Chapter III METHODS

Measures

Depression: Children's Depression Inventory

Kazdin, in a recent review of childhood depression (1990), listed 12 self-report inventories and 10 interview/rating scales designed to assess depression in children and adolescents. Only 8 of these 22 instruments were published before the 1980s. A similar survey by Kazdin & Petti (1982) reported only 13 items in total. The Children's Depression Inventory (*CDI*), one of the earliest and widely used scale, is a 27-item multiple choice self-report inventory designed to assess the severity of depressive symptomatology in the age range of 8 to 17 years. It is a modification of the Beck Depression Inventory (BDI; Kovacs & Beck, 1977). The scale covers a wide range of depressive symptoms including disturbances in mood and hedonic capacity, vegetative functions, self evaluations, and interpersonal behaviors (Kovacs, 1983). In addition, the scale includes several items specific to school-aged children. Each of the 27 items has three alternatives of increasing symptom severity scored '0' for absence and '2' for severe. The order of the alternatives are counterbalanced to avoid a response bias. Scores for the item alternatives are summed to yield a total score with a possible range of 0 to 54 with ***high*** score denoting ***increasing*** depressive symptomatology. Although the *CDI* has been subjected to factor analyses, the total score is the typical measure used in studies.

Since its release in 1977, the *CDI* has become one of the most widely used and well-researched self-report measure for depression in children and adolescents (Kazdin, 1990). It has a reading difficulty level of approximately grade 3 (Berndt, 1983). The *CDI* has good psychometric properties. Kovacs (1983) and Saylor, Finch, Spirito, & Bennett (1984) report strong internal consistency (Cronbach's alpha greater than 0.80s; split-half in the 0.70s), and strong test-retest reliability (9 to 13 weeks: $r = .72$ to .84, 1 week: $r = .87$; 6 weeks: $r = .59$). Norms have been established by age and gender (Finch, Saylor, & Edwards, 1984; Smucker, Craighead, Craighead, Green, 1986; Nelson, Politano, Finch, Wendel, & Maryhall, 1987; Doerfler, Felner, Rowlison, Raley, & Evans, 1988).

Studies of validity deal with convergent, discriminant, and construct validity. Kovacs (1983) reported the following evidence of validity: *CDI* score showed no correlation with a measure of general distress; *CDI* scores were higher for depressed versus normal or other clinical samples; *CDI* scores change (decrease) parallel clinical improvement. Children with extreme scores on the *CDI* (19 and above) were significantly different from those with low scores (5 or lower) (Strauss, Forehand, Frame, & Smith, 1984). The high group showed poorer self-concept, felt more anxious. They were also rated by teachers as more anxious, less attentive, and showed poorer academic performance. Peer ratings showed this group to be less physically attractive, less smart, and overall less liked by the class.

The *CDI* was shown to be more accurate in identifying depressed children and adolescents from a large normal sample than the CES-D (Doerfler *et al.*, 1988). Using the cutoff score of 19 on the *CDI* and 16 on the CES-D (as recommended by the authors of the respective instruments), of those identified by the *CDI* (as depressed), 86% were also similarly identified by the CES-D. On the other hand, only 19% of the sample identified by the CES-D was similarly identified by the *CDI*. The cutoff of 19 on the *CDI* identified approximately 10% of the sample as depressed - while the CES-D identified some 46% of the sample as depressed. The prevalence rate for a normal sample is much closer to 10% than to 46% (Kovacs, 1983; Smucker *et al.*, 1986; Nelson *et al.*, 1987; Worchel, Nolan, & Willson, 1987).

Using the DSM-III as the criterion measure for depression for a sample of outpatient prepubertal children, Lobovits & Handal (1985) found that although the cutoff of 19 for the *CDI* was only able to identify correctly identified 84% as either depressed or not depressed, only 46% of children identified using DSM-III criteria was similarly chosen. The best combination seemed to be to lower the cutoff score to 12 but at the same time to double weight five *CDI* items that were concerned with dysphoria. This improved the overall accuracy rate to 92% and 92% of DSM-III depressed identified.

Saylor and his colleagues (Saylor *et al.*, 1984; Saylor, Finch, & McIntosh, 1988) have found that although *CDI* scores were generally higher for clinical versus normal samples, differences among depressed versus other clinical non-depressed samples were not significant.

They concluded that the construct validity of *CDI* still needs to be investigated more closely; diagnosis of depression should not be based on CDI score *alone*.

