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Basic Descriptive Properties and Validity of the Antisocial
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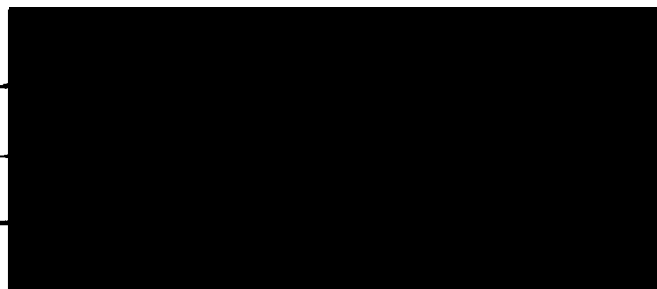
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**USE OF THE CARLSON PSYCHOLOGICAL SURVEY
WITH ADOLESCENTS: BASIC DESCRIPTIVE PROPERTIES
AND VALIDITY OF THE ANTISOCIAL TENDENCIES SCALE**

by

Walter Friesen

B.A., Carleton University, 1980

**THESIS SUBMITTED IN PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF**

MASTER OF ARTS

in the Department

of

Psychology



Walter Friesen 1983

SIMON FRASER UNIVERSITY

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Use of the Carlson Psychological Survey with Adolescents:

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ABSTRACT

The Carlson Psychological Survey (CPS) is a 50-item personality inventory designed for use with adult incarcerates. The CPS was administered to 350 adolescent incarcerated males in an investigation into its reliability and validity with this group.

Adolescents performed similarly to adults on all five CPS scales; differences were not of sufficient magnitude to preclude its use. Three of the substantive scales (Thought Disturbance, Chemical Abuse, and Antisocial Tendencies), showed acceptable temporal and internal reliabilities. Self Depreciation and a three-item Validity scale, however, showed lower stability and homogeneity, and were not clearly interpretable in factor analyses of the CPS. Antisocial Tendencies and Chemical Abuse emerged as two distinct factors in the factor analyses, while Thought Disturbance and Self Depreciation appeared to be adequately accounted for by a single factor.

In a more detailed analysis of the Antisocial Tendencies scale (AT), it was found that AT was a moderately good predictor of institutional adjustment, particularly in regard to bothersome, but not overly serious, day-to-day acting out. AT did not differentiate between incarcerates and non-incarcerates, did not predict more serious or violent offenders in the institution and finally, did not differentiate between incarcerates in terms of criminal charges.

AT was, however, related to the "Conduct Problem" scale on the Behavior Problem Checklist, and to a variety of scales on the Jesness Inventory. The pattern of these correlations tended to confirm the behavioural evidence that AT is primarily a measure of adolescent acting out.

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A. Introduction

In the past three decades, the problem of juvenile delinquency has become an area of increasing concern for psychologists, in both applied and research areas. In part, this concern reflects a general increase in the involvement of social science professionals in the criminal justice system, but additionally, it reflects an increase in the prevalence of delinquency itself. Between 1961 and 1976, the number of court cases involving juveniles doubled from a rate of 19 per 1000 cases to 38 per 1000 (Weiner, 1982, p.392). According to U.S. Department of Justice figures, 28 percent of all serious crimes are committed by individuals 16 years old or younger (Achenbach, 1982, p.480).

Many individuals whose misbehaviour results in arrest and subsequent court appearances have an extensive history of contact with social service agencies (Schlesinger, 1971). For particularly recalcitrant young offenders, or those charged with crimes of sufficient seriousness, the contact with agencies and courts culminates in incarceration in training schools or detention centers. Although the services of psychologists may have been invoked at various points in these individuals' pasts, at this juncture, psychologists may be involved in a variety of decisions of considerable impact for both offenders and the community.

Primary concerns of the community are related to such factors as the potential dangerousness of the individual, the chances of repeat offences, and questions related to placement and treatment. Particular concerns of institutions charged with the care of the individual are related to institutional adjustment, programming, and placement. Thus, in addition to rendering a diagnosis, (a process which is complicated by the fact that delinquency can be symptomatic of a variety of underlying problems Weiner 1982), psychologists may also be called upon to make relatively far reaching predictions regarding institutional adjustment.

Unfortunately, this task is not assisted by an extensive or comprehensive array of objective psychological tests developed for the assessment of adolescents charged with serious offenses. Most often, psychologists have relied on tests designed for adult nonoffenders, such as the MMPI (Gendreau 1975). Although MMPI profiles for adolescents have been established, there are a number of reasons why this inventory is less than ideal for use with young adjudicated offenders. These include its prohibitive length, the morbid sexual content of some of the items, and its reliance on adult psychiatric categories (Achenbach, 1982). Also, the MMPI scale considered most predictive of delinquency, the Psychopathic Deviate scale (Pd), was developed on a sample containing a preponderance of hospitalized (not incarcerated) girls with histories of minor delinquencies (Dahlstrom & Welsh 1960, p.61).

Although less commonly used, the Jesness Inventory appears to be the only multiscale personality inventory developed specifically for use with delinquent adolescents (Jesness, 1972). This test is meant to measure a variety of characteristics and attitudes typical of delinquents. Importantly, it also includes a scale, the Asocial Index,-- designed specifically for the prediction of delinquency. Even though the Jesness Inventory (JI) more closely approximates the assessment needs for this group, several problems remain. First, there is a paucity of validity evidence available for the JI, both in the manual (which cites correlations between JI scales and the California Psychological Inventory as primary evidence), and in subsequent studies. Of the few published studies extant, two have challenged the predictive validity of the Asocial Index (Shark & Handal, 1976, Saunders & Davies, 1976), Saunders and Davies (1976) also failed to find evidence supportive of the validity and utility of a number of the other JI scales. Furthermore, Shark and Handal (1976), found the temporal stability of a number of the scales to be unacceptably low, while Weintraub (1972) questioned the adequacy of JI reliability data in general.

Given the dearth of adequate objective tests in this area, there is clearly a need for a device which meets some of the particular diagnostic and predictive needs discussed earlier.

A test which may be a suitable addition to the limited field of objective tests available is the Carlson Psychological

Survey (CPS). The CPS is a recently constructed personality inventory designed for use with incarcerated adults. Comprising 50 items, it is written to reflect commonly found descriptions of behaviour and personality characteristics of prisoners. Individual items, written in Likert form, are simply and succinctly phrased, and require only a minimal reading level. Five scales make up the CPS: Chemical Abuse (9 items), Thought Disturbance (14 items), Antisocial Tendencies (16 items), Self Depreciation (8 items), and a Validity scale (3 items). Although precise details concerning how items were generated are not given in the CPS manual, Carlson mentions that preliminary forms of the test were administered until respondents no longer asked questions during the examination, at which point the items were regarded to be at an appropriate level of clarity and simplicity. The statistical criteria for inclusion of an item on any given scale were maximum correlations of .20 with any other scales, and within scale item-total correlations of at least .50. The CPS is interpreted typologically, with patterns of scale elevations producing 18 different types. These types were derived using a clustering technique developed by Carlson (1972), and they contain descriptive details derived from prison and court records.

The simplicity, ease of administration, and item content of the CPS suggest it may be a useful assessment device for delinquent adolescent populations. In particular, it may be more readily useful as an institutional screening device than the

MMPI and the Jesness Inventory. However no documentation of its applicability with this group is at this time available, nor have the validity and reliability of the CPS in general been adequately researched.

The central purpose of this study is to assess the utility of the CPS with incarcerated adolescents. A second, more general, but closely related goal, is the extension of the somewhat sparse validity data available on the CPS. The first objective involves the presentation of basic descriptive statistics and reliability data on the CPS with adolescents. The second goal, assessment of the validity of the CPS, is comprised of two aspects: (a) the examination of the factorial structure of the CPS, and (b) validation of the Antisocial Tendencies (AT) scale. Priority was given this scale because it presumably reflects the construct most obviously associated with crime and delinquency. Antisocial behaviour is the characteristic which most visibly differentiates most delinquents and criminals from other pathological populations. Moreover, as discussed earlier, there appear to be very few, if any adequate scales in this area. Therefore, the ability of AT to predict delinquency may make it one of the more important features of the CPS.

The use of a scale such as AT, which was designed for adults, ultimately raises questions about the comparability between age groups on such variables as etiology and the reasons for the maintenance of criminal behaviours. For example, it appears that there is a sharp drop in delinquency rates after

age 17 (Rutter, 1979), and that individuals that continue to pursue criminal activities may do so for qualitatively different reasons than the ones that were instrumental in initiating the behaviours. Therefore, a scale designed for adults may be more attuned to factors involved in the maintenance of criminal behaviours (ie ~~instrumental~~ rewards), whereas juveniles may be exhibiting a set of behaviours that derive from a more general, but relatively short-lived, developmental malaise. Such considerations also touch on various other possible etiological factors, such as SES and family background, all of which could have an influence on a scale's differential predictive validity. These broader issues, important as they are, will not be investigated in this study; rather, the focus is on a more limited evaluation of the reliability and validity of AT when used with adolescent incarcerates.

