the independent variable.

Number of arrests ($N = 168$) was related to cognitive style, using the Kruskal-Wallis ($\chi^2 = 11.69$), at the .01
level. Number of arrests, 11.44, for the Diffuse/Avoidant group was significantly larger ($p < .01$) than the Normative group ($\chi^2 = 11.40$) at 7.02. The Information group fell in the middle, with 9.10 arrests, neither notably more than ($p > .05$) the Normative group ($\chi^2 = 1.24$) or less than the Diffuse/Avoidant ($\chi^2 = 3.61$) group. Age at first arrest shared 7.3% of the variability (eta = .27) with cognitive style.

$H_0$: There is no relationship between cognitive style and number of convictions.

Number of convictions per inmate is a combination of previous and current reported convictions (all categories combined). This summed value is the dependent variable. The Kruskal-Wallis statistic, $\chi^2 = 9.31\ (N = 177)$, confirmed differences among the groups.

As with previous comparisons, primary differences continue to exist between the Diffuse/Avoidant and Normative styles ($\chi^2 = 8.92$, $p < .01$) of orientation. The Diffuse/Avoidant group had 2.97 convictions, significantly more than the Normative group, with only 2.23. Again, the Information group (2.41) fell between the two extremes and showed no significant differences ($p > .05$) with either the Diffuse/Avoidant ($\chi^2 = 3.61$) or Normative ($\chi^2 = .37$) group. Number of convictions shared 4.7% of the variability (eta = .22) with cognitive style.
Ho₆: There is no relationship between cognitive style and number of times an offense occurred per inmate.

Number of times an offense occurred is a combination of previous and current reported convictions and indicates how often crimes within a specific criminal category occurred for each inmate. Cognitive style was entered as the independent variable, having three levels. Total number (N = 177) of property, $\chi^2 = 7.23$, and drug, $\chi^2 = 7.54$, crimes produced significant Kruskal-Wallis statistics ($p < .05$), indicating that significant differences exist between groups (see Table 2).

Further testing of categories within cognitive style pairings revealed which pairs were significant. Among property crimes, Diffuse/Avoidant styles had committed a notably higher ($\chi^2 = 6.39, p < .05$) number of property offenses than Normative styles. Information styles fit between the two extremes and did not yield significant differences ($p > .05$) with either Diffuse/Avoidant ($\chi^2 = 3.23$) or Normative ($\chi^2 = .45$) styles.

For the drug offenders, the Normative style group committed a noticeably higher ($\chi^2 = 6.39, p < .01$) number of drug offenses (.59 per inmate) than the Information style group (.23). This is one of the few times that Diffuse/Avoidant styles fit between, rather than at the extremes, as it displayed no difference ($p > .05$) between Normative ($\chi^2 = 1.55$) and Information style groups ($\chi^2 = 2.97$). Cognitive
Table 2

Mean Number of Criminal Offenses by Cognitive Style

<table>
<thead>
<tr>
<th>Crime</th>
<th>Information (n=44)</th>
<th>Normative (n=61)</th>
<th>Diffuse/Avoidant (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Property</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>1.23</td>
<td>1.10</td>
<td>1.78b</td>
</tr>
<tr>
<td>SD</td>
<td>1.10</td>
<td>1.09</td>
<td></td>
</tr>
<tr>
<td>Personal/Violent</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>.66</td>
<td>.26</td>
<td>.61</td>
</tr>
<tr>
<td>SD</td>
<td>1.14</td>
<td>.54</td>
<td>.93</td>
</tr>
<tr>
<td>Drugs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>.23b</td>
<td>.59a</td>
<td>.46</td>
</tr>
<tr>
<td>SD</td>
<td>.71</td>
<td>1.27</td>
<td>.95</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>.16</td>
<td>.13</td>
<td>.03</td>
</tr>
<tr>
<td>SD</td>
<td>.48</td>
<td>.50</td>
<td>.17</td>
</tr>
</tbody>
</table>

Note. Means with different subscripts differ significantly at p < .05.
style shared 5.6% of the variability with property
occurrences, 3.9% with violent/personal occurrences (which
was not significant), and 1.8% with drug occurrences.

Ho: There is no relationship between cognitive style
and length of time previously spent in prison.

Amount of time previously spent in prison and/or jail
was answered in a self-report format. This interval level,
dependent variable was measured in years and months. A
significant Kruskal-Wallis, $\chi^2 = 8.50$, ($N = 166$) $p < .05$,
suggests that amount of time previously spent in prison
and/or jail is related to cognitive style.

Kruskal-Wallis comparisons further delineated specific
differences. The Diffuse/Avoidant group spent 5.97 years in
prison and/or jail, significantly more ($p < .01$) than the
Normative group ($\chi^2 = 7.97$) who had accumulated 3.74 years.
The Information group ($\chi^2 = .38$ with Normative, $\chi^2 = 3.36$
with Diffuse/Avoidant) fell in the middle at 4.43 years ($p >
.05$). Four percent of the variability in total time spent
in prison and/or jail is shared with cognitive style.

Ho: There is no relationship between cognitive style
and previous conviction categories.