Contrary to the findings of Saylor and his team, Knight, Hensley, & Waters (1988) found that *CDI* discriminated among clinical samples. Working with prepubertal children in three inpatient units, three groups were formed based on DSM-III diagnosis and therapist ratings: affective diagnoses (ie, major depressive disorder, dysthymic disorder, atypical depression) (group=*depressed*), non-affective diagnoses but has depressed rating by therapist (group=*sad/not depressed*), and non-affective diagnoses and a nondepressed rating (group=*not sad/not depressed*). The depressed group had significantly higher mean *CDI* scores than both the other groups (19.5 versus 10.2 versus 7.0). Score for the *sad/not depressed* group was not different from that of the *not sad/not depressed* group.

The *CDI* has good discriminant validity between depressed and normal samples. Those identified as depressed showed other signs of depression: such as poor self-esteem. The discriminant power of the *CDI* for depression from other clinical samples is not as strong: the depressed groups generally have higher *CDI* scores than other clinical groups, but often the difference is *not* significant. However, this may not be a question of discriminability. Various clinical samples may well have some depressive *symptoms*. The solution of differentially weighting major dysphoric items (Lobovits & Handel, 1985) may yield better results.

Self-Esteem: Tennessee Self Concept Scale

The Tennessee Self Concept Scale (*TSCS*) is a 100-item self-report 5-point likert scale measuring different components of self-concept (Fitts, 1965). Of the 100 items, only 90 are concerned with self-concept, the other 10 items consists of items from the Lie scale of the MMPI (Minnesota Multiphasic Personality Inventory). The scale is counterbalanced for positively and negatively stated statements. Negative items are reversed keyed so that overall *high* scores denote *positive* self-concept. Fitts conceptualized the 90 items in two frames of reference: internal, with 3 domains, or external, with 5 domains. This 3 x 5 classification was validated by consensus among seven clinical psychologists.

The 3 domains for the internal frame of reference are: identity, self satisfaction, and behavior. Each domain contains 30 items, balanced for positive and negative statements. The 5 domains for the external frame of reference are: physical self, moral-ethical self, personal self, family self, and social self. Each domain contains 18 items balanced for positive and negative statements. Only scales *within* either the internal or external frames of reference have *mutually exclusive* items. Aside from generating scale scores for each of the individual domains, the scores from all 90 items are also summed to yield a Total Positive Score. There are also a series of empirically derived clinical scales plus other validity scales. In total, 22 different scores are possible using the *TSCS* (Fitts, 1965). The proliferation of scale scores has been a major criticism of the *TSCS*.

The subscales of interest in this study are only the ones from the internal frame of reference. The use of only mutually exclusive scales avoid the criticism of scale proliferation. The Identity Self (*Ident Self*)scale purports to measure the person's views about his/her present or current self (eg, "I am a friendly person."). In the distinctions made by self theory, the Ident Self measures the *self-as-object* aspect. The Behavioral Self (*Behav Self*) scale measures behavioral characteristics of an individual (eg, "I take good care of myself physically."). This measures the *self-as-doer* aspect. The Self Satisfaction (*Self Sat*) scale measures how the individual *evaluate* him/herself (eg, "I am satisfied to be just what I am."). This measures the *self-as-observer and judge* aspect. Although all three scales contribute toward a global measure of one's self-concept, the *Self Sat* scale in particular provides a more direct and specific measure of one's level of *self-esteem*. Low satisfaction tends to generate poor self-esteem while high satisfaction tends to free the self and focus one's energy outward.

All scores on the *TSCS* can be converted to T-scores and plotted on the profile sheet provided. T-scores have a mean of 50 and a standard deviation of 10. Since the *TSCS* is scaled in the positive direction, T-scores of below 30 denotes scores of -2 standard deviations below the mean of the normative sample. The T-scores are based on a standardization group of 626 individuals with a age range from 12 to 68. Although Fitts had originally concluded that age did not have an effect on the TSCS, in a later publication (Thompson, 1972) separate norms were provided for the following age groups: junior high, high school, college students,

adults, and seniors.

Fitts reported acceptable psychometric properties for the *TSCS*. Test-retest reliability (2 weeks) for the total score was .92 and coefficients ranged from .80 to .91 for the 8 major subscales. For validity evidence, in addition to the manual (Fitts, 1965), Fitts referred to the *Studies on the Self Concept and Rehabilitation* monograph series detailing studies in many diverse situations and groups.[11] Fitts (1965) reported numerous studies that examined the relationships of the *TSCS* and other personality measures (eg, the MMPI, The Taylor Manifest Anxiety Scale, the Edwards Personal Preference Schedule).

Wylie (1979) was critical of the *TSCS*. The major criticism was the *nonindependence* of the subscales - both due to actual item overlap and high interscale correlations of nonoverlapping scales. She used this nonindependence to argue that the extensive focus of the possible uses of the 22 scores and the analysis of profile differences was not justified.