Descriptive statistics and reliability of the CPS

This aspect of the study involves presentation of data documenting the generalizability of the CPS to adolescent males. Such basic descriptive statistics as means, standard deviations and percentile ranks are presented and compared with those of the original sample. Also considered are the internal and temporal reliability of the test. Because the 3-item validity scale is meant to measure bad test-taking attitudes rather than socially despicable responding, the relationship between the CPS

and social desirability is also examined.

Factorial Structure of the CPS

The analysis of the factorial structure of the CPS was included as part of the preliminary validation of this test.

A perusal of item content suggests the CPS may not be comprehensive or sophisticated enough to make fine enough discriminations to warrant 5 scales. For instance, inspection of the item content of Thought Disturbance (TD) shows that a considerable variety of psychopathologies, ranging from hypochondria to psychosis could be measured by this scale. Additionally, items on this scale appear to overlap to some extent with those on Self Depreciation (SD); both contain items related to anxiety and feelings of inadequacy. The intercorrelations of these two scales reported in the manual are also quite high; $r = .50$. It is possible therefore, that TD and SD reflect a single construct, similar to the "Internalizing" factor often reported in studies of adolescent psychopathology (see Achenbach and Edelbrock, 1978 for a review). Antisocial Tendencies, with its heavy emphasis on active retribution, is by contrast evocative of a variety of descriptive labels subsumed under the "externalizing" dimension. The high intercorrelations between Chemical Abuse (CA) and AT (Carlson 1981) suggest that Chemical Abuse may reflect an externalizing tendency as well, however, conceptually, the two (AT and CA) are not related. It

was therefore expected that a factor analytic investigation of the CPS would reveal a less complex structure than the Scale names suggest.

Validity of the Antisocial Tendencies Scale

Antisocial tendencies and behaviour The CPS manual describes AT as a scale which "reflects a hostile animosity and a socially defiant attitude...as well as willingness to be assaultive or threatening," a willingness which "may or may not culminate in physical aggression." High scorers are variously described as "mocking", "cynical", "unethical", "untrustworthy", and "unremorseful", and are held to be more likely to be socialized into delinquent subcultures. Initially, it appears as though AT should measure attitudes similar to those measured by the Psychopathic Deviate scale (Pd) of the MMPI. However, the CPS manual reports a non-significant negative correlation between AT and Pd. The possible explanation given by the manual is that AT measures "more adult and more serious behaviours." Inspection of the AT items do reveal a qualitative difference between this scale and Pd, in that few AT items pertain to attitudes, and none to parental/familial concerns. Rather, ten of the 16 AT questions are either behavioural self-reports or predictions of likely behaviour in hypothetical situations. Nine of these ten items are concretely related to violence or verbal abusiveness (eg "I have carried a weapon on me", "I have been in

gang fights" etc). The main focus of this scale is clearly behavioural, rather than attitudinal, and the behaviours ostensibly being measured are of a markedly antisocial nature.

Unfortunately, evidence supporting the validity of AT presented in the CPS manual is too sparse to lend much weight to Carlson's definition of the construct. Specifically, there are no behavioural measures which support the contention that high scorers are actually more prone to commit more serious crimes, or to be unfriendly and assaultive. However behavioural referents to guide a validation study of the AT construct are clearly outlined both in the manual's description of high scorers, and by the face validity of the items. Several predictions derived from the above are as follows:

1. Because a combination of criminal seriousness and socialization into delinquent subcultures is said to be measured by AT, high scorers should be much more likely to commit more punishable offences than low scorers. Therefore, the scale should, at a minimum, differentiate offenders from non-offenders.
2. If high scores reflect a tendency to be assaultive, it is expected that among offender populations, individuals convicted of assaultive offenses will have significantly higher scores than those convicted of other non-assaultive offenses.
3. The willingness of high scorers to be assaultive, unfriendly and untrustworthy should be reflected in their institutional

adjustment. Specifically, again there should be evidence of increased assaultiveness and disruptiveness among high scorers, as reported in official records and by staff.

In addition to assessing the construct validity of AT in terms of the claims of the CPS manual and inspection of item content, this scale can be further investigated in light of Carlson's studies using the MMPI. The highest correlations between AT and any of the clinical MMPI scales was found between AT and Mania ($r = .32$). Mania (Ma) is held to be an index of "hyperactivity, distractability, unstable elation. ...suspiciousness and irascibility." (Marks, Seeman & Haller, 1974). Elevated Ma scores in MMPI profiles were also found by Marks et al to be associated with impulsivity and acting out. (This finding was dependent upon the pattern of other scale elevations.) Impulsivity and lack of self-control are hallmarks of externalizers, behaviour problem children, and delinquents. (Ahlstrom & Havinghurst, 1971, Blanchard, Bassett & Koshland, 1971, Heilbrun, Knopf & Bruner, 1976, Montgomery & Finch, 1975, Weintraub, 1973).

Given the relationship between AT and Ma, it is expected that this scale should be positively correlated with a variety of measures of impulsive behaviour.

Antisocial tendencies and other paper and pencil measures
Unfortunately for validation purposes, there is a dearth of paper and pencil tests that measure constructs hypothetically similar to AT. As mentioned previously, one of the very few is

the Jesness Inventory (Jesness 1972) which includes a variety of scales meant to differentiate between delinquent and non-delinquent adolescents. There are several Jesness scales which should be related to AT, given the earlier discussion of the face validity of AT items. Most notably AT should be related to Manifest Aggression, Social Maladjustment and the Asocial Index (a predictor of delinquency derived from a multiple discriminant analysis of the other Jesness scales). According to the CPS manual, high scores on AT need not be related invariably to physical aggression. Rather, high scorers may also exhibit an exceptionally unfriendly interpersonal style marked by a distinct lack of empathy. That individuals deficient in empathy and role-taking ability are often found in delinquent populations finds support in a number of studies (Ellis, 1982, Jurkovic & Prentice, 1977, Kurtines & Hogan, 1972). Given the description of high scorers' interpersonal style in the CPS manual, and the tentative empirical substantiation of an empathy/criminality link, an examination of the relationship between AT and empathy is also warranted.

Summary of Analyses and Predictions

1. The descriptive properties and reliability of the CPS with adolescents will be analysed.
2. An investigation into the factorial structure of the CPS will be conducted. Two, perhaps three, but not five factors are predicted.
3. The validity of the Antisocial Tendencies scale of the CPS will be examined. This aspect of the study includes testing the following hypotheses:
 - a. AT will differentiate between delinquents and nondelinquent adolescents.
 - b. Offenders who score high in AT will have a history of more serious and assaultive offenses and will show poorer institutional adjustment than other offenders.
 - c. High AT scorers will tend to be more impulsive than low AT scorers.
 - d. High scores on AT will be related to a variety of conceptually similar Jesness measures, and to a paper and pencil measure of Empathy.

B. Method

Subjects

Subjects were obtained from the resident population at the Willingdon Youth Detention Centre (YDC) in Burnaby, British Columbia. An average of about 80 adolescents are held at this facility at any given time. Of these, 10% to 15% are females. About 65% of the residents are kept at YDC on court remand (awaiting sentencing) because they are considered to be too dangerous to themselves or to others. The remaining 35% are contained (ie sentenced to the facility).

The residents of Willingdon are in large part youth who have been convicted repeatedly on a variety of property offences (shoplifting, theft, break and enter, etc.), and have exhausted all other less restrictive legal sanctions. However, there is also a minority of more serious offenders, some convicted of assault, rape, and murder. A token economy system designed to improve institutional adjustment is in place at YDC. This system offers rewards such as cigarettes, TV viewing time, more private living facilities and monetary payment for points achieved.

The principle body of subjects (n = 300, mean age = 15 yrs. 10 mos.) were males who had completed the CPS at intake, (the test was administered routinely by the nursing staff between the dates of July 1982 and April 1983). All data for this study were

obtained from males, as the female sample sizes would have been too small for many of the statistical procedures employed. An additional 50 subjects (mean age=15 yrs. 10 mos.) completed the CPS as well as a full battery of research questionnaires. Of these 50, 35 were remanded and 15 were contained (reflecting the approximate ratio of Remand to Contained residents at YDC). A series of t-tests (see Table 1) showed no significant differences on age, or on any of the CPS scales between the "CPS Only" group and those who completed the full test battery. Additionally, a MANOVA using the four CPS scales as independent variables and group inclusion as the dependent variable showed no differences between the groups. Finally, Table 2 shows that no differences were found between Remanded and Contained subjects on any of the CPS scales.