The previous conviction question was answered in an
open ended self-report format. This variable was
operationalized to indicate whether a specific criminal
category occurred for each case and was converted to
percentages. Total number of occurrences of each crime per
inmate was not considered in this question.
Significant differences ($N = 177, p < .05$) were found for previous property ($\chi^2 = 7.24$) and violent/personal ($\chi^2 = 5.99$) crimes using the Kruskal-Wallis test (see Table 3 for percentage of previous convictions by criminal category versus cognitive style). Within the previous property crime category, significant pairings exist for both the Diffuse/Avoidant ($\chi^2 = 5.20, p < .05$) versus Normative group and the Diffuse/Avoidant ($\chi^2 = 5.09, p < .05$) versus Information group. The Diffuse/Avoidant group (62.5%) was notably higher in both pairings. The Normative versus Information group pairing ($\chi^2 = .03, p > .05$) was not significant.

Among the previous violent/personal category, the Normative group was significantly lower than both the Information ($\chi^2 = 5.42, p < .05$) and the Diffuse/Avoidant ($\chi^2 = 4.35, p < .05$) group. The Information versus Diffuse/Avoidant ($\chi^2 = .04, p > .05$) group percentages did not differ appreciably. The shared variability (eta squared) of property and violent/personal crimes with cognitive style was 4.11% and 3.40%, respectively.

**Current Criminal Behavior**

**Research Question #2:** Is there a relationship between cognitive style and current criminal behavior?

**H_0:** There is no relationship between cognitive style and age.
Table 3

Percent Occurrence of Previous Conviction by Cognitive Style

<table>
<thead>
<tr>
<th>Crime</th>
<th>Information (n=44)</th>
<th>Normative (n=61)</th>
<th>Diffuse/Avoidant (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
<td>40.91&lt;sub&gt;a&lt;/sub&gt;</td>
<td>42.62&lt;sub&gt;a&lt;/sub&gt;</td>
<td>62.50&lt;sub&gt;b&lt;/sub&gt;</td>
</tr>
<tr>
<td>Personal/</td>
<td>27.27&lt;sub&gt;a&lt;/sub&gt;</td>
<td>9.84&lt;sub&gt;b&lt;/sub&gt;</td>
<td>23.61&lt;sub&gt;a&lt;/sub&gt;</td>
</tr>
<tr>
<td>Violent Drugs</td>
<td>11.36</td>
<td>19.67</td>
<td>19.44</td>
</tr>
<tr>
<td>Sex</td>
<td>6.82</td>
<td>3.28</td>
<td>1.39</td>
</tr>
</tbody>
</table>

Note. Criminal categories by cognitive style are presented as a percentage. Within rows, percentages with different subscripts differ significantly at \( p < .05 \).

This hypothesis examines inmate cognitive style in conjunction with current age. A nonsignificant Kruskal-Wallis, \( \chi^2 = 3.67 \) (\( N = 171 \), \( p > .05 \)), was found, indicating no relationship between cognitive style and age.

The Information group was 32.13 years old at the time of the survey, the Normative group, 34.10, and the Diffuse/Avoidant group, 30.42 years of age. The corresponding eta .15 (2.4% of the variability) reflects the lack of contribution of age to the explanation of cognitive style.

\( H_{0,10} \): Parole violation is independent of cognitive style.

The parole violation question is a dichotomous "yes" or "no" variable and indicates whether an inmate violated parole or is imprisoned for reasons other than parole.
violation. A chi-square test was utilized to determine independence of the variable from cognitive styles. A non-significant chi-square, $\chi^2(2, N = 176) = 1.02, p > .05$, suggests that the two variables are, in fact, independent. The minuscule eta squared, representing .58% of the variability, corresponds with the observed chi-square.

$H_{0_{11}}$: Degree of felony of the primary offense (most serious active offense) is independent of cognitive style.

Degree of felony of the primary offense (most serious active offense) consists of three groups--first, second, and third degree felonies which received sentences of 5 years to life, 1 to 15 years, or zero to 5 years, respectively. Cognitive style, with its three levels, is the independent variable.

The chi-square value, $\chi^2(4, N = 151) = 4.70, p > .05$, suggests independence between degree of felony for the primary offense and cognitive styles. The eta squared (1.85% of the variability) also corresponds with the non-significant chi-square.

$H_{0_{12}}$: There is no relationship between cognitive style and primary offense.

The primary offense (most serious active offense) was provided by the state computer system and divided into the four UDC categories previously mentioned. $H_{0_{12}}$ refers to the crime that the UDC considers most serious and for which the total sentence may not be complete. Inmates are often released from prison before their original sentence is
complete, i.e., placed on parole. When parole is violated a discrepancy may occur between the current offense and primary offense data because the current incarceration may be for a less serious crime. Ho$_{13}$ refers only to the crime for which the individual is currently incarcerated.

Primary offense ($N = 177$) was converted to percentages in each of the four criminal categories. The Kruskal-Wallis statistic was used to explore relationships with cognitive style. Nonsignificant values ($p > .05$) exist between the property ($\chi^2 = 2.98$), violent/personal ($\chi^2 = .15$), drug ($\chi^2 = 2.85$), and sex ($\chi^2 = 2.30$) primary offenses. Mean scores are reported (see Table 4) but, as all categories were not significant, additional tests were not conducted. Corresponding eta's reflect the lack of explained variability, ranging from $0.08$ to $1.69$ (eta squared).

