To the Graduate Council:

I am submitting herewith a dissertation written by Byron R. Navey entitled "APTI Field Study: Applying a Theory-Based Psychometric Instrument to the Assessment of Antisocial Personality." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

John Lounsbury, Ph.D., Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the council:

Associate Vice Chancellor and
Dean of the Graduate School

DESIGN AND FIELD TEST OF A PSYCHOMETRIC INSTRUMENT FOR MEASURING ANTISOCIAL TENDENCY

A Dissertation
Presented for the
Doctor of Philosophy
Degree
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Byron Reid Navey
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DEDICATION

This dissertation is dedicated to my wife

Martha

and

George Gordon, Lo.D.

who was there the whole time.

Abstract

In this study, a theory-based psychometric instrument, the Antisocial Personality Trait Inventory (APTI), is evaluated for its ability to differentiate control subjects from an identified prisoner sample based on an estimate of antisocial tendency within each subject. The ability of the APTI to differentiate control subjects from prisoners is compared to the ability of two cognate scales, the Psychopathic Deviant scale (Pd) from the Minnesota Multiphasic Personality Inventory – Second Edition (MMPI-2) and the Antisocial Personality Scale from the Millon Clinical Multiaxial Inventory – Third Edition (MCMI-III APS). One hundred and twenty-two control subjects and two hundred and four individuals currently incarcerated in a federal penal facility completed the APTI and the two cognate scales. The results indicate that the APTI was better able to differentiate the control from prisoner sample than either of the two cognate scales and that scores on the MCMI-III APS were unrelated to membership in one sample group or the other. A discussion is offered regarding the possible strengths of the APTI as compared to the cognate scales. An argument is made for the use of theory-based rather than behavior-based inventories in the psychometric measurement of antisocial personality traits.

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I. INTRODUCTION:

Antisocial behavior is one of America's most urgent social problems. Domestic crime accounts for 80% of emergency room visits for women and more citizens of this country die in crime-related incidents each day than die of cancer, AIDS, heart disease or automobile accidents (Uniform Crime Reports, FBI, 1993). Considering the scope of this problem and the heavy burden it levies on our economy and our future, one must question the hesitance the social sciences have shown in addressing this issue. With the exception of a very few studies, mostly from the seventies and early eighties, psychology has failed to contribute to the solving of this problem. Perhaps this lack of attention is borne of the attitude that antisocial behavior is a forensic issue and best left to the judicial system (Klein and Myerhoff, 1967). The question remaining is to what extent research can provide ways of understanding the phenomenon more clearly. This project asserts the general importance of applying social science to the issue of antisocial tendency and examines the validity of a scale designed specifically to assess antisocial traits.

One of the most striking developments in forensic science over the past twenty years has been the rapid change and widening scope of theories about antisocial personality and the tendency for the trait to be expressed by particular behavior patterns. During the same period, confidence in the ability of social science to

predict and understand this aspect of personality has steadily eroded. In addition, confidence in the ability of criminal justice institutions to rehabilitate offenders has been repeatedly undermined by negative evaluations of a wide variety of treatment programs (Ohlin, 1983). A principal shortcoming of many explanatory theories (and the interventions based on these theories) is the assumption of antisocial tendency as a set of orthogonal traits making up a distinct personality type, involving specific behaviors and present or absent in any particular person as an object. Thus we tend to say that persons are either antisocial or not antisocial according to whether they possess these identified characteristics. There are few other personality traits toward which we would take this position. Most would admit that people are more or less extroverted and more or less conscientious and that, in general, personality traits lie on a continuum from minimal to excessive. The concept of antisocial personality, however, is most often not considered in this manner. This has led to the construction of many popular personality tests that focus almost exclusively on specific behavior histories when assessing antisocial tendency.

The Antisocial Personality Trait Inventory (APTI) is a personality trait measure that examines antisocial traits which are generally more accepted as occurring within the normal population, but which none-the-less are part of the antisocial spectrum and correlate highly with the more obvious antisocial characteristics such as criminal behavior. Its focus on attitudes and opinions about such matters

as spending patterns and achievement orientation make it a more comprehensive assessment of antisocial personality traits and, perhaps, reduces measurement error attributable to social desirability response-set.

The APTI was constructed and standardized as part of a graduate project in scale development. It was standardized on a sample of 500 undergraduates and achieved a reliability coefficient (alpha) of .72. The present project examines the scale's effectiveness at differentiating subjects identified as having engaged in antisocial behavioral by the criminal justice system from controls who have not been so identified. The hypotheses for the study are: (1) The scale will be significantly related to cognate scales from established psychometric instruments, specifically the Pd scale from the MMPI and the Antisocial Personality scale from the MMCI; (2) The scale will successfully differentiate between controls and subjects identified as having antisocial tendencies; and (3) that the scale will differentiate more severe 'antisocial' subjects from less severe.

II. REVIEW OF THE LITERATURE

The item construction of the APTI is based in personality theory and derives from various schools of thought. Each theoretical base will be examined to explain the general thinking behind the item and the theoretical connection between the item content and antisocial personality.

Biological Perspective:

The longest standing explanation of antisocial tendency is the biological perspective. The theory of the heredity of antisocial tendency was in vogue as early as the late eighteenth century (Fink, 1938) and remains one of the more popular explanations (Raine, 1993). As early as 1904, Hall proposed that delinquency was a matter of individual constitution. This idea fit well with the zeitgeist of the late nineteenth and early twentieth centuries and likely fed the fire of segregation and eugenics. By 1931, twenty-seven states had standing laws approving the mandatory sterilization of the deviant or "feeble-minded" (Akers, 1995).

The available literature clearly evidences a role for biological contribution to antisocial personality in some instances. A key piece of the biological argument was uncovered in 1966 when Richard Speck, a convicted serial murderer, was

found to have an extra Y chromosome. Subsequent studies found this abnormality in a large number of violent offenders in samples of psychopaths and serial offenders (Jacobs, 1965). It is recognized today that while some proportion of males with an extra Y chromosome tend toward violence, the majority of violent offenders have the correct amount of sex genes.

The most recent research on the biological component of antisocial behavior has centered around the dysfunction of certain brain areas and neurochemicals. A commonly held notion is that the brains and bodies of violent men tend to contain more testosterone (Dabbs, 1995). In fact, some studies suggest that testosterone levels actually increase during and just after an aggressive act such as winning a tennis match. Dabbs admits that his findings are only correlational and states that the levels of any particular hormone are "mediated by numerous social factors" (Dabbs, 1995).

Perhaps the studies most often replicated on the biological indicants of antisocial behavior are those focusing on low resting heart rate (Raine, 1993). The theory states that individuals who are "underaroused" in normal everyday life may seek more intense situations and environments as a matter of preference. Engaging in high-risk behaviors and spending significant proportions of time in high-risk environments is proposed to, at least, put one at the right place at the right time to engage in antisocial behavior. Raine (1993) points to fourteen studies that find

low resting heart rates in criminals. He offers no explanation, however, as to the reason that fifteen replication studies have failed to find this correlation (Gibbs, 1995).

A seemingly simplistic hypothesis was offered by an expert panel on "Understanding and Preventing Violence" convened by the National Research Council in 1993. The idea is that temperament may explain lawlessness and lawfulness. Looking at pulse, pupil dilation, and blood levels of norepinephrine and cortisol, researchers suggest that children which exhibit fearfulness and inadequate neurophysiological stimulus-barrier systems may be "protected by their fear" from becoming aggressive, whereas uninhibited children may be prone to later violence. To date, the theory has not been examined longitudinally. We may have to wait some years to see if these predictions will bear fruit.