Because Remanded residents tend to be at YDC for a shorter period of time than the Contained group, some of the measures essential to this study (eg., Incident reports, staff reports on resident behaviour, and the CPS test retest) were not obtainable for this group of subjects. Therefore an additional 26 contained subjects (mean age=15 yrs. 8 mos.), of the 300 who had completed the CPS at intake, and for whom the requisite institutional data were available were selected to increase sample size for these aspects of the study.

For the nonincarcerated comparison sample, 20 subjects (mean age = 15 yrs 7 mos.) were obtained by canvassing (both directly and through posted announcements), from a number of

TABLE 1

Comparison Of Interview Sample With
All Other Respondents

Scale	Group	n	Mean	sd	t	df
CA	Interview	50	25.76	7.56	1.13	348
	CPS Only	300	24.58	6.76		
TD	Interview	50	29.40	7.40	1.25	348
	CPS Only	300	28.00	7.33		
AT	Interview	50	42.32	9.91	1.49	348
	CPS Only	300	40.13	9.59		
SD	Interview	50	22.32	4.34	0.39	348
	CPS Only	300	22.03	4.94		

TABLE 2

Comparisons Between Remanded vs Contained
Residents On The CPS

Scale	Group	n	Mean	sd	t	df
CA	Remanded	35	26.03	8.05	.40	48
	Contained	15	25.07	6.80		
TD	Remanded	35	29.18	6.05	-.39	18.57
	Contained	15	30.27	10.12		
AT	Remanded	35	42.38	9.68	.14	48
	Contained	15	41.93	11.28		
SD	Remanded	35	22.62	4.19	.85	48
	Contained	15	21.47	4.84		

settings in East Vancouver, a lower middle and working class district. Settings included a community centre (Riley Park), and a number of convenience stores equipped with video games. These subjects completed only the CPS AT scale and a self-report of illegal activity. Originally, it was planned to use high school students for the comparison group. However, permission to administer the tests to students was denied by the school boards in the greater Vancouver area. As a result, the comparison group was of less than optimum size, and less control over group composition was exercised by the more ad hoc sampling procedure the investigator was forced to adopt.

Measures

Illegal Behaviour

Both YDC records and self-reports were used to determine offense frequencies and categories. Self reported delinquencies were measured using items suggested by Hirschi et al (1980) (Appendix A). Although a standardized and validated self-report scale has yet to be published, Hirschi et al report that their scale consists of homogeneous subsets of items falling into six categories. Three of these, "official contacts," "delinquency" and "serious crime" were used in the current study. The items are constructed to assess both the commission of a particular offense (yes/no), and its frequency of occurrence over the past

year.

Institutional Adjustment

Incident reports provided an official institutional index of adjustment. File data containing incident reports were used only for those subjects having a residency duration of 2 months or more, and the incident report score was an index of offences per week. Perusal of incident reports revealed five different categories of offenses:

1. non-assaultive altercations with staff,
2. assaultive altercations (usually against other residents),
3. property damage or defacement,
4. smoking infractions or drug abuse, (because cigarettes are part of the token economy system at YDC, possession is tightly regulated),
5. AWOL.

A list of items falling into these categories was presented to staff for categorization on a three point severity scale (minor, moderate and serious offences). Thus both a record of categories of incidents by type, and staff ratings of incident seriousness were obtained.

In addition to officially recorded incidents, staff were requested to complete the Behaviour Problem Checklist (BPC) (Quay & Peterson 1979) on a sample of 34 residents who had been incarcerated for at least one month and with whom the staff had

worked with for at least two working weeks (eight days). The BPC consists of four factorially-derived scales; Conduct Problem, Personality Problem, Immaturity Inadequacy and Socialized Delinquency. These scales reflect some of the more commonly agreed upon classifications of juvenile delinquent subtypes. Conduct Problem is meant to identify the characterologically disturbed 'sociopathic' delinquent, Personality Problem the 'neurotic-disturbed' type, and Socialized Delinquency, the 'sociological' or 'subcultural' type (Genschaft, 1980, Quay, 1964). The BPC has received considerable research attention (Achenbach & Edelbrock 1978, Harris, Drummond & Schultz, 1977, Quay & Peterson, 1979), and has been shown to be appropriate for populations similar to YDC residents (Borkovec, 1970, Mack, 1979, Quay, 1979).

Paper and Pencil Measures

Jesness Inventory

The Jesness is comprised of 155 True/False items which make up 10 scales: Social Maladjustment, Value Orientation, Immaturity (all constructed empirically), and Autism, Alienation, Manifest Aggression, Withdrawal, Social Anxiety, Repression, and Denial (this group of scales was developed by cluster analysis). Additionally, the Jesness has an Asocial Index which is derived through weighted combinations of the other scales, and is designed to differentiate delinquents from

non-delinquents. As mentioned previously, the predictive validity of this scale has been challenged in a number of studies.

Hogan Empathy The Hogan Empathy scale (Hogan, 1969), a 64-item true/false questionnaire derived from the MMPI and the California Psychological Inventory, was used as the Empathy measure. This scale has been used to differentiate delinquents from nondelinquents in several studies (Ellis, 1982, Kurtines & Hogan, 1972).

Social Desirability The primary social desirability scale in use today is the Marlowe-Crowne scale (Crowne & Marlowe, 1960), a 33-item true/false questionnaire. Because of the limitations of patience and concentration often exhibited by delinquent adolescents, a short form of this scale, developed by Reynolds (1982) was used. This scale, consisting of 13 of the original 33 items was shown by Reynolds to be remarkably similar to the longer form. (The correlation between the short form and the MC proper was $r=.93$, and the KR-20 internal reliability estimate, $r=.76$.)

Impulsivity Measures

A common measure of impulsivity is the delay of gratification task. A variety of delay of gratification tasks that have been used to assess impulsivity include preferential choice for immediately available small rewards vs. large rewards available later (Mischel, 1974), hypothetical choices related to

preferred money spending styles (Stumphauzer, 1972) and percentage of allowance spent at institutional canteens (Wormith & Hasenpusch, 1977). As YDC residents are on a token economy system, the earnings of which can be spent at the canteen, the latter (Canteen Spending) was a ready-made unobtrusive measure. Wormith and Hasenpusch (1977) reported that canteen spending as an index of delayed gratification preference was significantly related to a battery of both paper and pencil tests and other delayed gratification preference tests.

Impulsivity can also be conceptualized as a function of cognition, in that abilities such as focusing on details, considering alternatives, and showing restraint in making decisions are closely related to behavioural style. To measure cognitive tempo, the adolescent/adult form of the Matching Familiar Figures Test (Kagan, 1964) was used. The Matching Familiar Figures (MFF) is a pictorial test, in which subjects are to choose an exact replica of a paradigm figure from among a number of other very similar pictures. Scores are derived from a composite of response latency and number of errors. The recommended procedure for determining impulsivity is to combine above-median latency/error subjects to form a "fast-inaccurate" or impulsive group, while subjects with a sub-median latency/error combination form the reflective group. This test has been shown to have a considerable range of applicability, including discrimination between conduct disorders and others (Weintraub, 1973; Messer, 1976).

Procedure

The 50 subjects required for the full testing were selected primarily on the basis of availability. Because YDC assigns residents to a variety of activity programs and duties, true random selection was not possible. Also, in the case of the unit containing remanded residents, practically the entire population had participated in the testing approximately two weeks after research began. Therefore, for this unit, new potential subjects were subsequently approached at intake. However, as shown previously (see Tables 1 and 2), neither the remand versus the contained, nor the "Interview" versus the "CPS Only" group comparison revealed significant differences on the variables of primary interest. Subjects were informed about the research by the principle investigator while in their units: information provided included an outline of the testing procedures, the length of time required and the voluntary nature of participation. If subjects agreed to participate (only three refused), they were taken to a quiet room and a short release form was presented to them (see Appendix B). Three points on the form -- the voluntary nature of the testing, an assurance of confidentiality, and the right to withdraw from testing at any time -- were pointed out verbally to ensure that subjects were in a position to give informed consent.

Nonincarcerated subjects who responded to the posted cards or who were approached by the investigator were offered two

dollars to complete the test. Most of the testing took place in a meeting room in a local community center. Subjects were assured of confidentiality, and of the eligible subjects approached (an age criterion of 14 to 17 years old was established), all but one agreed to complete the tests.

To obtain staff reports on the Behaviour Problem Checklist, staff on duty in the unit in which a particular resident was being held were approached and given a brief introduction to the research being conducted. In addition to agreement to participate, two further criteria were established: (1) that staff had worked with the resident in question for at least eight working days, and (2) after looking over the BPC, staff felt that they were sufficiently familiar with the resident to complete the form. Testing began on April 17, 1983 and was completed approximately one month later.