Ho$_{13}$: There is no relationship between cognitive style and current conviction categories.

Current conviction was answered in an open-ended, self-report format. This variable was operationalized to indicate whether a specific criminal category occurred for each inmate and was converted to percentages. Again, cognitive style was the independent variable.

Current property ($\chi^2 = 1.01$), violent/personal ($\chi^2 = 3.62$), and sex ($\chi^2 = 3.75$) convictions produced no significant differences ($N = 177$, $p > .05$) among cognitive styles utilizing the Kruskal-Wallis test. However, current
Table 4
Percent Occurrence of Primary Offense by Cognitive Style

<table>
<thead>
<tr>
<th>Crime²</th>
<th>Information (n=44)</th>
<th>Normative (n=61)</th>
<th>Diffuse/Avoidant (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
<td>40.91</td>
<td>40.98</td>
<td>54.17</td>
</tr>
<tr>
<td>Personal/Violent Drugs</td>
<td>13.64</td>
<td>37.33</td>
<td>15.28</td>
</tr>
<tr>
<td>Sex</td>
<td>13.64</td>
<td>8.20</td>
<td>5.56</td>
</tr>
</tbody>
</table>

²Criminal categories by cognitive style are reported in percentage format.

drug convictions, \( \chi^2 = 10.64 \ (N = 177, \ p < .01) \), did yield significant comparisons (see Table 5).

A Kruskal-Wallis comparisons for each of the three cognitive style pairs (Normative vs. Information, Normative vs. Diffuse/Avoidant, and Information vs. Diffuse/Avoidant) within the drug category illustrates the unique differences between the groups. The Normative group's current drug conviction percentage of 27.9 was significantly higher \( (\chi^2 = 9.29, \ p < .01) \) than both the Information group \( (4.6\%) \) and the \( (\chi^2 = 3.96, \ p < .05) \) Diffuse/Avoidant group \( (13.9\%) \). The Information group \( (\chi^2 = 2.55, \ p > .05) \) was not significantly different than the Diffuse/Avoidant group.
Table 5

Percent Occurrence of Current Conviction by Cognitive Style

<table>
<thead>
<tr>
<th>Crime</th>
<th>Information (n=44)</th>
<th>Normative (n=61)</th>
<th>Diffuse/Avoidant (n=72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Property</td>
<td>56.82</td>
<td>47.54</td>
<td>54.17</td>
</tr>
<tr>
<td>Personal/Violent Drugs</td>
<td>22.73</td>
<td>13.11</td>
<td>26.39</td>
</tr>
<tr>
<td>Drugs</td>
<td>4.55\textsubscript{a}</td>
<td>27.87\textsubscript{b}</td>
<td>13.89\textsubscript{a}</td>
</tr>
<tr>
<td>Sex</td>
<td>9.09</td>
<td>6.56</td>
<td>1.39</td>
</tr>
</tbody>
</table>

Note. Criminal categories by cognitive style are presented as a percentage. Within rows, percentages with different subscripts differ significantly at \( p < .05 \).

The shared variability (eta squared) of current drug conviction with cognitive style was 6.05%. Property, violent/personal, and sex crimes shared .57%, .02%, and 2.13% of the variability with cognitive style, respectively.

Review of Statistical Outcomes

The "previous criminal history" research question yielded a number of significant relations with cognitive style (see Table 6). Significant differences between styles existed primarily between the Normative and Diffuse/Avoidant groups. The Information group scores generally fell in the middle and were seldom different than the other styles.
### Table 6

**Mean Cognitive Style Outcomes by Hypothesis: Research Question 1**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Mean Response</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Info (n = 44)</td>
<td>Norm (n = 61)</td>
<td>Diff (n = 72)</td>
<td></td>
</tr>
<tr>
<td>Ho₁: age first drug</td>
<td>14.91</td>
<td>16.33&lt;sub&gt;b&lt;/sub&gt;</td>
<td>14.30&lt;sub&gt;c&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Ho₂: age first alcohol</td>
<td>14.00</td>
<td>14.82</td>
<td>13.60</td>
<td></td>
</tr>
<tr>
<td>Ho₃: age first arrest</td>
<td>20.49</td>
<td>21.10&lt;sub&gt;b&lt;/sub&gt;</td>
<td>17.06&lt;sub&gt;c&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Ho₄: # arrests</td>
<td>9.10</td>
<td>7.02&lt;sub&gt;b&lt;/sub&gt;</td>
<td>11.44&lt;sub&gt;c&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Ho₅: # convictions</td>
<td>2.41</td>
<td>2.23&lt;sub&gt;b&lt;/sub&gt;</td>
<td>2.97&lt;sub&gt;c&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Ho₆: # times occurred</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>1.23</td>
<td>1.10&lt;sub&gt;b&lt;/sub&gt;</td>
<td>1.78&lt;sub&gt;c&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Violent/Personal</td>
<td>.66</td>
<td>.26</td>
<td>.61</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>.23&lt;sub&gt;b&lt;/sub&gt;</td>
<td>.59&lt;sub&gt;c&lt;/sub&gt;</td>
<td>.46</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.16</td>
<td>.13</td>
<td>.03</td>
<td></td>
</tr>
<tr>
<td>Ho₇: time spent</td>
<td>4.43</td>
<td>3.74&lt;sub&gt;b&lt;/sub&gt;</td>
<td>5.97&lt;sub&gt;c&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Ho₈: previous conviction</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>.41&lt;sub&gt;b&lt;/sub&gt;</td>
<td>.43&lt;sub&gt;b&lt;/sub&gt;</td>
<td>.63</td>
<td></td>
</tr>
<tr>
<td>Violent/Personal</td>
<td>.27&lt;sub&gt;b&lt;/sub&gt;</td>
<td>.10&lt;sub&gt;c&lt;/sub&gt;</td>
<td>.24&lt;sub&gt;b&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td>.11</td>
<td>.20</td>
<td>.19</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.07</td>
<td>.03</td>
<td>.01</td>
<td></td>
</tr>
</tbody>
</table>