Factor analytic studies have yielded mixed results regarding the construct validities of the *TSCS* subscales. Part of this is due to the differences in the samples used and others are due to the different conceptualizations of the factor structures. Bolton (1976) analyzed responses from a group of clients (n=312) from a rehabilitation centre. A series of factor analyses (using principal axis and oblimin rotations)were performed in order to test a number of hypotheses. The most relevant ones for this study were those testing the dimensionality of the internal and external frames of reference. When a three-factor solution was imposed on the data, the first factor contained mostly items from the *Ident* and *Behav* scales (18 and 13 respectively). The second factor contained equal number of items from the *Self Sat* and *Behav* Scales (13 and 12 respectively). The third factor contained a majority of *Self Sat* items only (13). The following results were obtained when a five-factor solution was imposed: (1) both *Social* and *Moral-Ethical* scales (8 and 7 respectively); (2) both *Personal* and *Moral-Ethical* (6 and 5 respectively); (3) only *Moral-Ethical* (5 items); (4) only *Family* scale

[11]The series contained the following: I. The self concept and delinquency (Fitts & Hamner, 1969); II. Interpersonal competence: the wheel model (Fitts, 1970); III. The self concept and self-actualization (Fitts *et al.*, 1971); IV. The self concept and psychopathology (Fitts, 1972a); V. The self concept and performance (Fitts, 1972b); VI. Correlates of the self concept (Thompson, 1972); and VII. The self concept and behavior: overview and supplement (Fitts, 1972c).

(9 items); and (5) only *Physical* (6 items).

Boyle & Larson (1981) reported results from 255 disabled veterans from a medical facility. Eighteen factors were extracted (principal component, varimax rotation) but only eight were interpretable (Factor V contained only items for the Lie scale). Focusing on item loadings of .40 or more, the *Self Sat* scale was prominent for factors I and III. Factor II contained essentially *Ident* scale items. The *Behav* scale items was prominent for Factor VIII plus it has minor loadings on Factor I (loadings of .30 to .39).

Working with a large sample of 743 adults enrolled at the university (age range from 20 to 63 years), Hoffman & Gellen (1983) found 9 factors (plus one for the Lie scale items) using principal component and varimax rotation. Focusing on item loadings of .40 or more, the following patterns were apparent. Factor I contained mainly *Ident* items; factor II, and V contained a mixture of *Ident* and *Behav* items; factor III contained a mixture of all three scale items; factor VI, VII, and IX contained mostly *Self Sat* items; factor VIII contained *Behav* items. The data was refactored: separate factor analyses were preformed for the 18 items for each of the five external dimensions and the 30 items for each of the three internal dimensions (Gellen & Hoffman, 1984). The *Ident* scale was unidimensional yielding only one factor while both the *Self Sat* and *Behav* scales yielded multiple factors (3 and 2 respectively).

Using confirmatory factor analytic techniques, Marsh & Richards (1988) examined the factor structure of the *TSCS* with a group of 343 participants in a Outward Bound Program in Australia. Based on the conceptualization of Fitts (1965), the *TSCS* is composed of 3 different facets: internal, external, and positive/negative (according to the wording of the items). All possible combinations of these facets were tested. Of the eight possible different models, the best fit was one that postulated 3 internal, 5 external, and 2 positive/negative dimensions.

Locus of Control: Rotter's I-E Scale

The Rotter Internal-External Locus of Control scale (*I-E*) scale is a 29-item forced-choice self-report scale measuring an individual's locus of control (Rotter, 1966). Based on Rotter's theory about the locus of control construct, each item consists of two

statements, one expressing an *internal* belief, the other expressing an *external* belief. The scale is scored for externality, with scores ranging from 0 to 23 with high scores denoting externality.[19]

The scale was based on a 26-item likert scale by Phares (1957) designed to measure locus of control. Initial scale development included subscales for different areas: achievement, affection, and general social and political attitudes. This intermediate scale contained 100 items in a forced-choice format (to control for correlations with social desirability). This was reduced to 60 items through a series of item and factor analyses. However, problems with high subscale correlations and correlations with social desirability of the achievement items resulted in the elimination of most of the specific achievement and affection items. The final version contained 23 items with 6 filler items.

Unlike the other two measures, *CDI* and *TSCS*, the development, use, and critiques of the *I-E* scale are very much tied to the theorizing of the locus of control construct itself. Much of the literature regarding the construct has been presented in the review of that construct (Chapter Two) and will not be repeated here.