The most frequently cited neuro-biological correlate is low serotonin levels in an individual's cerebro-spinal fluid (Jeffery, 1993). Researchers argue that by increasing levels of serotonin in the brain we can reduce violent behavior in the individual (Jeffery, 1993). This suggests the promise of an anti-antisocial "pill"; but the issue is, of course, more complicated. The fundamental problem is that serotonin levels are measured by cerebro-spinal levels of the breakdown "left-overs" of the brain's process of using serotonin. Thus, low levels of this breakdown component, 5-HIAA, may suggest low levels of serotonin, or it may suggest that serotonin is not being broken down efficiently, which may in turn

suggest an overabundance of serotonin in the brain. At any rate, serotonin is involved with many brain systems and levels fluctuate due to behavior and environment (Graham, 1990).

David Goldman, chief of neurogenetics at the National Institute on Alcohol Abuse, states in a recent issue of Scientific America (March, 1995) that he believes that there are markers for violence and antisocial behavior and that we have only to find them. Many scientists and social critics assert that this line of investigation plays into the hands of racism and eugenics and this caution may have retarded the research on genetics.

In 1992, NIH withdrew funding for research on the neurogenetics of antisocial personality based on arguments made by Peter Breggin and others. Since that time, NIH has reinstated funding, but has discouraged investigators from including minorities in their studies (Goldman, 1995). All genetic studies to date have been done exclusively on whites (Raine, 1993).

All biological theories have in common an affinity for, and expectation of, a biochemical solution. Yudofsky (1994) suggests that after parent interview, behavioral screening and neurological testing, high-strung or hyperactive children could be trained to respond passively to provocative situations. Further, he

suggests that if the training doesn't work, they could be given beta- blockers, anticonvulsants or lithium. Considering the side-effects of these drugs and the correlation of adolescent and adult drug abuse with early childhood medication regimens (Miller, 1984; Fiegelman, 1987), this intervention seems less than humane for a population which, by definition, has yet to commit any offense other than being energetic.

While there may be some biological correlate to antisocial behavior, it is unclear, whether physiology causes the behavior or whether the behavior influences the physiology (Schacter and Singer, 1964). Therefore, the prediction abilities of these models are poor and some of the treatments based on these predictions borders on the inhumane (Raine, 1993).

Several of the APTI items take account of the biological perspective of potential inheritance of antisocial tendency. Items such as "As a child, I had everything I needed" and "I remember from my childhood many fights between family members" were designed to incorporate the contribution made by antisocial characteristics of one's parents and other family members. The assumption is made that genetic and early childhood experience each contribute to personality formation and these items, while they may be seen as exclusively examining one contributing factor or the other, should be viewed as related to both issues.

Learning Theory:

Some psychological theories are more applicable to scale formation than others. The most basic theory of criminality is the learning theory argument. The position states, plainly, that adolescents who engage in criminal behavior have either not learned that criminality is wrong or have not learned that they will be punished for it. That is, first, that they have not reached the appropriate level of cognitive and moral development such that they understand the "wrongness" of their actions and second, that they have not been properly exposed to the realities of punishment. This argument offers suggestions for the cognitive retraining of antisocials as a treatment option. What must be considered contrary to this argument is the extent to which some antisocials are very attuned to the rewards of criminality and in this sense, can be understood to have responded appropriately to specific environmental contingencies. Items such as, "I like to act fast and think later" and "I feel as if I've gotten a raw deal from life" draw from these ideas that antisocials lack the cognitive development necessary to be able to conform their behavior or that the individual has learned through experience that antisocial behavior is the appropriate solution to his situation. Items such as, "I do not enjoy pornography" which is reverse coded and "If I could rob a bank, ... I would" examine the individual's moral development.

Failure of Self Control:

A second psychological theory is that antisocial behavior results, in the

individual, from a failure of self-control (Ross, 1979). Ross asserts that some adolescents have failed to develop sufficient internal controls that help the normal adolescent delay gratification and manage impulses. While this is only one piece of the puzzle, there is no question that delinquents show marked impulse control problems which is related in the literature to a general lack of social responsibility and antisocial behavior in particular (Mischel, 1961; Mischel and Gilligan, 1964). A significant number of items used in the APTI relate to this lack of impulse control. The items "I rarely act without thinking," "I have trouble resisting temptation..." and "Condoms are more trouble than they're worth" are examples.

Psychodynamic Theory:

The psychodynamic school of psychological theory offers insight into the personality functioning of the juvenile antisocial. Dynamic theory of antisocial tendency is best explicated in the writings of Erikson and Winnicott. Erikson (1968) explains delinquent behavior as the result of the adolescent's failure to resolve the typical identity crisis of this phase of development. Of the two tasks of identity development; establishment of a sense of consistency in life, and the resolution of a role identity, it is the failure on this second task that Erikson sees as figural. He comments that adolescents whose infant, childhood or adolescent experiences have somehow restricted them from acceptable social roles or made them feel that they can't measure up to the demands placed on them, may choose a negative course of identity development. Erikson describes this as "an identity

perversely based on all those identifications and roles, which, at critical stages of development, had been presented to them as most undesirable or dangerous and yet also as most real" (Erikson, 1968). While this role may not be reinforced by the larger society, it offers the adolescent an opportunity to define himself in such a way as to establish a continuity of experience from one situation to the next. Items following this theory relate to an individual's conception of others including the behaviors he may justify based on the characteristics he so perceives to be present in others. This theory is the basis for items such as "Other people are generally selfish," "The only person I can trust is myself" and "My friends don't know the real me."

Further explanation of the psychodynamic position is given in the work of D. W. Winnicott. In his seminal paper on antisocial tendency, Winnicott (1950) explains the early childhood experience of the potential antisocial. In his conception, the adolescent delinquent seeks the quick acquisition of material gain in order to make up for a pervasive emptiness, both emotional and physical, left over from negative early parenting experiences. He further suggests that deprivation of psychic and physical "goods and services" is not enough to create a criminal. It is the *loss* of parental care that is figural in his theory. Winnicott posits that the child first enjoyed adequate care and then, through some accident or intentionality, experienced the loss of this care. The criminal is seen as seeking to regain that lost substance, that lost sense that his needs can be satisfied. The

argument is subtle. The loss, not the deprivation is figural. In this way Winnicott's theory is similar to the theory of "relative poverty" as being more important than absolute poverty in the motivational system of the antisocial. In each of these theories the individual is placed within the context of a comparison, psychic and social, respectively. Obviously this would constitute the grounds for items examining the behaviors and attitudes associated with conspicuous consumption and material gain as a substitute for emotional succorance. Items in this category are "Nothing makes me feel better than having money," "When I feel down, I can fell better by buying something" and "The best thing ... is to get all you can before it's too late." Psychodynamic theory can, of course, be applied to antisocial tendency with much broader strokes than have been presented here. These authors are mentioned because they have written specifically on the topic.

Socio-cultural Perspective:

The socio-cultural argument revolves around the concept of the criminal and the society as a noetic unit (Zaner, 1970). Just as "anti-social" is meaningless without a social referent, the idea of antisocial behavior is meaningless outside the context of societal law. From a cultural perspective, crime and the criminal become a part of the landscape. Even as we cry out for legal and social reform for the control of crime, our popular media thrives on its perpetual existence. A quick survey of current motion picture releases or nightly television programming confirms the fact that crime and criminals are an integral part of our culture. That is not to say

that we, as a society, endorse or even forgive those that transgress against us, but the idea of antisocial behavior is not repugnant to us either. Some researchers suggest that societies have the criminals they deserve and further, that a culture can create and allow conditions under which normal men and women behave in pathological ways (Lillyquist, 1980). This is the heart of the socio-cultural prediction model of crime.