**Note.** Each hypothesis begins with the general form "There is no relationship between cognitive style and..." Within rows, means with different subscripts differ significantly at $p < .05$.  
*Info = Information, Norm = Normative, Diff = Diffuse/Avoidant.*
The hypotheses that make up research question two, dealing with current criminal activity, were ineffective at classifying within cognitive styles. Most differences observed with the previous crimes tend to wash out in the current crime categories. The only consistent differentiation was in the drug category (see Table 7). Normative and Diffuse/Avoidant group means continued to exhibit a higher occurrence of that offense than the Information group. Mean scores, along with significantly different style pairings, were reported for each of the three cognitive style groups.
Table 7

Mean Cognitive Style Outcomes by Hypothesis: Research Question 2

<table>
<thead>
<tr>
<th>Hypothesis*</th>
<th>Infob (n = 44)</th>
<th>Norm (n = 61)</th>
<th>Diff (n = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho9: age</td>
<td>32.13</td>
<td>34.10</td>
<td>30.42</td>
</tr>
<tr>
<td>Ho12: primary offense</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>.41</td>
<td>.41</td>
<td>.54</td>
</tr>
<tr>
<td>Violent/Personal</td>
<td>.14</td>
<td>.37</td>
<td>.15</td>
</tr>
<tr>
<td>Drug</td>
<td>.07</td>
<td>.18</td>
<td>.13</td>
</tr>
<tr>
<td>Sex</td>
<td>.14</td>
<td>.08</td>
<td>.06</td>
</tr>
<tr>
<td>Ho13: current conviction</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>.57</td>
<td>.48</td>
<td>.54</td>
</tr>
<tr>
<td>Violent/Personal</td>
<td>.23</td>
<td>.13</td>
<td>.26</td>
</tr>
<tr>
<td>Drug</td>
<td>.05c</td>
<td>.28d</td>
<td>.14d</td>
</tr>
<tr>
<td>Sex</td>
<td>.09</td>
<td>.07</td>
<td>.01</td>
</tr>
</tbody>
</table>

Note. Each hypothesis begins with the general form "There is no relationship between cognitive style and..." Within rows, means with different subscripts differ significantly at p < .05.
*Ho10 and Ho11 are categorical and do not fit in a means table (both were nonsignificant).
bInfo = Information, Norm = Normative, Diff = Diffuse/Avoidant.
Results from this study have shown that cognitive style is related to previous criminal activity but not to current criminal behavior. The following synopsis reviews aspects of the sample and issues in measurement. Observations about the hypotheses are presented along with the limitations of the study. Potential application and practical implications of current findings in regard to intervention and recidivism-reduction programming within the Utah Department of Corrections are discussed.

Methodological Recapitulation

Sample

Male inmates (N=194) in the "Reception and Orientation" facility of the Utah State Department of Corrections comprised the sample for this study. Of the 194, 17 were excluded from the analysis due to incomplete responses, leaving a working sample of 177. Ages ranged from 17.37 to 69.61. The mean age was 32.13 (SD = 10.36). The median age was 30.61. Inmates had completed, on average, 11.39 years of schooling. Average age at first arrest was 19.32, at first alcohol use, 14.12, and at first illegal drug use, 15.12. The average length of lifetime incarceration was 4.83 years.
Measurement

Inmates completed a two-part, 55-item questionnaire which assessed demographic/criminal history and cognitive style. Sixteen items tapped demographic information regarding personal, educational, and criminal history. Personal history questions used in the analysis include date of birth, age at first alcohol use, and age at first illegal drug use.

Criminal Factors

Criminal history and current criminal affairs were obtained by asking inmates if this was their first time in prison, if they were parole violators, their current conviction, previous convictions, number of arrests, age at first arrest, and total length of time served in prison and/or jails. The following criminal behavior categories were used: (a) property, (b) violent/personal, (c) drug, and (d) sex.