Rotter (1965) reported the following psychometric properties. The majority of the data was based on testing of university or college students. Internal consistency estimates ranged from .65 to .73; test-retest reliability estimates ranged from .72 to .78 for 1-month interval and .55 for 2-month interval. Scores on the *I-E* were not correlated with measures of intelligence: ranging from -.09 to -.11. There was some correlation with social desirability, ranging from -.12 to -.29.[20]

Norms, expressed as the percentage of the sample obtaining a particular score on the *I-E*, was provided separately for males and females. They are based on a sample of approximately 1200 college students. The respective means and standard deviations were 8.15 ± 3.88 (males) and 8.42 ± 4.06 (females). Rotter reported means (combined male and female data) from other studies ranging from 5.94 (peace corps trainees) to 9.56 (sample of

[19]The scale has 6 filler items, therefore only 23 items are directly related to the locus of control measure.

[20]A study with prisoners showed a much higher correlation of -.41. Rotter hypothesized since the mean score was more internal than the norms, the prisoners were in fact faking good.

18 year olds) with a median value (of the means) of 8.29. The standard deviations were in the range of 3.36 to 4.10.

Procedure

Consecutive adolescent referrals to the Diagnostic Unit of the Children and Adolescent Services (CASE) for a period of 14 months between 1986 and 1987. Adolescent referrals were those whose ages ranged from 12 years 0 months to 17 years 11 months.

CASE is a multidisciplinary outpatient treatment centre for both children and adolescents. The Diagnostic Unit is responsible for the initial telephone intake, the administration of a battery of psychometric tests, a diagnostic interview and a written assessment report for all adolescent referrals. This report contains, among other pertinent information regarding presenting problems, a full 5-axis DSM-III diagnosis. Each case that reached the stage of the diagnostic interview was also interviewed by the staff psychiatrist, generating a psychiatric assessment report. This psychiatric assessment also contains diagnoses on the first 3 axes of the DSM-III.

The information retrieved from each case consisted of DSM-III diagnosis from both the intake worker and from the psychiatrist, as well as gender and age. There was no contact between any of the subjects and the experimenter as the all the information was relayed through the Diagnostic Unit.

For those cases where there was a primary diagnosis of either Major Depressive Disorder or Dysthymia Disorder, two extra variables were also retrieved. These were: the current length of the depressive or dysthymic episode, and the lifetime total of the same. For example, the assessment report for case X showed that the adolescent had received a diagnosis of Major Depression and was reported to be showing these symptoms for 4 months before being referred. The report also stated that there was a previous episode 2 years ago that lasted for approximately 1 month. For this case, the length of the current episode would be 4 months and the lifetime total would be 5 months.

As well as information from the assessment reports, psychometric data for three different tests were also retrieved for each case. These were: the Children's Depression Scale

(*CDI*), the I-E scale for locus of control (*I-E*), and the Tennessee Self Concept Scale (*TSCS*). For all three tests, both the individual item response and the total scores were obtained for each case.

During the 14 months of data collection, 265 subjects completed the psychometric testing. Of these, 51 cases were excluded. The actual breakdown of these were as follows. Twenty-six did not receive a DSM-III diagnosis because they did not return for the diagnostic interview. Six cases were excluded because the severity of their psychiatric disturbance made the administration of self-report instruments impossible or invalid. Nineteen cases were excluded because of invalid or incomplete responding on one or more of the instruments. This reduced the sample to 214 cases. Of these 214 cases, 26 did not contain a psychiatric assessment report on file. However, these were not excluded because there was sufficient information on diagnosis to proceed.

During the course of the data collection, the intake interview (and the subsequent written report) was rotated through one of ten different intake workers. The psychiatric evaluation was rotated through one of four different psychiatrists.

DSM-III diagnoses were coded from both the intake report and the psychiatric evaluation. The following coding criteria were set up to deal with multiple diagnoses and differentials. For Axis-I, a maximum of *three* diagnoses were coded as well as *two* differentials. For Axis-II, a maximum of *two* were coded plus *one* differential. Diagnostic group *assignment* were based on the *primary* (first) Axis-I diagnosis. When the primary DSM-III diagnosis between the intake report and the psychiatric evaluation was different, the psychiatric evaluation took prescident. For the twenty-six cases which had only the intake report, group assignment was based on the information from the intake report.