There are several explanations of the relationship between antisocial tendency and societal value, but the most parsimonious is a focus on alienation and the value system of the society. The systematic ostracism of the deviant and the specific (American?) values of conspicuous consumption, acquisition, competition and social stratification are the proposed culprits. First, the society separates and alienates those considered to be deviant (Bartel and Guskin, 1971). This alienation or disenfranchisement is reflected in items such as, "I enjoy working in groups more than by myself" which is reverse coded and "I am not influenced by the values of others." Second, through popular media, it encourages in these individuals the same aspirations it encourages in the majority members; i.e. upward mobility, status acquisition, material acquisition, power acquisition (Snyder, 1991). The item "A good philosophy in business is to 'do unto others before they do unto you'" reflects this attitude. Finally, societal processes deny to the deviant members the opportunity to realize these goals through legitimate means (Cohen, 1955). This theory is reflected in all the items that relate to the

perception of limited resources and unfair treatment.

It is no secret that many types of crime are more prevalent in economically disadvantaged families and neighborhoods. Osborne and West (1978) find that those with the most serious records come from large low-income families and have criminal parents. Some would argue that residence in these areas follows from the same weakness of character and laziness that leads to crime. In other words, one might wish to blame crime on the individual characteristics of the offender alone. It is a time-tested and tempting argument. Scientifically, however, this argument is less assuring. As far back as the 20's, the Wickersham Commission on crime in large cities quieted fears that "foreigners" were creating a crime wave and pointed instead to the social and economic systems of the large cities where new arrivals were forced to reside (Ohlin, 1983). Aside from limited access to resources, social and economic alienation presents a serious threat to resolution of the adolescent identity crisis (Clark, 1992).

This alienation continues in the communities themselves as juveniles are pushed out of the sanctioned community groups. Thrasher (1927) suggests that gangs of juvenile delinquents tend to spring up, not in neighborhoods per se, but in the "no man's land" areas that border or separate neighborhoods. This idea is borne out again in research on Chicano gangs who often refer to themselves as "Cholos" which is a Latin-American term for those on the edge (culturally) between

indigenous Indian cultures and modern Central American urban cultures (Vigil, 1988).

As a result of this alienation, adolescents often find that legitimate means of economic and social participation in society are closed off to them. Cohen (1955) was the first to suggest that delinquency and gang formation arise out of one group's attempts to realize the same goals that another group might realize through socially acceptable means. He states further that criminal activity "constitutes a solution to a problem of adjustment to which the established culture provides no adequate solutions" (Cohen, 1955). This theme is unmistakably modern. Cohen locates the impetus for criminal involvement in the individual's "normal" desire for status and self-respect as well as material wealth. For Cohen, antisocial acts are a way of attaining very pro-social goals when the society offers no legitimate avenue. He sees criminal activity as a way of coping with and breaking through what he calls, "status frustration" (Cohen, 1955). His basic theme appears in the following sentence:

> The same value system, impinging on children differently equipped to meet it, is instrumental in generating both delinquency and respectability.

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Researchers who highlight the economic aspect of criminality follow this line of argument. A compelling argument is made. The foregoing theory takes into account that most crime, nationally, is property crime. Even though murder and rape more often appear in news reporting, most people come into contact with crime as the victims of theft or robbery.

In fact, the movement of street gangs out of urban centers and into suburbs and small towns has been linked in the literature to a broadening market strategy for the distribution of controlled substances (Clark, 1992). Clark states that gangs are moving out of the cities, not because of police pressure, but by choice. They are

motivated, she says, by the desire to establish a larger market for controlled substances.

In their 1975 study, Friedman, Mann and Friedman find that the variable most highly associated with gang membership is expected occupational level. They state that gang members had unrealistic expectations for success, yet perceived less opportunity to be successful through traditional vocational channels (Friedman, Mann and Friedman, 1975). A more philosophical argument, beyond the scope of this project, is the extent to which mainstream society has a vested economic and political interest in maintaining a permanent underclass, thus perpetuating the culture of crime.

Labeling:

A final explanation for antisocial attitude and behavior is that the process of labeling a person as 'deviant' serves to perpetuate the behavior that suggested the label. It is one of the noteworthy observations of social science that the labeling of forms of behavior tend to solidify and sometimes tend to increase such behavior (Geis, 1965; Carroll and Reppucci, 1978).

Moore (1985) states that from a sociological perspective, the more dangerous label is "probably deviant". Thus to be young, black or Chicano, and male is to be

a suspect person (Moore, 1985). Real damage is done to communities and individuals when those who control the social service institutions structure membership and activity so as to avert and control "possible" or "ascribed" deviance. The result is socialization designed for social control (Bartel and Guskin, 1971; Moore, 1985). Moore found this process to be key in separating individuals from their community and secondarily in the perpetuation of antisocial behavior. Evidence for this position is found in the widely held opinion that community involvement is key to treating the antisocial (Flomenhaft, 1988, Leone et al, 1986, Hobbs, 1982, Shields and Choras, 1982, McConaghy, 1989). Ascriptive deviance, Moore explains, makes community members angry at and suspicious of other community members who seem to fit the deviant stereotype. She states that when an individual is labeled as deviant or incorrectly assumed to be deviant based on appearance or interpretation of benign behavior, that person becomes the focus of the community's anger. The individual comes to feel less and less a part of his own community with no felt claim to any other. Thus, labeling is transmitted into communities and large blocks of individuals who fit the stereotype are systematically ostracized and alienated. This tension is reflected in items such as, "I am concerned with others' feelings" which is reverse coded and I am not influenced by the values of others." One further problematic issue is that the particular label of delinquent, criminal, inmate, or antisocial exacts a heavier toll on the adolescent in the process of identity development than most other group labels (Bartel and Guskin, 1971).

Summary:

The strength of the APTI is that its items are not based solely on behavioral indices. The most widely used personality scales, the Minnesota Multiphasic Personality Inventory (MMPI) now in its second edition and the Millon Clinical Multiaxial Inventory (MCMI) are limited by a more narrow focus on strictly behavioral indications of the underlying personality trait. The APTI items are rationally derived from theoretical research on antisocial tendency and the items themselves focus on behavior as well as attitude and belief about the world. Millon (1994) states of the MCMI that items are based on diagnostic criteria of clinical syndrome according to the Diagnostic and Statistical Manual, fourth edition and that the items themselves are behavioral in focus. Greene (1980) writes of the MMPI that the items making up scale 4 (psychopathic deviant) focus on "minor behavior" and specifically examine behaviors which were engaged in with little or no forethought. The attitude of these two measures is narrow and fails to account for much of the research and theory on antisocial personality.

Purpose of the Present Study:

The current project will investigate the ability of the APTI to differentiate control subjects from identified antisocial subjects above and beyond the ability of the two cognate scales, the MMPI pd scale and the MCMI Antisocial Personality Scale (APS) to do the same. Further the scale will reliably differentiate between

subjects who engage in more serious antisocial behavior from those engaging in less severe behavior.

III. METHOD

Subjects:

Subjects for the control group were 122 students from Okaloosa-Walton Community College (OWCC), one of the larger two-year community colleges in northwest Florida. The subjects were drawn at random from undergraduate social science classes on a volunteer basis. Because the northwest Florida area has only one small four year college, the population of students at the local community colleges is, perhaps, more varied than it may be were it located in a larger metropolitan area. OWCC offers course work for students planning to transfer to a four-year school, military members taking job-related training and non-traditional continuing education students. Generally speaking, the population at OWCC is less skewed toward younger students than four-year university populations and represents a more socio-economically balanced population than might be available in a different setting.