Cognitive Style

The second portion of the questionnaire consisted of the 39-item Cognitive Style Inventory (Berzonsky, 1988). Internal reliability (coefficient alpha) was moderate for all subscales. Test-retest reliability and convergent validity has previously been demonstrated.
Prison Data

Issues dealing with the sensitive nature of the questionnaire and quality of response to current and past convictions were addressed. Demographic and "public-access" criminal information was obtained through the state computer system for a majority of the inmates participating in the study. Items available from the state computer system were cross-checked with self-report and include: last grade completed, parole violation, convicted offenses during the past 12 years, and total number of convictions. Comparisons between the self-report and computer information support the validity of the self-report data used in this study.

Summary of Findings

Of the two questions addressed, a consistent relationship appears to exist between cognitive style and previous criminal behavior. The relationship with current criminal behavior was not as apparent. The following discussion elaborates upon these relationships, illustrating specific themes and trends in the data.

Criminal History

Research Question #1: Is there a relationship between cognitive style and previous criminal activity (see Table 8)? Age at first illegal drug use is related to cognitive style. Inmates with a Diffuse/Avoidant style used drugs at a younger age (14.30) than those with a Normative style of
Table 8

Cognitive Style and Criminal Behavior: General Results of Research Question 1

<table>
<thead>
<tr>
<th>Hypothesis*</th>
<th>Reject</th>
<th>Fail to Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Question #1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ho$_1$: age first drug</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ho$_2$: age first alcohol</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ho$_3$: age first arrest</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ho$_4$: # arrests</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ho$_5$: # convictions</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ho$_6$: # times occurred:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Violent/Personal</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Drug</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ho$_7$: time spent</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Ho$_8$: previous conviction:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Violent/Personal</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Drug</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Sex</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Note. Each hypothesis has the general form "There is no relationship between cognitive style and..." "N = 177."
orientation (16.33). Information-oriented inmates began using drugs at an age between the other two styles (14.91).

Normative people are more likely to delay experimentation with substances but once they get involved are more likely to experience problems (Jones & Hartmann, 1988; Jones et al., 1989). The Diffuse/Avoidant group may be less directed, less goal-oriented, and more likely to use drugs out of "curiosity" (Christopherson et al., 1988).

According to existing research, Diffused adolescents are also more likely to use alcohol at an earlier age (e.g., Jones & Hartmann, 1988). This finding was not replicated in the current study. Inmate age does, however, follow the expected trend with the Normative group starting alcohol use at an older age (14.82) than both the Information (14.00) and the Diffuse/Avoidant group (13.60).

Early onset of alcohol use corresponds with early drug use among the cognitive styles. The Normative group simply starts alcohol use much younger than they did for illegal drug use. Succeeding ages at first alcohol use are then closer together for all cognitive style groups (resulting in no differences on the alcohol hypothesis).

Significant differences for age at first arrest exist between the Diffuse/Avoidant group, 17.06, and the Normative group, 21.10. The Information group fell between, with an average age of 20.49. The Diffuse/Avoidant group had a significantly higher average number of arrests (11.44) than
the Normative group (7.02). The Information group, again, fell in the middle with 9.10 arrests.

The Diffuse/Avoidant group averaged 2.97 convictions, significantly more than the Normative group (2.23). Again, the Information group (2.41) fell between the two extremes. The Diffuse/Avoidant group spent an average of 5.97 years in prison/jail, significantly more than the Normative group (3.74 years). The Information group fell in the middle at 4.43 years.

It should be noted that, while total number of offenses is included in the "previous criminal history" question, the variable itself is inclusive of previous and current convictions. Among property crimes, the Diffuse/Avoidant group committed a notably higher number of offenses than did the Normative group. Information styles continue to fit between the two extremes.

For the drug-related crimes, the Normative style group committed a noticeably higher number of offenses (.59) than the Information group (.23) (one of the few occasions the Diffuse/Avoidant style fit between, rather than at the extremes). Within the previous property crime category, significant pairings exist for both the Diffuse/Avoidant versus Normative group and the Diffuse/Avoidant versus Information group. The Diffuse/Avoidant group mean (62.5%) was notably higher in both pairings. Among the previous violent/personal category, the Normative group was
significantly lower than both the Information and the Diffuse/Avoidant group.

Current Criminal Behavior

Research Question #2: Is there a relationship between cognitive style and current criminal behavior (see Table 9)? Inmate cognitive style demonstrated no differences between primary offense or current age. The Information group averaged 32.13, Normative 34.10, and Diffuse/Avoidant 30.42 years of age at the time of the survey. Parole violation and degree of felony of the primary offense (most serious active offense) were also independent of cognitive style. The only relationship between cognitive style and current conviction exists with drug convictions. The Normative group percentage of 27.9 was significantly higher than both the Information (4.6%) and Diffuse/Avoidant group (13.9%).

While significant differences consistently exist between the Diffuse/Avoidant and Normative groups, the Information group displays a steady tendency in similarity with the Normative group. The inmate with a Diffuse/Avoidant cognitive style appears to be quite different from those with Information and Normative styles. The Diffuse/Avoidant subscale indirectly measures level of commitment to various values, beliefs, and lifestyles and may be representative of this divergent relationship.