Subject Demographics

Tables 1 and 2 present the gender and age distributions of the 214 cases. Approximately 60% of the cases was male. The mean age 14.7 years. Table 3 presents the frequency of diagnoses

in the sample.[21] As can be seen, the affective disorders, major depressive disorder (*MDD*) and dysthymia (*DYS*), predominated the sample with 42.5% of cases. Behavioral disorders, conduct disorders (*CD*) and oppositional disorders (*OPP*), consisted of 24% of cases. Attentional deficit disorders (*ADD*) and V-codes (*VC*) consisted of another 11% of cases. The above diagnostic groups, consisting of 78% of cases (166 out of 214), are the focus of the majority of analyses. Table 4 presents the distribution of the number of cases by diagnostic groups. For example, 33 (or [illegible] *MDD* cases have only one diagnosis while only 4 (or 31%) of *ADD* cases have o[illegible]

Insert Table 1 about here

Insert Table 2 about here

Insert Table 3 about here

Insert Table 4 about here

Treatment of the Data

This section deals with the general manipulation of the data prior to the different analyses of the data. Some of the treatment was specific to a particular scale; some were applied to the entire data set.

Several scores were derived from the *I-E* data. This is in accordance with Tyler *et al.* (1979) conceptualization of the *I-E* scale in terms of self and world attribution of locus of control. (Please refer to Appendix B for listing of the different subscale items.) For the world

[21]Please refer to Tables A1 and A2 for the cross-reference between actual DSM-III diagnosis and final diagnostic categories used in the study.

attribution, the external alternatives are classified into either *passive agents* (PAG) or *victims* (VIC). For the self attribution, the external alternatives are classified into either *powerful others* (PO) or *noncontrollable* (NC). Two items were deleted from this series of calculation: items 16 and 20 because they were altered and not classified respectively. As well as generating the component scores for each perspective: PAG or VIC (for self) and PO or NC (for world), proportion scores for these were also calculated. (For example: prop PAG = ((PAG/(PAG+VIC))*100.) This allows for the comparison of the *relative* contribution to the total score of each of the components. For example, both person A and B had a *PAG* score of 6. However, person A had a total *I-E* score of 12 while person B had a total score of only 6. The *prop PAG* for person A would be 50% while the *prop PAG* for person B would be 100%. In summary, aside from the global score for externality, 8 additional scores were derived from the *I-E* scale: PAG, VIC, PO, NC, prop PAG, prop VIC, prop PO, and prop NC. Since they are *not* independent scores, only *subsets* are used in any one analysis.

For the profile analysis, all the psychometric data involved were given a *z*-transformation based on the entire sample of 214. That is, for each variable separately, the difference between each individual's score and the mean of the entire sample was calculated and the difference was then divided by the standard deviation of the entire sample for that variable. The transformation resulted in the *mean* of the sample (n=214) for each variable to be fixed at 0, with a *standard deviation* of 1. Each individual's score is then expressed as deviations from this new sample mean. This was necessitated because profile analysis requires that all the measures in the profile to be of the same *metric* or unit of measurement. After this transformation, the metric (or unit of measurement) became *deviations* from the entire sample. The analyses then focused on the *differences* in the extent and direction of *deviations* from the sample mean of each of the specific diagnostic group.

For the scales from the *TSCS*, no specific transformation was performed. Rather, two forms of scores were included in the analyses: *non-transformed* raw scores and *T-scores*. The T-scores are similar to the z-transformed scores used in the profile analysis in that they are also deviation scores. *T-scores* have a mean of 50 and a standard deviation of 10. The distribution, however, is the normative sample from the *TSCS* rather than the sample from

the study. Thus the T-scores denote the amount of *deviation* each individual has when compared to the normative sample on the particular scale of the *TSCS*. The use of raw scores as well as T-scores provided some protection against the possible *inappropriateness* of the standardization sample of the *TSCS* in comparison to the outpatient adolescent population of this study which would then render the T-scores *invalid*.

Comparison Group

This section addresses the issue of the use of a comparison group in this study. The primary focus of this study are the affective and behavioral disorders: *MDD*, *DYS*, *CD*, and *OPP*. The use of a comparison group, if chosen appropriately, could enhance the *discriminative power* of the variables in the study to describe the individual groups. It could also increase the conceptual understanding of the disorders in question. A first approximation would be to form the comparison group from the *rest* of the sample. However, this would introduce unnecessary *variability* into the analysis because of the number of diverse disorders that would be included. Instead, two different comparison groups were chosen from the rest of the sample: *ADD* and *VC*.

The choice of these two groups have both theoretical and clinical significance. *ADD* is one of the prevalent disorders in children and adolescents. It is also often found to co-exist with the affective and behavioral disorders. Its inclusion will help to illuminate the similarities and differences of this to the other groups. The *VC* group is an interesting group within the context of this study because a diagnosis of V-code denotes that there is only a condition that should be a focus of treatment but not a mental disorder. This serves as a form of clinical control. To the extent that these two groups can be discriminated from the other major disorders would be of both theoretical and clinical importance.