Subjects for the identified antisocial population were 204 individuals currently incarcerated at Okaloosa Correctional Institute (OCI), a state penal facility in Crestview, Florida. Incarcerated subjects were also invited to participate on a strictly volunteer basis with no incentive given. 300 questionnaires were delivered to OCI and 255 were completed. 51 of these were unusable due to the subjects' having willfully or accidentally made mistakes in their completion of the answer

sheets. Examples included those subjects who filled in all the circles on the form and those who answered "3- neutral" to all the questions, including the demographic and "true/false" questions for which "neutral" was not an option. Also eliminated from the data pool were subjects who answered "false" to the item "I am currently incarcerated." It is assumed that either a non-prisoner staff member at OCI filled out these questionnaires or that the subject was either lying or not paying attention to the questions. (Only 6 answer sheets were eliminated on this basis.) Subjects in the incarcerated population were also asked to indicate whether they are serving a sentence based on more than three or less than three convictions to separate them into two categories of more and less serious offenses or histories of offense. Subjects were both male and female (although predominately male) and range in age from 19 years old and up.

Age was not found to be a significant correlate of score on the APTI during validation testing and will not be considered as a variable for study. Further, subjects were not matched for age for comparison sake based on the same rationale.

Rather than focusing on diagnostic criteria, inclusion in the antisocial subject group was defined by a subject's being currently incarcerated in a correctional facility. It is recognized that having committed a crime and/or being incarcerated is not equivalent in a clinical sense to meeting diagnostic criteria for antisocial

personality disorder. The decision was made to use the identified population of prisoners for two reasons, one logistical and one theoretical. Logistically, the problems of collecting data on a sufficient number of clinically diagnosed antisocials are evident. First, identifying these subjects, validating that the subject absolutely fit the diagnostic criteria and then locating and gaining access to them would be very difficult. Also considered was the impossibility of identifying these subjects for inclusion in the research and at the same time maintaining their anonymity. Absolute anonymity was identified as paramount to the honest reporting and accurate collection of this type of data. By using the population of incarcerated individuals, the problem of identifying subjects by name or number was eliminated and the difficulty of standardization and validity of diagnostic impression was avoided. From a logistical standpoint, the benefits of using the prison population outweighed the minimal cost.

A second concern was the applicability and basic usefulness of the APTI. The APTI is designed to identify antisocial tendencies, not to differentiate diagnostic groups as is the stated purpose (Millon, 1994) and perhaps one of the shortcomings of scales like the MCMI. The intent of the APTI is that a researcher or clinician might use it to gauge the level of antisocial disposition in a particular identified subject, patient or population. It is more likely to be useful in a forensic setting such as a prison or other penal facility than in helping make a diagnosis. Accordingly, the appropriateness of using the APTI with the identified prison

population is at the heart of the purpose of the study.

Measures:

Subjects were asked to complete the 32 item APTI as well as eight items from the MMPI-2 pd scale and seven items from the MCMI antisocial personality scale. Completion of the three scales along with three demographic questions (gender, incarcerated or not, and incarcerated for three or more crimes or not) represent the full extent of the subject's participation in the project. Each subject was given an information sheet with the name and contact number of the investigator in case they had any follow-up questions. Both OCI and OWCC will be provided feedback at the conclusion of the project.

Procedure:

The OWCC students completed the fifty-item questionnaires as part of class instruction on metric testing and general research. No course credit was given in exchange for their participation. The completed surveys were then collected and returned to this investigator. The questionnaires were given to the incarcerated subjects at the facility in which they are detained (OCI) for their voluntary participation. Answer sheets were collected with no identifying data. The data were analyzed to assess whether or not the hypotheses of the study were borne out.

The research participants are drawn from two groups. The control subjects are drawn from undergraduate classes at a Northwest Florida community college, Okaloosa-Walton Community College (OWCC). Subjects are volunteers from social science classes and choose to participate or not according to their interest in the project. As the researcher is in no way affiliated with the college, there is no course credit given for participation and no negative repercussion results from choosing not to participate. Subjects were accessed through their regularly scheduled classes. Contact was made with two full-time faculty members, Dr. Ted Barker and Dr. Mike Schjott, who were asked to offer participation in the research to their sociology and psychology classes. This researcher had no contact whatsoever with any of the subjects during the gathering of data. The questionnaires were delivered to the faculty members, each questionnaire in a separate envelope. The subjects were asked, if they choose to participate, to return their answer sheet to the manila envelope, seal the envelope and replace it in a box. This researcher then arranged to pick up the box of sealed envelopes at the conclusion of each class in which any data is gathered. The criteria for inclusion in the control group is only that they choose to participate; their participation is strictly voluntary and since the research project is unaffiliated with the community college, there can be no negative repercussions for nonparticipation.

The second group of subjects is a correctional facility population. Subjects ware drawn from a state correctional facility located in Northwest Florida, Okaloosa

Correctional Institute (OCI). 300 survey packets were delivered to OCI. 204 were returned to this researcher. These subjects were accessed through the correctional facility research staff chaired by Mr. Tom Zacardi. Participation was voluntary. Participants in the study volunteered from work groups and vocational classes at OCI. The work groups and classes were used as volunteer pools because these are the only structured activities whereby large groups can accessed efficiently. There is no formal classification of inmates used to separate groups of participants other than the obvious delineation that those included in the study are those willing to complete the questionnaire and return it. Inmates were asked to complete the questionnaire on their own time with no incentive for participation. Inmates received a manila envelope containing the questionnaire, the answer sheet, the information sheet and a self-addressed stamped envelope. The participants were asked to seal the answer sheet in the envelope and place it in a box to be collected by the OCI research director, Mr. Zacardi. Mr. Zacardi then stored the sealed envelopes locked in his office until they could be mailed. The mailing procedure was suggested by the facility as an accepted practice. This research has no affiliation with the correctional facility. Answer sheets contain no identifying data so that there is no possibility that a particular individual's answers can be assessed. Because of this procedural consideration, this researcher has no way of knowing absolutely if the surveys were actually completed by the inmates. The answer sheets were collected sealed in envelopes and this researcher could not witness the completion of the forms or the sealing of the envelopes. This issue

could be a challenge to the integrity of the data. The office of research at OCI assures this researcher that the inmates completed the forms.

IV. RESULTS

The reliability estimates for the APTI in the present study were computed using a coefficient alpha. Table 1 Lists the item total correlations for each of the thirty-two items with each item's respective factor. The results of the reliability analysis found an alpha of .84 indicating that the APTI is a reliable instrument for the purposes of testing the hypotheses of the study.

The hypotheses for the present study were that, (1) The scale would be significantly related to cognate scales from established psychometric instruments, specifically the Pd scale from the MMPI and the Antisocial Personality scale from the MCMI-III; (2) The scale will successfully differentiate between controls and subjects identified as having antisocial tendencies and (3) that the scale will differentiate more severe 'antisocial' subjects from less severe. (Severity of antisocial traits within subjects is based on subjects having been incarcerated for more than three or less than three crimes.)

The first hypothesis was tested by calculating bivariate correlation between the APTI and each of the cognate scales. Table 2 gives the results of the correlation for each of the comparisons.