TABLE 3

Descriptive Summary Of IDC Samples

(1) 'CPS Only' (n=300)		
	Mean	sd
Age	15.83	1.07
CA	24.58	6.76
TD	28.00	7.33
AT	40.13	9.59
SD	22.03	4.94
V	3.70	1.21
(2) 'Interview' (n=50)		
Age	15.83	.89
CA	25.76	7.55
TD	29.40	7.40
AT	42.32	9.99
SD	22.32	4.35
V	3.64	1.03
(3) 'Institutional Measures' (n=26)		
Age	15.67	.73
CA	25.15	8.25
TD	28.12	6.26
AT	39.46	8.04
SD	22.42	5.77
V	3.69	.88

C. Results

Descriptive Statistics

Table 4 presents the basic descriptive statistics on the CPS. Visual inspection of means and standard deviations suggest very minimal differences between the YDC adolescents and Carlson's adult sample. The only appreciable difference is the adolescent group's mean score on AT, which exceeds the adult group's by almost four points. Significance testing, using t-tests, revealed significant differences between the adult and adolescent groups on TD ($t=-2.51$, $df=554$, $p<.05$), AT ($t=4.23$, $df=554$, $p<.01$), and SD ($t=3.11$, $df=554$, $p<.01$).

Alpha reliabilities are quite similar to those reported by Carlson. As in Carlson's sample, the alpha reliabilities are somewhat lower for Self Depreciation (SD), and substantially lower for the Validity scale.

Table 5 presents the individual item endorsement frequencies compared with those reported in the CPS manual. The adolescent sample differs only minimally, appearing somewhat more bold than adults in admitting to serious AT items, and somewhat more ready to admit to feelings of worthlessness. Adolescents also seemed a little more reticent in their responses on TD. A comparison of percentile ranks between adults and adolescents reveals this trend as well (Appendix C).

TABLE 4

CPS Summary Statistics¹

(n=350)

Scale	Mean	sd	Coeff. Alpha	Skewness	Kurtosis
CA	24.74 (24.50)	6.88 (7.23)	.84 (.73)	-.11 (-.06)	2.66 (2.33)
TD	28.19 (29.90)	7.35 (8.32)	.81 (.80)	.94 (.90)	4.28 (3.72)
AT	40.44 (36.80)	9.66 (10.00)	.83 (.82)	.49 (.55)	3.42 (2.65)
SD	22.07 (20.70)	4.85 (5.10)	.73 (.67)	.27 (.33)	3.26 (3.27)
V	3.69 (3.70)	1.18 (1.08)	.39 (.18)	2.59 (2.07)	8.42 (7.50)

¹ Figures in parentheses indicate Carlson's adult sample statistics.

TABLE 5

Percent Item Endorsement Frequencies²

(n=350)

	Answer Alternatives				
	1	2	3	4	5
CA	25.4 (23.5)	23.2 (27.1)	22.6 (20.3)	17.9 (18.2)	10.5 (11.1)
TD	35.6 (33.3)	39.4 (39.1)	16.6 (16.6)	5.5 (7.1)	2.9 (3.7)
AT	26.3 (33.9)	27.1 (28.8)	24.0 (20.2)	12.7 (10.9)	9.8 (6.1)
SD	9.8 (18.9)	37.0 (32.0)	32.5 (31.1)	15.1 (13.4)	5.4 (5.6)
V	82.9 (80.3)	14.0 (15.3)	1.9 (2.0)	.9 (1.3)	.7 (.3)

² Figures in parentheses indicate Carlson's adult sample statistics

TABLE 6

Intercorrelations among CPS Scales

(n=350)

	CA	TD	AT	SD
TD	.33 (.29)			
AT	.56 (.55)	.27 (.27)		
SD	.24 (.08)	.54 (.50)	.30 (.29)	
V	.09 (.22)	.27 (.25)	.18 (.15)	.16 (-.05)

TABLE 7

CPS Test-Retest Reliabilities
(7 Day Interval)
(n=20)

CA	TD	AT	SD	V
.95**	.88**	.95**	.62*	.75**

*p<.01
**p<.001

TABLE 8

Correlations Of CPS Scales With
Marlowe-Crowne Social Desirability

(n=50)

CA	TD	AT	SD	V
.03	.03	-.003	-.14	.13

Table 6 presents the intercorrelations of the CPS scales. Again the similarity between the adolescent sample and the CPS adult sample is noteworthy. The strongest correlations were between AT and Chemical Abuse (CA) ($r=.56$), and between SD and TD ($r=.54$). The test-retest reliabilities of the CPS over a seven day interval are shown in Table 7. The reliabilities for the adolescent sample ranged from a low of .62 on SD to a high of .95 (on both CA and AT).

Table 8 shows the correlations between the CPS and the Marlowe-Crowne social desirability scale. As can be seen, none of the CPS scales was significantly related to socially desirable responding.

Factor Analyses

Principal Components analysis using Varimax rotation yielded 13 factors with eigenvalues greater than one (see Appendix D for eigenvalues). Interpretation of the factors became difficult after Factor VII because of the extremely small numbers of items loading on any given factor, in addition to the fact that items on the later factors represented a considerable mixing of the CPS scales. (The one exception was Factor X, which had 2 of the 3 Validity items loading on it.) The first seven factors are shown in Table 9. It was decided to accept items with loadings of .35 or greater as being significantly related to a factor. Inspection of the first seven factors clearly shows

that TD does not comprise one factorial dimension. Instead, TD items with loadings of .35 or greater are spread across four factors (III, IV, VI, VII). Additionally, three of these factors also had SD items loading on them. In terms of item content, only two of the 4 TD/SD factors are readily interpretable. Factor III, comprised entirely of TD items, (7 of a total of the 14 items) is made up of items that can be construed as representing the symptomatology of a variety of psychological disturbances, including anxiety, disturbing dreams, memory lapses, hypochondria, and hallucinations. Factor IV, which contained a mixture of three TD and four SD items, appeared interpretable as representing depression: most of the items referred to either mood disturbances, or to feelings of helplessness and victimization. The remaining two TD/SD factors included only a few items, items that were in large part redundant with respect to Factors III and IV.

Another aspect of this analysis worthy of note is the splitting of AT into two factors (7 of the items showing up on Factor II, and 7 on Factor V, with item 43 showing up on both factors). Item inspection suggested that Factor II, when compared with Factor V, had a slight preponderance of items directly related to fighting, while the Factor V items were somewhat more 'attitudinal' in nature, but a clearcut conceptual difference between the factors was not readily discernable. Two CA items, both related to social aspects of drinking and drug use, also appeared on this factor.

TABLE 9

Principal Components Analysis of the CPS
(Varimax Rotation of 13 Factors) ³

	I	II	III	IV	V	VI	VII
1 (CA)	(68)	13	-02	-05	-04	21	11
7 (CA)	(80)	18	10	07	10	-03	03
14 (CA)	26	03	02	11	09	02	05
18 (CA)	(64)	11	03	14	23	15	09
22 (CA)	(67)	00	04	03	27	-18	-01
29 (CA)	(48)	(45)	14	00	-10	29	-01
38 (CA)	(62)	(38)	12	10	03	12	-04
44 (CA)	33	11	11	26	16	-05	-05
46 (CA)	(54)	01	11	-05	06	-11	02
3 (AT)	14	(45)	06	14	00	-07	24
6 (AT)	17	21	09	02	(55)	13	-02
9 (AT)	23	33	14	22	(37)	-11	02
13 (AT)	19	17	18	24	29	02	-09
16 (AT)	14	26	25	07	11	21	-14
20 (AT)	12	07	-18	11	(54)	-07	00
24 (AT)	12	(38)	00	02	14	03	01
28 (AT)	09	(67)	-01	06	24	-06	-13
31 (AT)	21	24	05	-05	(36)	11	-33
34 (AT)	19	(68)	04	01	18	-01	02
37 (AT)	10	(72)	04	03	03	01	-05
40 (AT)	27	14	09	-01	(61)	05	08
43 (AT)	(64)	(52)	12	-06	(35)	08	-19
45 (AT)	01	10	28	26	30	11	(-37)
48 (AT)	-01	19	17	-06	(59)	09	12
50 (AT)	32	(37)	03	-03	34	15	03

(cont'd)

³Decimals omitted. Loadings of .35 or greater shown in parentheses. Items are paraphrased in Table 11.