Chapter IV RESULTS

The major purpose of this study is to conduct a thorough investigation of the cognitive and emotional aspects of depression in adolescence: examining the relationship of depression to self-esteem and locus of control. It is proposed that a *better* understanding of depression can be achieved by comparing depression with other forms of psychopathologies. The questions are summarized below: (1) what are the profiles of the different diagnostic groups on scores of depression, self-esteem, and locus of control; are these profiles distinctive? (2) what are the accuracy rates for predicting diagnostic group membership using self-report data (of the above constructs)? (3) are there any gender differences in the self-report data of the various diagnostic groups in the study? and (4) what are the relationships of the constructs of depression, self-esteem, and locus of control in selected psychopathological groups; what is the impact of the length of the mood disturbance in affective groups on these constructs?

In addition to the above major focus, several measurement-related issues need to be addressed because they impact on the reliability and validity of the diagnostic classification and self-report measures used. They are summarized below: (1) what is the inter-rater agreement on diagnostic categories; what is the appropriate estimate of this agreement? (2) what is the effect of multiple diagnoses on the measures used in this study; can the primary diagnosis be used for group placement? and (3) what is the extent of the overlap in the constructs of low self-esteem and depression; how does that affect the self-report scales used in this study? The findings are organized into the following three parts.

Part One addresses issues pertaining to the instrumentation used in the study: DSM-III, *CDI*, *I-E*, and *TSCS*. For the DSM-III, two issues are examined: (a) inter-rater reliability between the psychiatrist and intake worker, (b) the impact of multiple diagnoses on diagnostic group assignment (ie, cases placed into different groups based on their primary DSM-III diagnosis). For the self-report scales, two issues are examined: (a) the suitability of the scales for a clinical adolescent population (based on internal consistency and factor structure data), (b) the independence in measurement of depression and self-esteem (based on cross-scaled factor analyses).

Part Two addresses the issues of group discriminability. The following analytic techniques were used: (a) profile analyses, (b) discriminant function analyses, and (c) univariate analyses of diagnostic group and gender differences.

Part Three examines the interrelationships among depression, self-esteem, and locus of control through a series of correlations. Specifically, the impact of the duration of the mood disturbance in the affective groups on the measures of self-esteem and locus of control was examined.

Part One: INSTRUMENTATION - DSM-III

A. Inter-rater Reliability on DSM-III Diagnostic Categories

Inter-rater reliability for DSM-III diagnosis was considered in three different ways: kappa, weighted kappa, and a modified rating scale. *Kappa* is the measure of agreement for nominal variables corrected for chance agreement (Cohen, 1960). Whereas agreement is defined as a perfect match in kappa, weighted kappa allows for partial matches (Cohen, 1968). Each match/mismatch is given a weight to reflect the relative degree of agreement. (In general terms, kappa is a special case of weighted kappa when all mismatches are given the same weight.) For example, when calculating kappa, a mismatch of major depression as attention deficit is counted the same as a mismatch of major depression as dysthymia. However, *weighted kappa* allows the researcher to give a higher rating of *disagreement* to the mismatch between depression and attention deficit. The weighting system ideally should be based on knowledge derived from the literature. Whether or not this increased precision results in an improved kappa estimate depends on the appropriateness of the weighting system. A decreased kappa might mean that the weighting system had *failed* to capture the underlying relationship among the different categories being matched.

However, kappa cannot accommodate multiple or hierarchical diagnoses. Although weighted kappa has the potential to do that, the number of new categories needed to accommodate the various combinations and the assignment of weights (to each combination) precludes this alternative. Thus, a modified rating system was designed to attempt to measure inter-reliability of this sort. The system is described below.

A coding scheme was first established based on the primary DSM-III Axis-I diagnosis (see Appendix A, Table A1). That is, each diagnosis was assigned a numerical value. For each case, the following maximum limits were placed on the *number* of diagnoses coded from each report: *3* for Axis-I diagnoses; *2* for Axis-I differentials; *2* for Axis-II diagnoses; and *1* for Axis-II differentials.

A rating scale was then devised to measure degree of agreement of the DSM-III diagnosis between the intake worker and the psychiatrist (see Table 4). Since the psychiatrists involved in the study generally had more experience in diagnosis using the DSM-III system, that was used as the point of reference. The files were first divided according to the number of Axis-I diagnosis based on the psychiatric evaluation. There were 98 cases with one Axis-I diagnosis; 75 with two; and 15 with three for a total of 188 cases (since 26 cases did not receive a DSM-III diagnosis by the psychiatrist, these were *excluded* from the analysis).

Insert Table 5 about here

As can be seen in Table 5, scale points 1 to 3 definitely fall in the similar match category. In fact, given the complex nature of psychiatric diagnosis, a scale point up to 6 could be called *agreement*. A detailed scale of this kind allows the researcher to choose from a range of agreement criteria depending on the nature of the research questions. The application of this rating system for diagnoses in this study is presented following the Kappa calculations.