TABLE 1: Item by factor correlation for each APTI item

Factor #1 "General mistrust of others"	Item Correlation
Item #:	
1. In general, I would rather follow a strong leader than go my own way.	.28
11. The only person I can really trust is myself.	.48
17. I often give in to peer pressure.	.41
20. I enjoy working in groups more than by myself.	.45
24. My friends don't know the real me.	.62
31. If I'm not satisfied with something, I try to change it.	.15
Factor #2 "Impulsivity/ Lack of self control"	
Item #:	
2. Condoms are more trouble than they're worth.	.55
3. I like to act fast and think later.	.53
18. I have a short fuse on my temper.	.42
21. I have trouble resisting temptation and then feel guilty later for giving in.	.52
29. I tend to speed when I drive.	.32
30. I rarely act without thinking.	.30
Factor #3 "Mercenary aggressiveness"	
Item #:	
4. The bottom line in any competition is who wins and who loses.	.50
14. I have considered joining the military.	.30
16. It is ok to get around some rules in order to accomplish something.	.29
23. I enjoy watching professional boxing.	.48
25. A good philosophy in business is to do unto others before they have a chance to do unto you.	.65
27. I like the idea of hunting.	.47
28. The best thing to do in life is to get all you can before it's too late.	.49
Factor #4 "Lack of regard for others"	
Item #	
5. I am overly concerned with other's feelings.	.34
6. Other people are generally selfish.	.51
9. I do not enjoy pornography.	.61
15. When someone does something unfair to me, I should pay them back for the principle of it.	.55
26. I find casual sexual encounters exciting.	.52
Factor #5 "Family conflict/ Emotional neediness"	
Item #:	
7. As a child I had everything I needed.	.49
8. Nothing makes me feel better than having money.	.56
10. While I was growing up, my family was as loving and understanding as my friends' families.	.40
12. I feel as if I've gotten a raw deal from life.	.34
13. When I feel down, I can make myself feel better by going out and buying something.	.46
19. I remember from my childhood fights between my family members.	.50
22. If I could rob a bank a know I would get away with it, I would.	.53
32. I have very few quarrels with members of my family.	.49

TABLE 2: Bivariate correlation coefficients.

	APTI	MCMI-III	MMPI-2
APTI	1.0	.35 p< .001	.52 p< .001
MCMI-III	.35 p< .001	1.0	.33 p< .001
MMPI-2	.52 p< .001	.33 p< .001	1.0

The APTI was correlated with the cognate scales, Pd (MMPI-2) and the Antisocial Personality scale (MCMI-III), at .52 and .35, respectively. Each of these correlation coefficients was statistically significant beyond .000. The first hypothesis is supported by these results. Considering these data, a subject's responses to the APTI significantly correlate with his responses to the two cognate scales.

Investigation of the second hypothesis provided further support for the value of the APTI as a valid and reliable predictor of antisocial tendencies. The hypothesis that scores on the APTI would accurately differentiate control subjects from incarcerated subjects was first tested by comparing the means APTI total scores for each of the two groups.

The histograms below represent the score distributions for APTI scores for the incarcerated sample and for the control sample. The total possible score on the APTI is 160 and the minimum when all items are answered is 32. Figure 1 gives the distribution of scores for the inmate sample. The mean of this group's scores is 109 with a standard deviation of 19. Figure 2 represents the control group APTI score distribution. The control group mean is 84.7 and the standard deviation is 18.3. The figures below represent these data graphically.

The means of the total APTI scores for the two groups, 109 for the inmate sample and 84.7 for the control sample, were compared using a t-test for sample means. The results of this analysis found a t-value of 128.7 and show the difference between the means to be statistically significant beyond .000. These data and analysis indicate that the possibility that the difference between these group means is due to error is less that .000.

Examining whether or not the APTI successfully predicted antisocial subjects from controls necessarily involved the testing of this hypothesis for the cognate scales as well. The relationship of each of the scales to the target dependent variable, membership of a particular subject in the control vs. antisocial samples was first tested by calculating bivariate correlations. The dependent variable is

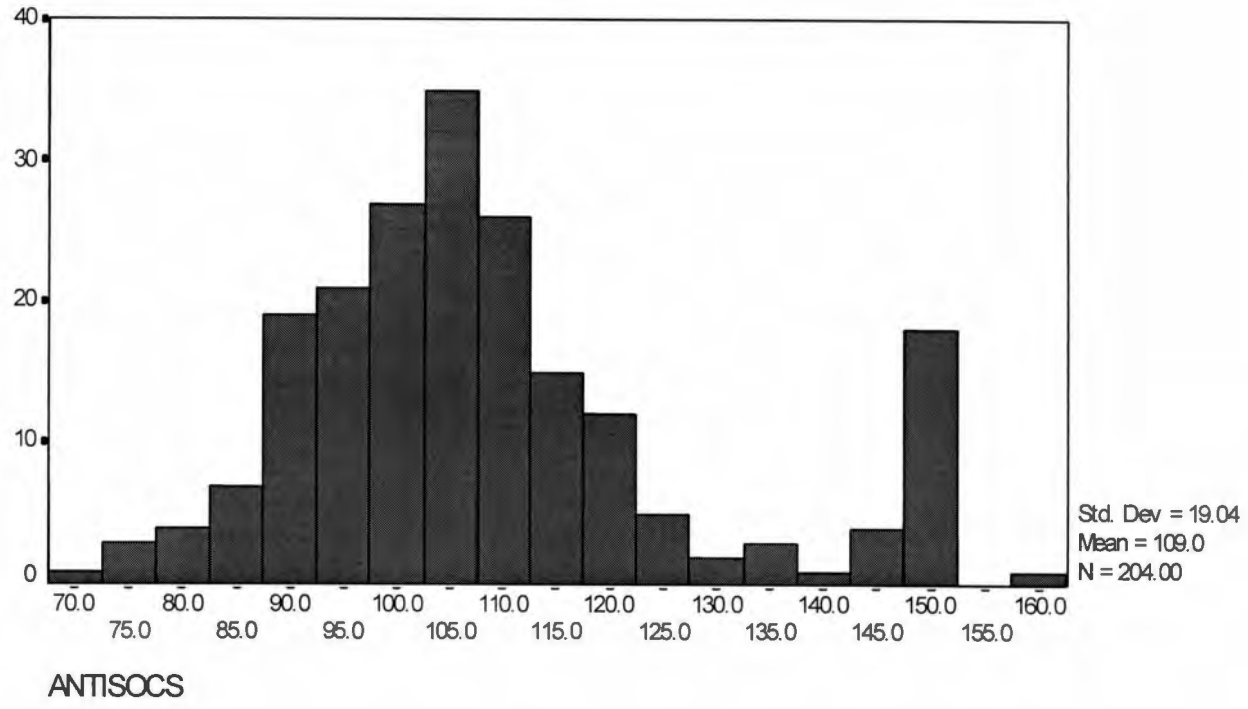


Figure 1. Score distribution for sample of incarcerated individuals.

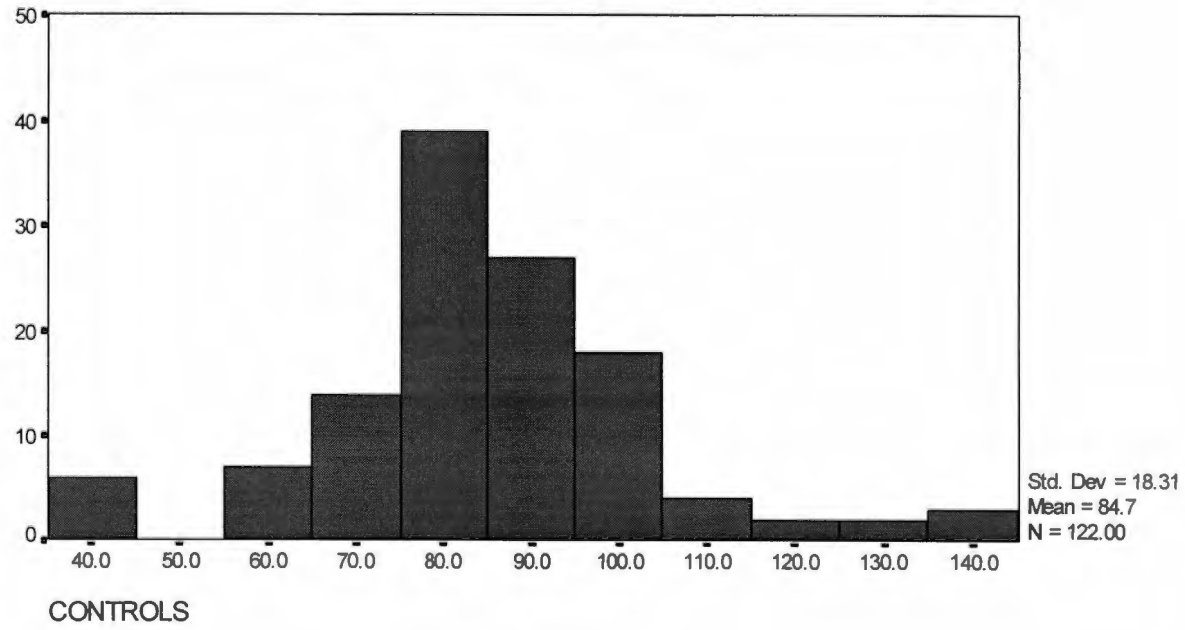


Figure 2. Score distribution for study control group.