TABLE 9 (cont'd)

	I	II	III	IV	V	VI	VII
2 (TD)	08	-04	19	23	09	(51)	24
5 (TD)	06	-09	14	(39)	-03	(36)	(46)
8 (TD)	25	04	(54)	02	06	(37)	16
12 (TD)	11	-06	(46)	09	-03	24	25
15 (TD)	02	-08	23	07	15	12	-01
19 (TD)	12	-05	23	-14	-03	18	24
23 (TD)	08	05	(61)	15	03	-03	-07
27 (TD)	06	13	23	(43)	08	16	28
30 (TD)	09	27	(58)	16	-04	-02	09
33 (TD)	12	-01	15	(38)	-01	13	(54)
36 (TD)	02	-04	(47)	-03	12	18	(35)
39 (TD)	23	07	(69)	10	14	-02	06
42 (TD)	08	-09	12	01	07	-09	(73)
47 (TD)	05	11	(43)	07	07	23	32
4 (SD)	08	-05	10	14	02	(69)	-10
10 (SD)	02	15	00	(35)	13	(65)	(66)
17 (SD)	13	03	02	(70)	03	24	-04
21 (SD)	02	10	01	24	09	11	-02
25 (SD)	-03	-02	31	(45)	09	34	-03
32 (SD)	09	02	17	26	-12	15	01
41 (SD)	11	01	30	09	16	14	01
49 (SD)	05	06	16	(69)	-03	09	17

TABLE 10

Factor Analysis of the CPS
(Varimax Rotation of Five Factors) •

	I	II	III	IV	V
1 (CA)	08	(69)	09	-01	06
7 (CA)	24	(79)	02	14	13
14 (CA)	13	34	18	10	12
18 (CA)	18	(59)	13	07	-06
22 (CA)	20	(50)	-14	11	-10
29 (CA)	33	(50)	19	04	14
38 (CA)	34	(59)	14	07	-02
44 (CA)	24	(45)	21	13	06
46 (CA)	16	(51)	-06	11	11
3 (AT)	24	23	12	12	14
6 (AT)	(43)	20	07	17	06
9 (AT)	(44)	27	08	09	17
13 (AT)	(36)	19	17	11	07
16 (AT)	29	21	12	13	20
20 (AT)	(38)	11	08	04	-18
24 (AT)	(41)	24	08	07	34
28 (AT)	(63)	16	-02	-13	-28
31 (AT)	(58)	05	03	11	-17
34 (AT)	(53)	22	00	00	13
37 (AT)	(47)	19	01	-10	22
40 (AT)	(44)	27	23	14	-03
43 (AT)	(60)	17	00	00	-09
45 (AT)	(44)	01	26	18	-06
48 (AT)	(36)	07	05	22	00
50 (AT)	(46)	16	10	03	(36)

(cont'd)

*Decimals omitted. Loadings of .35 or greater shown in parentheses

TABLE 10 (cont'd)

	I	II	III	IV	V
2 (TD)	02	13	(49)	31	20
5 (TD)	-22	09	(54)	24	(35)
8 (TD)	12	22	26	(48)	20
12 (TD)	-02	15	28	(48)	26
15 (TD)	09	06	16	34	-05
19 (TD)	03	10	19	(43)	-15
23 (TD)	17	04	13	(40)	14
27 (TD)	06	17	(41)	29	33
30 (TD)	13	00	15	(45)	23
33 (TD)	-15	17	(37)	22	00
36 (TD)	-03	14	15	(39)	23
39 (TD)	17	18	07	(59)	08
42 (TD)	-23	17	08	31	11
47 (TD)	08	13	31	(37)	17
4 (SD)	08	03	(44)	15	06
10 (SD)	20	02	(63)	08	-06
17 (SD)	10	12	(59)	05	00
21 (SD)	22	00	32	12	-15
25 (SD)	12	01	(52)	18	-09
32 (SD)	09	-12	30	19	18
41 (SD)	20	-07	28	34	-28
49 (SD)	02	16	(58)	11	00
11 (V)	-03	-13	-03	08	26
26 (V)	05	01	-03	12	(38)
35 (V)	08	10	15	12	(48)

TABLE 11

Factor Analysis of CPS

(Varimax Rotation of Four Factors) ⁵

Item No.		I	II	III	IV
1	(CA) alcohol use:now	05	11	(67)	05
7	(CA) drug use: now	10	24	(80)	-10
14	(CA) alc: trouble	18	14	(39)	13
18	(CA) drug use:future	13	19	(59)	-05
22	(CA) drugs:good eff.	-04	19	(51)	-07
29	(CA) peers:alc.	16	(35)	(48)	12
38	(CA) peers:drugs	15	(35)	(58)	-02
44	(CA) drugs: trouble	23	25	(45)	07
46	(CA) drugs most used	00	17	(52)	13
3	(AT) trust no one	15	25	22	15
6	(AT) weapon for rob.	16	(42)	20	07
9	(AT) verb. aggress.	10	(45)	26	17
13	(AT) school: act out	20	(37)	18	07
16	(AT) peers in trouble	15	30	20	21
20	(AT) hate staff	11	(37)	10	-19
24	(AT) gang fights	00	(44)	21	29
28	(AT) enjoy fights	-10	(66)	13	21
31	(AT) remorse	12	(56)	06	-17
34	(AT) revenge	-01	(55)	20	11
37	(AT) revenge	-07	(50)	17	16
40	(AT) dislike laws	11	(44)	27	-02
43	(AT) revenge	02	(59)	16	-12
45	(AT) trouble with law	33	(43)	01	-05
48	(AT) enjoy put-downs	17	(35)	08	02
50	(AT) carry weapon	07	(49)	14	33

(cont'd)

⁵Decimals omitted. Loadings of .35 or greater shown in parentheses.

TABLE 11 (cont'd)

	I	II	III	IV
2 (TD) mixed-up (55)		03	13	24
5 (TD) depressed (53)		-19	08	(37)
8 (TD) hallucinat. (47)		12	24	28
12 (TD) poor nerves (48)		-02	24	(35)
15 (TD) undrstnd. TV 33		07	-04	01
19 (TD) unhealthy (40)		00	13	-04
23 (TD) poor memory 32		16	07	20
27 (TD) mood swings (47)		08	17	(37)
30 (TD) reality test (35)		12	02	31
33 (TD) many prblms. (42)		-15	18	05
36 (TD) bad dreams 32		-04	16	31
39 (TD) poor memory (38)		15	22	19
42 (TD) worries lots 22		-22	19	19
47 (TD) poor health (45)		08	14	23
4 (SD) dull life (44)		08	02	07
10 (SD) poor future (56)		20	00	-07
17 (SD) many prblms. (50)		10	10	-01
21 (SD) peer eval. (36)		20	-01	-14
25 (SD) slf.efficacy (54)		11	01	-07
32 (SD) soc. skills (35)		09	-13	20
41 (SD) slf.efficacy (45)		17	-05	-22
49 (SD) bad life (53)		04	14	02
11 (V) #langs.spoken -01		-02	-13	27
26 (V) #countries res 01		07	01	(40)
35 (V) sleep regular 14		12	09	(50)

Finally, the factor rendering the most straightforward interpretation in this analysis was Factor I, which had 7 of the 9 CA items loading on it.

Given the number of factors rendered by the Principal Components solution, many of which were interpretively ambiguous, further analyses, limiting the number of factors in the rotation, were conducted. Deciding on the best number of factors for rotation was governed primarily by interpretability, as several of the common rules of thumb, such as the 'scree test' and 'discontinuity' (Rummel, 1970), were not readily applicable. (The former would suggest keeping only three factors, while the latter was difficult to apply because of the very gradual shrinkage of the eigenvalues.) In general, the rapid decline of interpretability of factors after Factor V suggested no more than five be kept. (This number also coincides with the original 5-scale structure of the CPS.) The variance accounted for by each factor also appears to level off, and becomes trivial after factor five. (The percent variance accounted for by the first five factors is as follows: I=17.7, II=8.2, III=4.8, IV=4.3, V=3.5.) However, a more objective criterion that argues against making the cut between Factors V and VI is the rule that the most suitable cutoff point is located between factors showing the greatest discontinuity in adjacent eigenvalues. Although discontinuity of eigenvalues is not striking in this analyses of the CPS, there is a larger break between Factors IV and V than between V and VI (.42 vs

.29). This criterion, then, suggests the cutoff be made at Factor IV.

However, because the above considerations are not hard and fast rules, and because of the ambiguities involved in the decision, rotations of both four and five factors were attempted.

The five factor rotation is shown in Table 10. As can be seen, AT and CA are clearly interpretable as Factors I and II, respectively. The TD factor (III), is virtually identical to the one obtained in the 13 factor rotation, and Factor IV, too, shows almost an identical TD/SD mix as the one in the previous analysis. This latter factor again seems to be tapping depression and helplessness. The fifth factor includes the two V items that appeared earlier, in addition to one item each from AT and TD. This analysis, then, yields five interpretable factors, the number expected, given the number of scales on the CPS. However, it is important to note that the item composition of these factors does not match that of the CPS scales, particularly in the cases of TD and SD.

The four factor solution yielded 3 interpretable factors, with CA items loading on Factor III, AT items on Factor II, and all SD items, and 10 of the 14 TD items loading on Factor I. Factor IV contained a mixture of 2 V items, and 3 TD items. This solution approximates the structure of the CPS hypothesized in this study, particularly the contention that TD and SD are best viewed as comprising a single factor. Given the fact that the

factorial structure in the Principal Components analysis and five factor solution does not accurately reflect the constructs claimed by the CPS manual, viewing these items as part of a single, higher order dimension may be the most parsimonious, (and adequate) rendering of the structure of the CPS.