Hypotheses within the first research question regarding previous criminal history were better able to discriminate
### Table 9

**Cognitive Style and Criminal Behavior: General Results of Research Question 2**

<table>
<thead>
<tr>
<th>Hypothesis*</th>
<th>Reject</th>
<th>Fail to Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Question #2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ho₉: age</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ho₁₀: parole violation</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ho₁₁: degree of felony</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ho₁₂: primary offense:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Violent/Personal</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Drug</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Ho₁₃: (current) conviction:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Violent/Personal</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Drug</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Note. Each hypothesis has the general form "There is no relationship between cognitive style and..."*

*N = 177.*
between the three cognitive styles. With the exception of current drug conviction, the current criminal activity hypotheses of "Research Question 2" were not as useful at classifying between cognitive styles. It may be that previous criminal activity, as currently defined, gives a more stable, more consistent view of the "criminal mind set." This more accurate "picture" of the inmate has allowed cognitive style to surface as a defining trait in establishing a psychosocial criminal profile.

**Psychosocial Profiles of Criminal Behavior**

Following is a brief and certainly nonexhaustive view of the criminal psychosocial profile, extrapolated from the current study. Diffuse/Avoidant individuals are more likely to use drugs and alcohol at a younger age than their "criminal peers," get arrested younger, are involved in multiple arrests, multiple convictions (recidivism), have a greater length of time spent in prison and/or jail, and are more likely to be involved in a previous and current property offense.

In contrast, inmates with a Normative style tend to use alcohol and drugs at an older age than their criminal cohorts, are about four years older at first arrest, have fewer arrests and convictions, have less time spent in prison and/or jail, and are more likely to have had a previous and current drug offense. Information-oriented
individuals tend to straddle these extremes on most variables and show no profound trends in the data.

Limitations and Recommendations

It is crucial to discuss and address the limitations involved in exploratory research. As the various threats to validity are dealt with appropriately, greater confidence can be placed in the findings and greater success will be encountered by those who utilize this work in program development and evaluation.

Threats to Validity

Among elements involved with internal validity, lack of a control group may pose problems with regard to history. Inmates were only measured once and at approximately the same time. Any historical effects experienced by inmates were shared and should offer consistency in the results. The very nature of assessing criminal behavior would impede attempts at random assignment. Additionally, utilization of a volunteer sample rather than random selection may have produced a selection bias. "Nonvolunteers" may have had significant contributions that were not elicited.

An acceptable control group did not exist for the current study. Potentially, a natural control group could be established by tracking individuals from high school through early adulthood. Data collection could begin in the public school system and researchers could follow
individuals through young adulthood until some have entered the penal system. Comparisons of their scores with those who have not chosen criminal pathways could then be made. This would be an ideal project but is neither cost effective nor practical.

Instrumentation was a concern based on the inmate's ability to read and comprehend the questions asked. However, 81% of the 1991 nationwide inmate population had at least an 8th grade education with 59% acquiring a high school diploma or its equivalent (Bureau of Justice Statistics, 1993b, p. 3). The average number of years of education was 10 in 1986 (Maguire & Flanagan, 1991, p. 614). The Utah sample had a higher average at 11.39. In 1992 alone, 287 Utah inmates received a general education diploma (GED), high school diploma, vocational certificate, or an associate degree (Franchina, 1993, p. 6).

Almost 95% of Utah inmates reached the 8th grade, with 45.3% finishing 12th grade or more (Franchina, 1993, p. 133). According to inmate self-reports, the current Utah sample accurately reflects Franchina's grade level report, as 95.8% completed at least 8th grade and 50.29% completed at least 12th grade.

Limitations Within the Results

A possible reason for lack of classification among the current criminal hypotheses may exist in the small sample size--resulting in fewer numbers within the three subscales
(ranging from 44 to 72). Another, more confounding problem, may exist in the questions that tapped current criminal activity. Grappling with the "right" questions to ask may be a common feature of exploratory research. The author can only suggest the notion to other scientists and encourage further, more detailed examination of factors that contribute to an accurate and inclusive definition of current criminal activity. It is noteworthy to mention that many of the non-significant cognitive style pairings tend in the same direction as those for previous criminal activity.

With the threats to validity considered and addressed, this study, though not flawless, yields promising results in viewing the basic psychosocial profile of an inmate, particularly within the identity stage of development. Understanding the psychosocial makeup of the "criminal mind set" is the first step in creating intervention and recidivism programs that address the psychosocial aspect of criminal behavior.

Implications for Intervention

Intervention and recidivism-reduction programming that utilize the psychosocial paradigm may provide a significant contribution to mainstream correctional philosophy throughout America. As the Utah Department of Corrections (UDC) refines their program and adds a psychosocial component, they set the stage for a new era in correctional
ideology. A broad range of understanding the psychosocial profile of deviant behavior will surface. The potential applications are wide and far reaching. With appropriate considerations made to address most of the limitations of the current study, confidence can be placed in the following recommendations.

Cognitive-Based Programming

Success with the Cognitive Style Inventory (Berzonsky, 1989) denotes a potential starting place for future programming. The instrument has successfully categorized inmates according to cognitive processes related to deficits in cognitive skill-based areas. Programming should develop around these specific areas in order to address specific inmate needs.