labeled "Jail" for the purposes of discussion. Table 3 lists the correlation coefficients for the comparisons of each of the scales, the APTI, MMPI-2 Pd scale and the MCMI-III Antisocial Personality Scale (APS), with the dependent variable 'Jail".

TABLE 3: Bivariate correlation coefficients of each scale with the variable 'Jail'

	APTI	MMPI-2 Pd	MCMI-III APS
'Jail'	.53	.41	.05
	p<.001	p<.001	not significant

The APTI showed the largest correlation with the dependent variable (r= .53) followed by the MMPI-2 Pd scale (r= .41). The MCMI-III Antisocial Personality Scale proved to be a poor predictor variable having a correlation with the dependent variable of only .05. These correlation coefficients support the hypothesis that the APTI would predict a subject's membership in the control group versus the identified prison population group.

While these results support the second hypothesis of the study, the bivariate correlation coefficients do not reflect the extent to which the scales' correlation with the dependent variable is effected by the inter-correlation of the scales themselves. Partial correlations were computed to estimate the predictive ability of the APTI when the shared predictive ability of the cognate scales was partialled out. Table 4 graphically represents the results of the partial correlation analysis.

TABLE 4: Partial correlation coefficients comparing APTI total score to dependent variable 'Jail' while controlling for the other two independent variables.

Controlling for .. MCMI		Controlling for .. MCMI, MMPI	
	'Jail'		'Jail'
APTI	.55 p<.001	APTI	.44 p<.001

When the variance between the APTI and both of the cognate scales together is partialled out of the equation, the APTI x 'Jail' r value dropped from .53 to .44. The significant drop in value suggests that one of the cognate scales contributes some predictive ability. When the shared variance of the MCMI-III scale is

partialled out, the partial correlation coefficient for the APTI x 'Jail' relationship yielded an increase over the original APTI x 'Jail' correlation coefficient from .53 to .55. This increase in value, which is not statistically significant, suggests that the MCMI-III APS may be functioning as a suppressor variable in the equation.

A determination as to whether or not the MCMI-III APS functions as a suppressor variable in the previous equation was made using multiple regression analysis. Table 5 graphically represents the results of the multiple regression comparing each of the three scales to the dependent variable 'Jail'.

The multiple regression results show that when all three scales are entered into the equation, the multiple R value is .58. Analysis of variance yields an F value of 54.86 which is significant beyond .001. Within the regression equation, the APTI was weighted β= .48 (t= 8.9, sig beyond .000) and the Pd scale was weighted β= .22 (t= 4.15, sig beyond .000). While the MCMI-III Antisocial Personality Scale correlated significantly with the APTI (r= .35) and the MMPI-2 (r= .33), it achieved a β weight of - .19 (t= -3.85, sig beyond .000). This negative standardized regression coefficient suggests that the correlation between the APTI and the MCMI-III APS cognate concerns shared variance not related to the prediction of the dependent variable and confirms that the predictive power of the APTI is being suppressed when the MCMI-III APS is considered in the equation.

Results indicate that the APTI is able to predict antisocial tendency in a subject at a level beyond the ability of the MMPI Pd scale or the MCMI-III Antisocial Personality Scale, which in the present study accounted for no variance shared with the dependent variable.

The third hypothesis stated that the APTI would successfully predict whether or not a subject identified in the antisocial group would fall into the more or less severe category as defined by extent of criminal history. Considering the results of the tests of the previous hypotheses, bivariate and partial correlation coefficients were computed and a multiple regression analysis was run to determine if the APTI functioned similarly in the prediction of the second dependent variable.

Table 6 reports the results of the bivariate correlation analyses. Each scale, the APTI, the MMPI-2 Pd scale and the MCMI-III APS, is correlated with the second dependent variable, 'Felon'. The variable 'Felon' indicates whether or not a subject in the identified prison sample endorsed the statement, "I have been convicted of three or more crimes," and is used in the present study as an assessment of the severity of criminal history of subjects within the prison sample.

TABLE 5: Results of multiple regression analysis with "jail' as the dependent variable entering the APTI, MMPI-2 Pd scale and the MCMI-III APS as independent variables.

Dependent Variable.. JAIL

Enter APTI MMPI-2 MCMI-III

Variable(s) Entered on Step Number
1.. MCMI-III
2.. MMPI-2
3.. APTI

Multiple R	.58
R Square	.34
Adjusted R Square	.33
Standard Error	.39

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	25.82135	8.60712
Residual	322	50.52221	.15690

F = 54.85689 Signif F = .0000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
APTI	.34	.04	.48	8.90	.0000
MMPI-2	.06	.02	.22	4.15	.0000
MCMI-III	-.04	.01	-.19	-3.85	.0001
(Constant)	.17	.16		1.04	.3002

TABLE 6: Bivariate correlation coefficients of each scale with the variable 'Felon'

	APTI	MCMI-III	MMPI-2
FELON	.44	.16	.41
	p< .001	p< .005	p< .001

As was the case with the dependent variable "Jail", bivariate correlation shows the APTI and MMPI-2 Pd scale to be correlated with the variable "Felon" at a significant levels (.44 and .41, respectively). Unlike the previous case, the MCMI-III Antisocial Personality Scale also showed a minimal correlation with the dependent variable of .16.

Partial correlation coefficients are used to account for the shared variance of the three scales while examining their relationship to the dependent variable 'Felon'. Table 7 describes the results of the partial correlation analysis.

TABLE 7: Partial correlation coefficients comparing APTI total score to dependent variable 'Felon' while controlling for the other two independent variables.

Controlling for.. MCMI-III		Controlling for.. MCMI-III, MMPI-2	
	FELON		FELON
APTI	.41 P< .001	APTI	.29 p< .001

As suggested by the higher MMPI-2 x Felon bivariate correlation coefficient in Table 6 (.41), partial correlation for the APTI x Felon relationship showed a decrease from .435 to .289 over the bivariate correlation when the MMPI-2 and the MCMI-III were each partialed out of the equation. Results suggest that one or both of the cognate scales contributes predictive ability. When the shared variance of the MMPI-2 was left in and that of the MCMI-III was partialed out, the partial correlation coefficient of the APTI x Felon variables was nearly as large as the original bivariate coefficient (.41 versus .44). Again, this implies that the MCMI-III Antisocial Personality Scale is contributing little to the overall predictive ability of the three scales and that the APTI is accounting for a significant portion of the variance shared between the independent and dependent variables.

To examine the relative weights of each of the three scales with respect to their ability to predict the dependent variable "Felon", a multiple regression was accomplished. Table 8 represents the results of the multiple regression analysis considering each of the three scales in the equation.