Validation of AT

Hypothesis 1: AT will differentiate between incarcerates and non-incarcerates To test the first hypothesis, t-tests were conducted. No significant results were obtained. Excluding those nonincarcerates who admitted committing 'serious' crimes on the self-report scale from the comparison did not produce any significant differences between groups (see Table 12). However, as can be seen in Table 13, t-tests between IDC subjects and the nonincarcerated sample revealed significant differences between groups, both in number of different types of serious crime, as well as on number of serious crimes committed in the last 12 months. Therefore, according to these results, although real differences between the number and type of criminal activity reported by these groups existed, the differences were not reflected in AT scores.

Hypothesis 2: High scorers on AT commit more serious or violent crimes, and show poorer institutional adjustment than other offenders. To test the hypotheses that convicted violent offenders differed from non-violent offenders on AT, a number of

group comparisons were made, using t-tests. The first, comparing mean scores of YDC youth charged or convicted of assaultive offenses with those charged with a variety of nonassaultive property offenses, showed no differences between the two groups (Table 14). The second comparison, between individuals scoring above the median number of documented assaults per week while in the institution (as reported on incident reports in resident's files) and those scoring below, again showed no significant differences.

The relationship between AT and institutional adjustment was assessed by computing correlation coefficients between AT and the BPC scales, as well as between AT and number, severity, and type of incident reports. (The latter correlations were computed after square root transformations to normalize the distributions of the incident report data were made.) As Table 15 shows, AT was significantly related to BPC Conduct Problem ($r=.41$) and Socialized Delinquency ($r=.29$). AT was also positively correlated with all but two incident report measures (viz., serious or assaultive incidents -see Tables 16 and 17).

Hypothesis 3: High AT scorers will be more impulsive than low AT scorers The negative correlation between AT and the Token Economy Spending measure was marginally significant ($r=-.27$, $p<.06$). This trend is in the opposite direction to the one hypothesized, namely, that high AT scorers would tend to be more impulsive in their spending habits. They are, rather, less impulsive.

TABLE 12

Comparisons Between Incarcerates And Non-
Incarcerates On AT

	Group	n	Mean	sd	t	df
AT	Inc.	50	42.32	9.99	-.50	68
	Noninc.	20	43.65	10.31		
AT (No crimes, ever)	Inc.	50	42.32	9.99	1.92	54
	Noninc.	6	34.00	10.26		
AT (No crimes, past yr.)	Inc.	48	41.88	9.58	.54	58
	Noninc.	12	40.17	10.66		

TABLE 13

Comparisons Of YDC Interview Sample
With Nonincarcerated Subjects

Variable	Group	n	Mean	sd	t	df
Types of Contact (Ever)	Inc.	50	6.28	.15	7.15**	23.11
	Noninc.	20	2.65	.48		
Contact In Past Yr.	Inc.	50	27.54	3.62	5.36**	61.13
	Noninc.	20	5.60	2.47		
Minor Del. (Types, ever)	Inc.	50	3.62	2.20	.12	68
	Noninc.	20	3.55	2.35		
Minor Del. In Past Yr.	Inc.	50	11.82	14.34	.51	68
	Noninc.	20	9.95	12.64		
Serious Crime (Types ever)	Inc.	50	6.54	3.39	4.35*	68
	Noninc.	20	2.75	3.02		
Serious Crime Past Yr.	Inc.	48	37.35	46.11	4.31**	58.51
	Noninc.	20	6.30	11.29		

**p<.01

*p<.05

TABLE 14

AT And Assaultive Behaviour:
Comparisons Of Mean Scores

Source	Group	n	Mean	sd	t	df
Criminal Charges	Nonassault.	56	41.91	9.46	.32	70
	Assaultive	16	41.06	9.42		
Assaultive Incidents In Institution.	Below Median	17	37.94	2.25	.98	32
	Above Median	17	40.88	1.98		

TABLE 15

Correlations Between AT And The BPC

(n=30)

	Conduct Problem	Personality Problem	Inadequacy Immaturity	Socialized Delinquency
AT	.41*	-.07	.03	.29*

*p<.05

TABLE 16

Correlations Between AT And Incident Reports

(n=34)

	Number Of Incidents	Low Severity	Moderate Severity	Serious Incidents
AT	.41**	.40**	.28*	.27

*p<.05

**p<.01

t

TABLE 17

Correlations Between AT And Categories
Of Incident Reports

(n=34)

	Nonassaultive	Assaultive	AWOL	Smoking	Property
AT	.39**	.19	.12	.35*	.20

*p<.05

**p<.01

To test whether AT was related to cognitive tempo, a t-test between groups of 'reflectives' vs 'impulsives' (as classified on the MFF) was conducted. No significant differences on AT between these groups were obtained ($t = -.29$, $df = 39$, $p < .78$).

Hypothesis 4: AT will be related to a variety of scales on the Jesness Inventory and to the Hogan Empathy scale

The hypothesized relationship between AT and JI Social Maladjustment, Manifest Aggression and the Asocial Index was confirmed only for Manifest Aggression, ($r = .23$). Although AT was significantly related to a subset of the Social Maladjustment items which Jesness (1972) terms the 'Weighted Social Maladjustment Scale', as can be seen in Table 18 there was a non-significant relationship between AT and Social Maladjustment proper. (The correlations however, were quite similar in size and direction. Of interest is the pattern of correlations between AT and Jesness scales not mentioned in the hypotheses. These include the significant correlations between AT and Value Orientation ($r = .40$), AT and Alienation ($r = .56$), and the negative correlation between AT and Social Anxiety ($r = -.37$).

No significant correlation between AT and the Hogan Empathy scale was obtained ($r = .07$).

AT and self reported crime This paper and pencil measure, although not specifically discussed in the hypothesis, provided a further opportunity to assess the relationship between serious and assaultive crimes and AT. Correlations between self

reported crime and AT are shown in Table 19. All but one of the correlations (between AT and contacts with the law in the past year) were significant.

To further test the the AT/self reported crimes relationship, t-tests were conducted between groups of above median and below median serious offenders (as measured by the self report inventory), as well as between those who reported having committed no violent offenses and those who had. The 'violent offenses' categories were established by selecting those serious offenses items referring to fighting, armed robbery, robbery with violence, and possession and use of weapons. (In the comparison involving the 'serious crimes in the past year' self-report measure, two outliers in the incarcerated group, with scores in excess of 300 more crimes than the highest number reported by the rest of the sample were removed. The two high scorers were both drug dealers who were reporting the number of narcotics sales they had completed in the past year.) As can be seen in Table 20, both comparisons showed the more serious and more violent self reported offenders scoring significantly higher on AT.

TABLE 18

Correlations Between AT And
The Jesness Inventory

(n=49)

	AT
Social Maladjustment (W)	.25*
Social Maladjustment	.21
Value Orientation	.40**
Immaturity	.22
Autism	.29*
Alienation	.56***
Manifest Aggression	.28*
Withdrawal	-.18
Social Anxiety	-.37**
Asocial Index	-.15
Repression	-.11
Denial	-.17

*p<.05

**p<.01

***p<.001

TABLE 19

Correlations Between AT And Self-Reported Crimes

(n=50)

	AT
Types of Contact	.11
Contact (Past Yr.)	.38*
Types of delinquency	.32*
Delinquency (Past Yr.)	.42*
Types of serious crime	.51**
Serious crimes (Past Yr.)	.48**

*p<.05

**p<.01

TABLE 20

AT And Self-reports Of Serious Crime
And Violent Behaviour

Variable	Group	n	Mean	sd	t	df
Violence (Types Ever)	Viol.	36	44.69	9.67	2.89**	48
	Non-viol.	14	36.21	8.30		
Violence (Past Yr.)	Viol.	29	46.31	9.80	3.73***	48
	Non-viol.	21	36.91	7.43		
Serious Cr. (Types Ever)	Above med.	25	46.40	10.32	3.14**	48
	Below med.	25	38.24	7.22		
Serious Cr. (Past Yr.)	Above med.	25	44.88	4.70	2.37*	46
	Below med.	23	36.60	8.50		

**p<.01

***p<.001

D. Discussion

Performance of the CPS with Adolescents

From the descriptive data presented in this study, it appears that the CPS is a test whose use is compatible with adolescent incarcerated populations. Although statistically significant differences were found between adults and adolescents on 3 of the 5 CPS scales, practically speaking, the only substantial differences appeared on AT, where the means and percentile ranks of adolescents are somewhat higher than Carlson's adult sample.