The UDC, according to Blake Nielsen, Deputy Warden at the South Point Facility in Bluffdale, Utah, would like to use Berzonsky's (1989) Cognitive Style Inventory with all inmates during intake at the Reception and Orientation facility (personal communication, December 28, 1993). Inmates enter this facility for initial orientation and psychological assessment as they await their housing assignment (approximately 4 to 6 weeks).

The UDC is concerned with time and money in the development of programming but is, at the same time, compelled by legislative mandates to provide various services outlined in the Recidivism Reduction Model
Nielsen stated (personal communication, December 28, 1993) the UDC would like to develop programming for the general inmate population based on specific areas where developmental deficits exist. The cognitive style assessment will not only assist in tracking inmate progress but also in developing intervention programs that will address the "Cognitive Problem Solving Skill" component of the "Recidivism Reduction Model" (Franchina, 1993, p. 61).

**Stage-Specific Evaluation**

Intervention can be built around inmate cognitive styles but it is not the only answer. Other areas of development need to be addressed at some point in time. It is hoped that as inmates begin working with the more "visible" identity issues of psychosocial development, other "unseen" deficits will filter out and be dealt with accordingly.

Jones (1994) argued that "candidates for identity diffusion during adolescence" are those "preadolescents who have not successfully resolved issues pertaining to trust versus mistrust, autonomy versus shame and doubt, initiative versus guilt, and industry versus inferiority" (p. 187). Further research is desperately needed to identify stage-specific characteristics among these preliminary stages of identity development.
Following documentation of psychosocial differences across the identity statuses, appropriate interventions can be constructed to address known psychosocial deficiencies in order to reduce frequency of identity diffusion during adolescence; this would then lead to reductions in adolescent chemical use and abuse, school dropout rates, teen pregnancy, the transmission of STDs, and related problem behavior. (Jones, 1994, p. 188)

As the method of identification and classification is established, the next step will be a matter of procedure, verifying which existing cognitive-based intervention models work for which "diagnosis."

When inmates work through interventions focused on stage-specific issues, they will be better equipped to acquire an adaptive style (i.e., Information or Normative) of coping and facilitate socially acceptable approaches to problem solving and appropriate forms of law-abiding behavior. In addition to Jones' (1994) list of "reduced problem behaviors," reduced criminal behavior and reduced recidivism among adults will likely follow.

**Occupational Identity**

Inmates may benefit from cognitive-based interventions that focus on "occupational choice," rather than "just getting a job." According to Erikson (1963), occupational identity is a major aspect of identity development. For most men, occupation lies at the core of their identity.

Raskin (1994) noted the need to develop interventions in identity development that are based on occupational choice as a means of achieving career satisfaction. She
goes so far as to say that "the working environment, broadly conceived, tends to dominate most of our waking moments, and sometimes our occupational identity is seen as the defining characteristic of the self" (Raskin, 1994, p. 170).

The Utah Correctional Industries, a division of the UDC, offers skills and training to inmates and may be addressing an important aspect of identity development, especially if "occupational" choice exists for the inmate. Future studies, as well as intervention programming, need to address the occupational component of identity development among inmates.

Conclusion

Inmates with the less committed, Diffuse/Avoidant, cognitive style were more likely to enter the criminal system at an earlier age, become involved in substance use, have more arrests, more convictions, more recidivism, and more lifetime incarceration. These findings enhance and give greater depth to the Jones et al. (1992) study which found that individuals with a Diffuse/Avoidant style had greater alcohol and work-related problems. Further research is recommended to establish greater detail among the distinct features of this new perspective of criminal behavior.

Use of current findings should be limited to classification procedures that place inmates in specific
cognitive-based interventions. Overall, one-shot intervention programs will likely fail to meet malefactor needs and are therefore not recommended. Previous work has shown the fallacy of throwing blanket prevention/intervention programs over the problem (Jones, 1994). Programs need to be individualized at least to the point of addressing the three levels of cognitive style functioning.

Classifying inmates based on cognitive style and building programs that address these specific styles will yield greater inmate success in coping with stress and acquiring cognitive problem-solving skills. But, in order to address these styles and in order for appropriate intervention to occur, the mechanisms of change, the elements that act as causative agents in moving individuals from one stage to another, must be identified and incorporated into programming strategies (Jane Kroger, personal communication, February 5, 1994). Future ventures within this realm of human behavior will likely enhance the power and usefulness of psychosocial profiles among inmate populations.
REFERENCES


APPENDIX

Personal Opinion Survey
PERSONAL OPINION SURVEY

Inmate ID #___________

PLEASE DO NOT WRITE YOUR NAME ON THIS QUESTIONNAIRE

This questionnaire will take about 10 minutes. We at Utah State University are grateful for your willingness to participate in this opinion survey. You are not required to finish but if you do we assume you have done so willingly. When you are finished, please hand the survey in at the front of the room.

Begin by putting your inmate ID Number on the top of the form. These numbers will be used for research purposes only. Be assured that the information you provide below will not be shared with anyone! Your responses are strictly confidential.

Please answer the following questions to the best of your knowledge. Write your answer in the space provided next to the question or circle the appropriate response. If you can't remember specifics, please give your best estimate.