Considering all three scales in the equation, the multiple R value was .49. Analysis of variance yielded an F value of 32.96, which is significant beyond .000. Within the regression equation, the APTI was weighted $\beta = .32$ and the MMPI-2 Pd scale was weighted $\beta = .26$. Again, the MCMI-III Antisocial Personality Scale achieved a negative weight of $\beta = -.04$, but in the regression equation with the dependent variable, 'Felon,' the MCMI-III APS β weight was not significant. The negative standardized regression coefficient found for the MCMI-III APS in the second multiple regression analysis reinforces the previous implication that the bivariate correlation coefficient found between the APTI and the MCMI-III APS concerns shared variance not related to the prediction of the dependent variable.

Unlike the case of the dependent variable "Jail", within this relationship of variables, the MCMI-III APS was not found to be a significant predictor of the dependent variable "Felon". To examine this condition, a partial correlation analysis finds that when the shared variance of the APTI and the MMPI-2 Pd

TABLE 8: Results of multiple regression analysis with 'Felon' as the dependent variable entering the APTI, MMPI-2 Pd scale and the MCMI-III APS as independent variables.

Dependent Variable.. FELON

Enter APTI MMPI-2 MCMI-III

Variable(s) Entered on Step Number
1.. MCMI-III
2.. MMPI-2
3.. APTI

Multiple R	.49
R Square	.24
Adjusted R Square	.23
Standard Error	.43

Analysis of Variance

	DF	Sum of Squares	Mean Square
Regression	3	18.49746	6.16582
Residual	322	60.24181	.18709

F = 32.96 Signif F = .000

---------- Variables in the Equation ----------

Variable	B	SE B	Beta	T	Sig T
APTI	.01	.001	.32	5.42	.000
MMPI-2	.07	.017	.26	4.40	.000
MCMI-III	-.01	.011	-.04	-.739	.460
(Constant)	-.11	.179		-.634	.526

scales are partialed out, the MCMI-III cognate showed no relationship with the dependent variable "Felon" (r=. 04, p> .45).

These results find that, in addition to its ability to predict the dependent variable, 'Jail', the APTI also predicts the level of severity of antisocial history in subjects beyond the ability of the MMPI-2 Pd scale or the MCMI-III Antisocial Personality Scale.

The foregoing results of the analysis of these data indicate confirmation of the three hypotheses of the present study. These results suggest that the APTI correlates with the two cognate scales, the MMPI-2 Pd scale and the MCMI-III APS. The results of the analysis of these data confirm that the APTI is able to predict subjects' membership in the control group versus the identified prison sample as well as level of severity of antisocial history within the identified prison sample.

V. DISCUSSION AND LIMITATIONS

The present study examined the value of rationally derived theory-based personality assessment instruments over behavior-based scales in the identification and assessment of antisocial personality traits in human subjects. The results of this study support Klien and Myerhoff's (1967) assertion that bio-psycho-social personality theory offers relevant information in the assessment and description of antisocial tendency and supports Goldman's (1995) position that relevant theory can be used to delineate markers for violence and antisocial tendency in general. Further, these results support the argument that in assessing antisocial tendency in a subject, the subject's personal relationship to his social situation must be considered as well as his or her individual behavior (Zaner, 1970).

The confirmation of the three hypotheses of the present study support the use of the APTI as a valid and reliable theory-based predictor of antisocial tendency and as a useful self-report instrument for measuring antisocial tendency in patients and research subjects. The confirmation of the hypotheses in the present study is believed to be due to the theoretical grounding of the APTI. The item content of the APTI follows directly from a wide range of biopsychosocial theory on antisocial personality as a construct. The statistical properties of the items were weighed during the development of the full instrument, but theoretical grounding

was primary and not compromised. Unlike the MCMI-III and to a lesser extent the MMPI-2, the APTI seeks to assess antisocial tendency by examining underlying personality functioning rather than by measuring behavior or behavioral history.

The APTI asked the subjects in the present study to report on his or her subjective understanding of himself or herself. The individual subject was asked to report his or her beliefs, values and ideas. The results the subject's responses produce is an index of exactly that; the extent to which a subject's subjective awareness includes concepts and constructs that are statistically and theoretically related to the construct of antisocial personality. There is no inferential step to be taken in interpreting the results of the APTI. The results of the test are conceptually and qualitatively exactly what the items represent. This is to be contrasted to the case of a scale based on behavioral assessment.

The APTI accounted for more variance in the dependent variables than did the behavior-based MCMI-III APS. The MCMI-III, as Millon (1994) states in the test manual, is based on behavior. The MCMI-III is designed to assess whether or not an individual meets behavioral diagnostic criteria rather than the extent to which an individual has certain latent traits or tendencies. Of the recent third edition of the test, Millon states, "The new MCMI-III has been aligned even more explicitly with the most recent diagnostic schema, the DSM-IV." Being based on the

assessment of behaviors rather than subjective awareness, the responses a subject gives to the MCMI-III APS items are presumed to relate to his or her behavior, but may not be significantly related to his or her personality. The scale might be more accurately named 'Antisocial Behavior Scale'. The results of the comparisons of the MCMI-II APS cognate with the dependent variables support Raine's (1993) supposition that behavioral history is a poor predictor of general antisocial tendency. The items from the MMPI-2 Pd scale are more balanced, some assessing behavior and some more subjective, which is perhaps why the MMPI-2 Pd scale showed generally larger statistical relationships with the dependent variables than did the MCMI-III APS in the present study.

An interesting issue is suggested by the argument that rationally derived theory-based assessment predicts antisocial tendency better than behavior-based items. The APTI, which assesses subjective experience, is, in the present study, a better predictor of criminal behavior. (Each identified incarcerated subject was each convicted of a criminal behavior.) The MCMI-III, an instrument designed to assess behavior, was not a good indicant of criminal behavior in the present study. The results suggest that predictions from subjective experience to behavior are more accurate than those predictions made from one behavior to another. The results of the present study further support the idea that antisocial behavior follows from a general attitude about life rather than growing from a series of escalating antisocial acts (Snyder, 1991) and calls into question the assigning of

an 'antisocial personality disorder' diagnosis based on behavioral criteria.

One could argue that the weakness of the cognate scales in the present study is due to the fact that a shortened version of each of the scales were used. Only eight items from the MMPI-2 and only seven from the MCMI-III Antisocial Personality Scale were used in the composition of the cognate scales. While this may have weakened the ability of the scales, one would assume that the cognates equally shortened would be equally weakened which they clearly were not. The MMPI-2 Pd scale maintained significant predictive ability for both dependent variables. Further, only the items from each scale that were 'double weighted' in the full instruments (Millon, 1994; Graham, 1995) were used to form the cognates. Of the total item composition of the MMPI-2 Pd scale and the MCMI-III APS, only the items which received double weighting in the overall calculation of instrument scores were used. It is assumed that these items are weighted more in the overall score of the instrument due to their statistical and theoretical strength as items representative of the constructs in question.