In general, the substantive scales, with the exception of SD, show good internal reliability, as well as good stability over time. The reduced reliabilities of SD may, in part, suffer because a number of items on this scale are ambiguously or unclearly stated. For instance, a sizable number of subjects were puzzled by questions such as: "Most people like it when I: (a) Talk a lot (b) Talk a little (c) Am there but do not say anything" etc. A number of protocols were also returned with question marks and other comments written beside these questions.

The Validity scale appears to show less than acceptable levels of reliability. The usefulness of the Validity scale is in serious question, with its low reliabilities, poor face validity, and extreme brevity. Again, a number of subjects made

comments critical of this scale or appeared incredulous at the item content. If anything, this scale may have a negative effect on test taking attitudes. It may be of use only in cases where it is not really needed - cases in which responses are consistently so extreme as to be unbelievable in the first place. Although two of the three V items loaded on a single factor, in all three of the factor analyses, the above considerations suggest interpretation of the construct represented by this factor not be undertaken. Given the minimal amount of reliable information contributed by this scale, its use in creating the profiles in the CPS manual's typology, is also highly questionable.

The hypotheses concerning the results of the factor analyses were partially supported. When limited to a four factor rotation, the CPS revealed only three interpretable factors. The prediction that SD and TD reflect a general 'internalizing' dimension, and that AT was representative of a separate externalizing factor was consistent with this rotation. The speculation that CA would be included on the externalizing factor was not supported. However, it should be noted that it was not clear whether the CPS was best represented by four substantive factors (as suggested by the five factor solution), rather than the three rendered by the four factor solution. There are several reasons why the latter might be considered as most appropriate. First, although the Principal Components and five factor rotations suggest that at least two dimensions of

psychopathology are being measured by TD and SD, these dimensions were not delineated by the item composition of the original scales. Further, the item content of the TD/SD factor suggests that perhaps depression, rather than self-depreciation is being measured. This lack of clarity suggests that until further investigation establishes more concretely the validity of these scales, they not be regarded as accurately reflecting the constructs suggested in the manual. Rather, at this point, it is safer to view the two as being part of a more general dimension, as suggested in the four factor rotation.

Validity of AT

A number of the hypotheses concerning this scale were supported: AT appears to predict (albeit modestly) institutional adjustment, and is related to selected scales on the Jesness Inventory. However, some of the basic predictions concerning this scale were not supported by a variety of behavioural and institutional data. AT did not differentiate between incarcerated and nonincarcerated youth, even when controlling for self reported crimes of nonincarcerates. Within the incarcerated sample, AT did not predict the seriousness of criminal charges, nor could it predict more assaultive and seriously disruptive institutional adjustment. The limitations of this finding, due to the fact that the comparison group was small, and did not constitute a random sample, must be taken

into account. The finding of no differences between the incarcerated and nonincarcerated, should, therefore, be viewed as tentative.

Paradoxically, there was a trend opposite to that predicted with the Token Economy Impulsivity measure (ie AT tended to be negatively, rather than positively, related to impulsive money spending). This result may perhaps be explained by the fact that the Token Economy score was a simple ratio of money spent over weekly maximum spending allowed, a ratio that did not take into account the absolute amount earned, which varied with weekly behaviour records. A well behaved youth could therefore earn in the vicinity of \$16 per week, while a poorly behaved individual could earn virtually nothing. The chances of the latter individual spending all of his meager savings, regardless of his level of impulsivity, are probably quite high. It is also possible that the Token Economy score is in part an index of tobacco use, as cigarettes are by far the most expensive item at the YDC canteen. Smokers may simply be more prone to spend larger amounts of money than non-smokers. Despite these possible confounds, it is difficult to understand why the relationship between AT and impulsive money spending should tend to be negative, rather than being simply uncorrelated. However, given the above finding, in addition to the fact that there was no relationship between AT and the MFF, it appears safe to assume that AT is not related to behavioural measures of impulsivity.

The fact that criminal charges were not reflected by AT scores is perhaps partly understandable, in that court records may only represent a fraction of the number and variety of criminal activities an individual has been involved in. However, this is not true in the case of records of institutional adjustment, where behaviour is very closely monitored and all incidents documented. Here, even though there was no evidence of more serious and assaultive adjustment problems, there was solid support for the contention that high scorers on AT are more visible in their acting out, with converging evidence from both Incident Report data (where there were elevations on number of minor incidents), and the BPC Conduct Problem scale. It should be added that by far the greatest frequency of minor incident reports concerned non-assaultive, but non-compliant and verbally abusive, altercations with staff. Therefore, it appears that to some extent, the oppositional interpersonal style of YDC youth matches that described in the CPS manual for the high AT scorer, particularly when dealing with authority figures.

The strong relationship between AT and most of the self-reported criminal activity measures, and the ability of AT to discriminate between those who report frequent commissions of violent and serious crimes and those who report few or no crimes stands in contrast to the behavioural data. Perhaps the strength of relationship is in part due to the fact that many AT items are themselves 'self-report' style items. It could also be true that self reports of frequent violence by juveniles in many

cases reflect an attitude of toughness rather than actual behaviours. In the case of self reports of 'serious' crimes (not necessarily violent), it should be noted that the inventory called for the frequencies of a variety of specific criminal acts which rendered a score not given by any of the other official records of behaviour. This measure therefore contained information that was unique, and it could be that the relationship between AT and 'serious' self reported crime accurately reflects a variety of criminal behaviours not captured by any other measures in this study.

Comparisons of AT with the Jesness Inventory yielded evidence congruent with the behavioural data. Although there was a correlation between AT and Manifest Aggression (as predicted), stronger correlations were obtained between AT and Alienation, Value Orientation, and Social Anxiety. (The correlation with Alienation was the strongest between AT and any of the dependent measures in this study.) Jesness (1972) describes this scale as referring to "...distrust and enstrangement in relationships with others, especially authority figures." The high scorer in Alienation also, "...tends to externalize and probably projects a good deal of his feelings onto others." Jesness also reports this scale to be related to group-related delinquent activity, and like Carlson's findings with AT, reports a negative correlation between Alienation and age.

Value Orientation was designed to reflect typical themes of lower class culture, including "...trouble, luck and thrill

motifs; the fear of failure; the gang orientation; the toughness ethic..." (Jesness, 1972). According to Jesness, delinquents on this scale "...tend to deny family conflict, and direct their hostility toward society and authority figures in general." Interestingly, he notes that in comparisons of delinquents with non delinquents, on this scale, "...the delinquent appears less confident and prefers not to get involved in fights."

Although the validity of the Jesness scales themselves remains something of an unknown quantity, the pattern of correlations between AT and the Jesness scales is of considerable interest in this evaluation of the construct validity of AT. Clearly, on a general level, the high AT scorer is an externalizer. More specifically, he tends to take out his frustrations on authority figures and the legal sanctions they invoke through persistent violations and oppositional tendencies. This pattern of acting out, however, does not usually extend to more serious, physically aggressive confrontations (as confirmed both by the behavioural findings and by Jesness' suggestion that high 'Value Orientation' delinquents tend to be less aggressive.)

The negative correlation between AT and Social Anxiety also dovetails with the contention that AT reflects an externalizing dimension. It is congruent too, with the low correlations between AT and BPC Personality problem and Inadequacy-immaturity. AT clearly does not identify the internalizing or "neurotic-disturbed" type of delinquent. To the

contrary, there is some evidence that high AT scorers are quite socially active in a deviant milieu. First, they show little or no social anxiety and are not neurotically withdrawn. Second, there is a modest correlation between AT and Socialized delinquency on the BPC, and third, the factor analyses showed that CPS Chemical abuse items related to the social aspects of drinking and drug use loaded on the same factor as most of the AT items. Although tending to confirm the picture of the high AT scorer as a socially active delinquent, the data presented are not sufficient to classify him as a "socialized-subcultural" delinquent type (Achenbach, 1982; Weiner, 1982).

The correlation between AT and BPC Conduct problem, and the emphasis on interpersonal mistrust in the descriptions of the high AT scorer also suggest the "sociopathic" delinquent subtype. At this point, however, the evidence simply indicates that high AT scorers are likely to be externalizers and conduct problems, and speculative comments regarding its diagnostic utility with adolescents must perforce be limited to relatively broad categorizations of pathology. It should be noted too, that this scale is not meant to be viewed in isolation from the other CPS scales. In fact, the greatest emphasis in the manual is on the extensive typology derived from configural scoring of the CPS. Therefore, the diagnostic utility of AT or any of the other CPS scales may lie in the analysis of the validities of the score configurations.

In conclusion, the description of the the high AT scorer's interpersonal style as mistrustful, unfriendly, and troublesome appears to be upheld by the findings of this study. However, it appears that when used with adolescents, less stress should be placed on an individual's propensity for violence, and more on the pervasive juvenile oppositional rebelliousness measured by the scale. Practically speaking, AT should not be used as a predictor of delinquency, and even less, of dangerousness or violence. However, it seems to be a modestly good predictor of institutional deportment. The indications in this study that high scores on AT are related to an attitudinal commitment to antisocial behaviour may also be an indication that future studies will find it to be a useful predictor of recidivism.