Kappa Coefficients on Six Major DSM-III Diagnoses

For this calculation, only the first or primary diagnosis was considered. In order to minimize the number of categories in the comparison, only six major categories were used: *MDD*, *DYS*, *CD*, *OPP*, *ADD*, and *V-codes*. This resulted in the inclusion of 140 cases (out of the possible 188). The overall *kappa* coefficient was 0.688. This level is considered good. The breakdown for the individual categories is presented in Table 6. Thus, based on these categories, one can conclude that there is reasonably good agreement between the raters on the more common DSM-III diagnoses. The fair agreement for *DYS* is in accordance with the

literature describing the conceptual ambiguities of this diagnostic category.

Insert Table 6 about here

Psychiatric Versus Intake Worker Agreement - The Application of the Rating Scale

All cases with both a psychiatric and intake worker diagnosis were rated. The breakdown of the cases by rating is presented in Table 7.

The 10-point scale was then collapsed into 4 categories: (a)*excellent* agreement (points 1,2,3); (b)*good* agreement (points 4,5,6); (c)*poor* agreement (points 7,8); and (d)*no* agreement (points 9,10). As can be seen, approximately 70% of cases had good to excellent agreement. There was also a significant relationship between the rating and the number of diagnoses for each case (*Chi Square*=16.22, df=6; p=.013). There were significantly fewer cases receiving the excellent rating for the cases with three diagnoses (20% versus 50% for both of 1 and 2-diagnoses cases). This is not surprising as the number of diagnoses received for a case is related to its complexity.

Insert Table 7 about here

The same analysis was repeated using the same cases as for the kappa coefficient calculation. There is generally better agreement with this subset of diagnostic categories: 83% had *good* to *excellent* agreement. There is no longer a significant relationship between rating and the number of diagnoses received per case (*Chi Square*=9.43; df=6; p=.15). This suggests that for these major categories, there is generally good agreement between raters regardless of the relative complexity of the cases. This is encouraging because the majority of the analyses in this study would be based on these major categories.

In summary, the inter-rater agreement for the major diagnoses used in this study is good. The rating scale results are consistent with those from the more traditional *Kappa* calculations. It shows promise as a method for dealing with inter-rater agreement based on a graduated system.

B. The Effect of Multiple Diagnoses on Group Placement

This section addresses the issue of multiple diagnoses. As stated previously, the primary aim of studying the effect of multiple diagnoses (on the dependent variables) was to determine the *legitimacy* of using only the primary diagnosis to determine group placement in cases with more than one Axis-I diagnosis. Within this scope, three issues were addressed. *One*, at the global level, does the number of diagnoses received (single versus multiple) have any effect on the variables in the study? *Two*, at a more specific level, the same question is asked within each major diagnostic category. Lastly, diagnostic group differences on the major variables were examined *excluding* cases with multiple diagnoses.

For the first question, the cases were grouped into single, double, and triple diagnoses. A series of one-way analysis of variance (ANOVAs) was used for all the variables in the study with the number of diagnoses as the between subject factor. This was followed by post-hoc Scheffe tests for those variables that showed a significant main effect for group (ie, for the number of diagnoses). As well, double and triple diagnoses were combined into one group and compared to the single diagnosis group (using *t*-tests). These results are presented in Appendix C (Tables C1 to C12).

For the analysis based on the number of diagnosis as the between group factor, there were only significant differences for the locus of control variables (see Table C1). There was an overall group effect for the global *I-E* score ($p=.043$) with the triple group scoring the least external of the three groups. Post-hoc Scheffe test did *not* reveal any specific significant group differences. There was also an overall effect for the *NC* subscale on the *I-E* scale ($p=.012$) with the triple group endorsing the least number of *NC* items. As with the global score, post-hoc analysis did *not* reveal any specific significant group differences.

Similar findings were obtained when the comparisons were reduced to single versus multiple diagnoses (see Table C2). The multiple group scored significantly more internal on the global *I-E*; and less *PAG* and *NC* items on the respective subscales. These findings are difficult to interpret because the level of analysis is so general (i.e., number of diagnoses). However, if one assumes that the number of diagnoses received is *indicative* of the level of psychiatric disturbance, these findings would suggest that internality is positively related to the

level of disturbance.

The effect of multiple diagnoses within each diagnostic category are presented next. Table 8 shows the pattern of primary and secondary diagnoses for the six major diagnostic groups. For this series of analyses, cases with multiple diagnoses were only included *if* the secondary diagnoses were among the six major categories. The total number of cases with single diagnosis for the six categories was 87 while the number with multiple diagnoses was 65. Thus 43% of cases had multiple diagnoses. (This is comparable to the ratio in entire sample where 48% of the cases have more than one Axis-I diagnosis.) The prevalence rate of secondary diagnoses varied considerably among the six major diagnostic groups. The highest rate was within the *ADD* group (67%) while the lowest rate was for the *VC* group (18%).