One possible explanation for the relative strength of the APTI in the present study is that the study was designed to assess the ability of the APTI to differentiate control subjects from identified criminal subjects. The APTI was designed to reliably assess the level of antisocial tendency in subjects. The MCMI-III is designed for differentiating diagnostic groups (Millon, 1994). The MMPI-2 and

the MCMI-III are both based on the assessment and description of clinical populations; populations already identified as remarkable in some way (Millon, 1994; Graham, 1995). It is theoretically possible that the MCMI-III is accurately assessing the level of diagnosable antisocial personality disorders from among the prison population. Not all criminals are antisocial and not all antisocial personality disordered individuals engage in overtly criminal behavior and it is possible that, in the present study, the MCMI-III APS accurately identifies that portion of the identified prisoner sample that is diagnosable as personality disordered. The results of the analysis of these data suggest that, if this explanation is correct, there are more diagnosable antisocial personality disordered subjects enrolled at the local community college than there are housed at the state penitentiary. This condition is possible, but not confirmed by the remaining statistical results which show the other two scales describing the opposite situation. Subjects from the identified prisoner sample scored higher on both the APTI and the MMPI-2 Pd suggesting that the level of antisocial personality traits is higher in the prison sample. The APTI and MMPI-2 Pd scale correlate in a positive direction with the dependent variables in the present study while the MCMI-III APS shows a negative correlation coefficient with the dependent variables. If all three scales are functioning within reliable and valid parameters, the results indicate that antisocial personality traits are inversely related to whether or not a subject meets criteria for Antisocial Personality Disorder. This conclusion also disregards the extent to which the MMPI-2 is

presumed to differentiate diagnostic groups (Graham, 1995). The results of the analysis of these data imply that the MCMI-III APS did not differentiate the control from the prison sample subjects or the extent of criminal history within subjects in the inmate sample and questions the validity of the MCMI-III APS at differentiating the diagnostic group 'Antisocial Personality Disorder' in the present study.

In the present study the APTI is shown to be a more sensitive instrument and is able to distinguish more variance in attitudes and beliefs relating to the construct of antisocial personality within the sample groups. Statistically, within the confines of the present study, the APTI is better able to assess the within-subject variance that can be used to predict a subject's likelihood of belonging to the control group or prison population. Another possible way to conceptualize this is that the APTI simply allows the test subject to present a more accurate and detailed description of himself or herself than do either of the cognate scales.

A final possible explanation for the success of the APTI in the present study is that the APTI items are worded in such a way as to minimize the error variance associated with social desirability response set bias. The APTI items, being based on theoretical constructs rather than behaviors, might be more difficult to fake. One can assume that a subject with little or no knowledge of the theory of antisocial personality would have greater difficulty consistently minimizing or

hiding completely his or her underlying personality structure than misrepresenting his or her behavioral history. Even if one knows no theory at all, one can probably assume that admitting that s/he stole things as a child makes him look bad. One may not realize that, theoretically and statistically, admitting that he has thought of joining the military also increases his APTI score. Perhaps one of the reasons for the success of the APTI in the present study is its subtlety. This possibility lends further support to the use of the APTI with the target population of which it may be said that there is a greater tendency to misrepresent the truth.

Aside from its usefulness as a predictive and clinical tool, the results of the present study suggest the usefulness of the rationally derived theory-based APTI in future research. Because of its resistance to social desirability response set bias, it would be useful in research with populations not commonly identified as antisocial, but which may nevertheless be presumed to endorse many of the associated attitudes. Research on law enforcement or military populations may prove enlightening. The APTI might also be a useful investigative tool in the areas of business and politics examining the relationship of antisocial tendency to success and failure as well as helping to explain ethically questionable behavior in otherwise successful careers. Of course, the theory of antisocial personality or antisocial tendency can include many other populations than common criminals and exists on a continuum just as any other personality trait. The APTI, having been created from the various theories, will be a useful tool in further research on the uncommon criminal as well.

Limitations of the Present Study:

While the results of the analysis of these data support the use of rationally derived theory-based psychometric instruments in the assessment of personality traits, in general, there are limitations to the generalizability of these results.

The present study examines the ability of the APTI to differentiate criminal populations. The results of this study are not presumed to indicate that the APTI is necessarily predictive of diagnostic groups. Unlike the two cognate scales used in the study, the APTI was not based on diagnostic criteria and the relationship of scores on the APTI to inclusion in or exclusion from the specific diagnostic label, 'Antisocial Personality Disorder' was not assessed. Based on the statistically significant relationship of the APTI scores to the dependent variable representing current incarceration, the results of the study support the APTI as predictive of antisocial and criminal behavior, but do not consider the issue of diagnostic fit per se.

Further, the results of the present study support the use of rationally derived theory-based psychometric instruments in the assessment of antisocial tendency, but should not be extrapolated to support the use of rationally derived theory-based assessment instruments in the examination of other personality traits. The present study supports the general idea suggested by the literature (Goldman,

1995; Raine, 1993; Snyder, 1991; Zaner, 1970 and Klien and Myerhoff, 1967) that relevant biopsychosocial theory should be used in item construction of instruments used to personality traits, but does not examine this supposition for any personality construct other than antisocial personality.

The generalizability of the results of the present study are limited by several data collection issues. The samples used in the study are limited in that they were each drawn from populations of Florida residents. The study should be replicated with random samples of subjects from other geographical areas of the country and possibly with subjects from other countries. The sample size exists as a limiting factor in the study as well. While the sample sizes were sufficient to detect significant results in the examination of the hypotheses, the study should also be replicated with larger sample sizes, especially larger control group sample sizes.

The present study focused on an identified population of male prisoners from one penal facility. While this facility is a state institution and meets certain standardization criteria, the results of the study should not be extrapolated to other prison populations. Possible differences may exist in populations interred at other types of facilities such as minimum security or work-release facilities. The present study included no female subjects in the identified prisoner sample. These results should not be generalized to female test subjects until a study is conducted comparing the scores of female prisoners to male prisoners and to control

subjects. The comparison of APTI scores of samples drawn from these different types of incarcerated populations presents an important area for future investigation.

Age was also not considered as a variable for investigation in the present study. While the sample on which the APTI was originally standardized showed no difference in scores based on age, a larger sample size may show this to be a significant variable for study. The study should be replicated to compare larger sample sizes of different age groups before assumptions regarding the relationship of age to scores on the APTI can be made. Other demographic issues not considered for the present study were race and level of education. Each of these variables may confound the results of the present study.

Each of these limitations of the present study suggest areas for future investigation. The results of the present study suggest that the information gained from future research with the APTI will yield meaningful information about theory-based psychometric instruments as well as the construct of antisocial personality.

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APPENDICES

APPENDIX A

Appendix A

Cognate Scale Items

The following items compose the MMPI-2 Pd cognate scale:

"I am not really influenced by the values and standards of others."

"Sometimes when I was young, I stole things."

"I have never been in trouble with the law."

"I wish I were not so shy."

"I find it hard to talk when I meet new people."

"Someone has it in for me."

"My way of doing things is apt to be misunderstood by others."

"I have used alcohol excessively."

The following items compose the MCMI-III APS cognate scale:

"My daily life is full of things that keep me interested."

"As a teenager, I got into lots of trouble because of bad behavior."

"I do what I want without worrying about its effect on others."

"Punishment never stopped me from doing what I wanted."

"There are members of my family who say I'm selfish and think only of myself."

"I am very good at making excuses when I get into trouble."

"I act quickly much of the time and don't think things through as I should."

APPENDIX B

VITA

Byron Navey was born in Greensboro, North Carolinaon January 2nd 1969. He graduated from Page Senior High School in June, 1987 and entered East Carolina University in Greenville, North Carolina. He received the Bachelor of Arts degree with a major in Psychology in June, 1991. He entered the Doctoral program for clinical psychology at the University of Tennessee the next Fall. He completed the program and attended the residency program at Wright Patterson Hospital in Dayton Ohio in 1995. From residency, he was assigned as a staff psychologist at Hurlburt Field Air Force Base, Special Operations Command. While assigned to Hurlburt Field, he completed all the requirements for the Doctoral degree in 1998, but did not officially graduate until May 2000.

Captain Navey, his wife Martha and their daughter Gwyneth are currently assigned to Air Force Space Command at Vandenberg Air Force Base in California where he is the base psychologist as well the Alcohol and Drug Abuse Prevention and Treatment manager and Crisis Response Team Chief.