Although this study did not assess did not assess the the validity of CPS scales other than AT, the results obtained in the descriptive aspects of the study are are of potential theoretical and practical significance. First, the lower reliabilities of SD and V suggest that the user should interpret these scales with caution. Theoretically, it could be that adolescents have more difficulty with taking the other's perspective, a task required on some SD items. It could also be that if this scale in part measures depression, one would expect less stability, particularly if an individual is temporarily shaken and frightened by his incarceration and the proceedings prior to this event.

Second, the finding that AT and CA, in contrast to SD and TD, did show good reliabilities and coherent factorial structures, could have a bearing on how the typology is interpreted and utilized. The CPS typology contains a somewhat bewildering array of 18 different types, a number of which appear to be redundant, or of less interpretive value. It may be helpful, then, for the user to keep in mind the relative psychometric strengths and weaknesses of the scales involved in making a typological decision, particularly if one of the weaker scales (ie SD or V) is criterial in deciding between different types. In such cases, the user may be inclined to place more weight on the scales of proven reliability and factorial coherence.

The similarity of adolescent's response styles to those of adults on TD, CA, and SD suggest that issues and problems of incarcerated adolescents do not differ drastically from older criminals on these dimensions. Clearly, however, further validation research is necessary in order to comprehensively establish the validity of the CPS and its accompanying typology.

APPENDIX A

Self Reported Crimes Index

HAVE YOU EVER BEEN.....

NUMBER OF TIMES
IN PAST YEAR

- | | | | |
|--|---|---|----|
| 1. reported to the police by some one in your neighbourhood? | Y | N | -- |
| 2. questioned as a suspect by the police about some crime? | Y | N | -- |
| 3. picked up by the police? | Y | N | -- |
| 4. taken to the police station? | Y | N | -- |
| 5. held by the police or court until you could be released to the custody of your parents or guardian? | Y | N | -- |
| 6. placed on probation by a juvenile court judge? | Y | N | -- |
| 7. sentenced to reformatory, training school, or some other institution by a judge? | Y | N | -- |

HAVE YOU EVER.....

- | | | | |
|---|---|---|----|
| 8. broken a car window on purpose? | Y | N | -- |
| 9. let air out of a car or truck tires | Y | N | -- |
| 10. taken things you were not supposed to take from a desk or locker at school? | Y | N | -- |
| 11. taken little things (worth less than \$2) from a store without paying for them? | Y | N | -- |
| 12. helped break up chairs, tables, desks, or other | | | |

- | | | | |
|--|---|---|-----|
| furniture in a school, church, or other public place? | Y | N | --- |
| 13. slashed the seats in a bus, movie house, or some other place? | Y | N | --- |
| 14. picked a fight with someone you didn't know just for the hell of it? | Y | N | --- |
| 15. threatened to tell on someone unless they gave you money or something else you wanted? | Y | N | --- |
| 16. taken material or equipment from a construction site | Y | N | --- |
| 17. driven a car you were not supposed to? | Y | N | --- |
| 18. fired a BB gun at some person, at passing cars, or windows or buildings? | Y | N | --- |
| taken a car belonging to someone you didn't know for a ride without the owner's permission? | Y | N | --- |
| 20. taken the wheels, battery, or some other expensive part of a car without the owner's permission? | Y | N | --- |
| 21. taken things worth between \$10 and \$50 from a store without paying for them? | Y | N | --- |
| 22. used a club, knife, or gun to get something from an old person? | Y | N | --- |
| 23. used physical force (like twisting an arm or choking) to get something from another person? | Y | N | --- |
| 24. broken into a house, store, school, or other building with the intention of stealing something? | Y | N | --- |

- | | | | |
|--|---|---|----|
| 25. broken into a locked car to get something from it? | Y | N | -- |
| 26. carried a razor, switch-blade, or gun, with the intention of using it in a fight? | Y | N | -- |
| 27. used a knife or other weapon in a fight? | Y | N | -- |
| 28. tried to pass a cheque by signing someone elses name? | Y | N | -- |
| 29. carried tools you thought you might need to break into a car, house, or other building? | Y | N | -- |
| 30. hit a teacher or some other school official? | Y | N | -- |
| 31. sold illegal drugs such as marijuana, LSD, or cocaine? | Y | N | -- |
| 32. beat up someone so bad they probably needed a doctor? | Y | N | -- |
| 33. forced another person to have sex with you when that person did not want to? | Y | N | -- |
| 34. intentionally set a building on fire? | Y | N | -- |
| 35. taken things of large value (over \$50) from a store without paying for them? | Y | N | -- |
| 36. broken into a store, school, house, or other building with the intention of breaking things up or causing some other damage? | Y | N | -- |

APPENDIX B

Subject Release Form

I understand that my participation in the research is voluntary. I also realize that my answers on these questionnaires are confidential, and will be used for research purposes only. I also am aware that I am free to withdraw participation in the research at any time.

Name _____

Date _____

Researcher _____

APPENDIX C

Percentile Ranks Of CPS With Adolescents¹

(n=350)

CA

Raw Score	Xile Rank	CPS	Raw Score	Xile Rank	CPS
24	46	(50)	40	99	
23	42	(48)	39	99	(99)
22	36	(43)	38	98	(99)
21	28	(37)	37	97	(97)
20	22	(33)	36	95	(96)
19	18	(28)	35	93	(95)
18	15	(25)	34	90	(94)
17	13	(21)	33	87	(91)
16	11	(17)	31	80	(84)
15	9	(13)	30	76	(81)
14	8	(10)	29	72	(76)
13	6	(8)	28	68	(72)
12	5	(6)	27	63	(68)
11	4	(5)	26	58	(61)
10	2	(2)	25	52	(58)
9	0	(0)			

¹ Numbers in parentheses indicate percentiles of the CPS adult sample.

TD

Raw Score	%ile Rank	CPS	Raw Score	%ile Rank	CPS
31	70	(68)	50	99	(98)
30	66	(64)	49	99	(98)
29	61	(60)	48	99	(97)
28	57	(56)	46	98	(97)
27	51	(49)	45	97	(95)
26	45	(43)	44	96	(93)
25	38	(39)	43	96	(92)
24	31	(33)	42	95	(92)
23	25	(26)	41	94	(91)
22	20	(21)	40	93	(89)
21	14	(16)	39	91	(87)
20	9	(12)	38	90	(85)
19	7	(9)	37	88	(85)
18	4	(5)	36	86	(82)
17	2	(3)	35	83	(80)
16	1	(1)	34	80	(77)
15	0	(0)	33	76	(74)
14	0	(0)	32	73	(71)

SD

Raw Score	%ile Rank	CPS	% CPS	Raw Score	%ile Rank	CPS
22	45	(64)		35	99	
21	42	(56)		34	99	
20	33	(52)		33	98	
19	27	(44)		32	98	(99)
18	21	(36)		31	97	(98)
17	15	(28)		30	95	(97)
16	10	(22)		29	92	(96)
15	6	(19)		28	88	(94)
14	3	(14)		27	84	(92)
13	2	(9)		26	80	(87)
12	1	(7)		25	74	(82)
11	0	(4)		24	67	(77)
10	0	(2)		23	59	(70)
9	0	(0)				

AT

Raw Score	%ile Rank	CPS	Raw Score	%ile Rank	CPS
42	56	(74)	65	99	
41	54	(72)	64	99	
40	49	(70)	63	99	
39	44	(67)	61	97	
38	40	(65)	60	97	
37	36	(60)	59	96	(99)
36	32	(52)	58	96	(99)
35	29	(51)	57	95	(97)
34	27	(50)	56	94	(96)
33	24	(45)	55	93	(95)
32	22	(40)	54	91	(95)
31	18	(36)	53	90	(94)
30	14	(32)	52	89	(93)
29	11	(27)	51	87	(92)
27	7	(21)	50	85	(91)
26	6	(17)	49	83	(89)
25	4	(14)	48	81	(86)
24	3	(10)	47	77	(84)
23	2	(7)	46	73	(82)
22	0	(5)	45	71	(79)
21	0	(3)	44	69	(79)
20	0	(0)	43	64	(76)

V

Raw Score	%ile Rank	CPS
9	99	
8	99	
7	97	(98)
6	94	(95)
5	88	(90)
4	73	(80)
3	0	(0)

APPENDIX D

Eigenvalues Obtained in the Principal Components Analyses of the CPS¹

Factor	Eigenvalue
I	8.85
II	4.10
III	2.39
IV	2.15
V	1.73
VI	1.44
VII	1.38
VIII	1.29
IX	1.23
X	1.16
XI	1.13
XII	1.11
XIII	1.06

¹ Values of 1 or greater are shown

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