1) Date of Birth ______/_____/____
   (month)(day)(year)

2) What was the last grade of schooling you completed? __

3) Have you received any of the following degrees while not in prison?
   A. High School Diploma
   B. GED
   C. Associates
   D. Bachelors
   E. Vocational Certificate
   F. Other__________________
   G. None

4) Have you taken any high school or college courses in prison? Yes ___ No ___

5) Have you received any of the following degrees while in prison?
   A. High School Diploma
   B. GED
   C. Associates
   D. Bachelors
   E. Vocational Certificate
   F. Other__________________
   G. None

6) Is this your first time in prison? Yes ___ No ___
7) Are you in prison for violation of parole?  Yes  No

8) What is the reason for your current conviction (If you are imprisoned for violation of parole, what was the original conviction)?

9) How long were you sentenced for your current conviction?  _____/_____ (yrs)(months)

10) What is your release date?  _____/_____/___ (month)(day)(year)

11) Please list all crimes you have been convicted for previously?

12) How many times have you been arrested?  _____

13) How old were you when you were first arrested?  _____

14) How old were you when you first tried alcohol?  _____

15) How old were you when you first tried illegal drugs?  _____

16) About how long (total) have you been in prison and/or jail during your life (please give your best estimate)?  _____/_____ (yrs)(months)

The following statements require your opinion as to whether they are like you or not. Please select a number between 1 and 5 that best reflects how much you feel that statement is like you or not like you.

YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

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17) Regarding religious beliefs, I know basically what I believe and don't believe.  1 2 3 4 5
YOUR FIRST REACTION TO EACH QUESTION SHOULD BE YOUR ANSWER.

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<td>18) I've spent a great deal of time thinking seriously about what I should do with my life.</td>
<td>1 2 3 4 5</td>
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<td>19) I'm not really sure what I'm doing in life. I guess things will work themselves out.</td>
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<td>20) I've more-or-less always operated according to the values with which I was brought up.</td>
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<td>21) I've spent a good deal of time reading and talking to others about religious ideas.</td>
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<td>22) When I discuss an issue with someone, I try to assume their point of view and try to see the problem from their perspective.</td>
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<td>23) I know what I want to do with my future.</td>
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<td>24) It doesn't pay to worry about values in advance; I decide things as they happen.</td>
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<td>25) I'm not really sure what I believe about religion.</td>
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<td>26) I've always had a purpose in my life. I was brought up to know what to strive for.</td>
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<td>27) I'm not sure which values I really hold.</td>
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<td>28) I have some consistent political views; I have a definite stand on where the government and country should be headed.</td>
<td>1 2 3 4 5</td>
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<td>29) Many times by not concerning myself with personal problems, they work themselves out.</td>
<td>1 2 3 4 5</td>
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<td>30) I'm not sure what I want to do in the future.</td>
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<td>31) I really enjoy the work I do (or have done in the past). It's the career that is right for me.</td>
<td>1 2 3 4 5</td>
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<td>32) I've spent a lot of time reading and trying to make some sense out of political issues.</td>
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<td>33) I'm not really thinking about my future now; it's still a long way off.</td>
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<td>34) I've spent a lot of time and talked to a lot of people trying to develop a set of values that makes sense to me.</td>
<td>1 2 3 4 5</td>
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<td>35) Regarding religion, I've always known what I believe and don't believe; I never really had any serious doubts.</td>
<td>1 2 3 4 5</td>
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<td>36) I'm not sure what occupation I should be in (or change to).</td>
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<td>37) I've known since high school what I wanted to be and which training to pursue.</td>
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<td>38) I have a definite set of values that I use in order to make personal decisions.</td>
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<td>39) I think it's better to have a firm set of beliefs than to be open minded.</td>
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<td>40) When I have to make a decision, I try to wait as long as possible in order to see what will happen.</td>
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<td>41) When I have a personal problem, I try to analyze the situation in order to understand it.</td>
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<td>42) I find it's best to rely on the advice of a professional (eg. clergy, doctor, lawyer) when I have a problem.</td>
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<td>43) It's best for me not to take life too seriously. I just try to enjoy it.</td>
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<td>44) I think it is better to have fixed values than to consider alternative value systems.</td>
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<td>45) I try not to think about or deal with problems as long as I can.</td>
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<td>46) I find that personal problems often turn out to be interesting challenges.</td>
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<td>47) I try to avoid personal situations that will require me to think a lot and deal with them on my own.</td>
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<td>48) Once I know the correct way to handle a problem, I prefer to stick with it.</td>
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<td>49) When I have to make a decision, I like to spend a lot of time thinking about my problem.</td>
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<td>50) I prefer to deal with situations where I can rely on social norms and standards.</td>
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<td>51) I like to have the responsibility for handling problems in my life that require me to think on my own.</td>
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<td>52) Sometimes I refuse to believe a problem will happen, and things manage to work themselves out.</td>
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53) When making important decisions, I like to have as much information as possible.  
   1  2  3  4  5

54) When I know a situation is going to cause me stress, I try to avoid it.  
   1  2  3  4  5

55) To live a complete life, I think people need to get emotionally involved and commit themselves to specific values and ideals.  
   1  2  3  4  5

THANK YOU FOR YOUR HELP