Insert Table 8 about here

Within each diagnostic category, the effect of specific secondary diagnoses on the variables of interest were examined by forming subgroups for each specific secondary diagnosis. For example, within the *MDD* category, those with a secondary diagnosis of *CD* were separated from those with one of *OPP* and those with one of *VC*. Those with no secondary diagnosis also formed a subgroup of their own. For each diagnostic category, a series of ANOVAs was conducted on the psychometric data as the dependent variables (Tables C3 to C12).

Overall, there was *no* significant effect of specific secondary diagnostic categories with one exception. For the *CD* category, there was a main effect on the *Self Sat* scale of the *TSCS* ($p=.03$) (Table C7). However, post-hoc scheffe testing did *not* reveal any specific group differences. Thus, generally, the individual subgroups did not differ on any of the variables in the study.

Following the procedure with the first question, the effect of single versus multiple diagnoses within each diagnostic category was also examined through a series of two sample *t*-tests. On the whole, the results were similar to those from the ANOVAs. There were significant differences for the *CD* and *ADD* categories. Within the *CD* category, the *CD-only*

group scored higher than the *CD+others* group on the Total Positive score and the *Self Sat* scale of the *TSCS* (p=.045; and p=.003 respectively) (Table C8). Within the *ADD* category, the *ADD-only* group scored lower than the *ADD+others* on the *Behav* scale of the *TSCS* (p=.045) (see Table C11).

Because diagnostic categories are theoretically different syndromes, a investigation of the effect of multiple diagnoses may be more fruitful if cases with same diagnoses, but reversed order, were compared. That is, how does a case with a primary diagnosis of *CD* and secondary diagnosis of *MDD* compare to one with these diagnoses reversed? As well, how do these compare with cases with a single *CD* or *MDD* diagnosis. The sample only contained enough cases for two such sets of comparisons: *CD+MDD*, and *CD+ADD*. For the *CD+MDD* analysis, four groups were formed: *CD+MDD* (n=2), *MDD+CD* (n=8), *MDD* single(n=35), *CD* single (n=18). ANOVAs revealed significant group differences only for the *TSCS* variables: *Total Positive*, *Self Sat* and *Behav Self* (see Table C14). Furthermore, post-hoc testing revealed that these differences were primarily due to the differences between the *CD-single* and *MDD-single* groups. The only one difference for the multiple diagnosis group was found in the *Self Sat* scale where the *MDD+CD* group scored lower than the *CD* single group.

The results from the *CD+ADD* analysis were similar (see Table C13). The four groups in the comparison were: *CD+ADD* (n=4), *ADD+CD* (n=2), *CD* single (n=18) and *ADD* single (n=4). There was one significant overall group effect: *Behav Self* of the *TSCS*. Post-hoc testing revealed the effect was due to the *CD-single* group scoring higher than the *ADD-single* group. There were no significant differences found for either of the multiple diagnoses on any other variable.

Finally, the last question deals with the effect of using only cases with single diagnosis. There were overall significant group differences for all of the three major concepts in the study: depression, self concept and locus of control. Post-hoc comparisons showed that the *MDD* group was more depressed than the *CD* group. The *MDD* group also scored lower on the *Total Positive* score than the *CD* group and lower on the *Self Sat* scale of the *TSCS* than both the *CD* and *VC* groups. There was also an overall main effect for the *Behav Self*

scale of the *TSCS*. However, post-hoc analysis did *not* reveal any specific group differences. Lastly, the *MDD* group endorsed more proportionally more *PAG* items than the *VC* group. These results were essentially the same as results from the analyses using the entire unselected sample (to be presented in the section on Univariate Analyses).

In summary, both methods of investigating the effect of multiple diagnosis revealed few significant findings. Significant group differences were due to differences among single-diagnosis cases (rather than those with multiple ones). Furthermore, the results from using cases only with a single diagnosis were very similar to those with the unselected sample. These findings suggest that the impact of multiple diagnoses is *minimal* on the self-report scales used in this study. Therefore, it can be concluded that it *is* legitimate to use only the primary diagnosis for group placement for those cases with more than one Axis-I diagnoses.

Part One: INSTRUMENTATION - SELF-REPORT SCALES

A. Suitability of Self-Report Scales for an Adolescent Population - Internal Consistency

The internal consistency of the three scales were investigated by calculating the alpha coefficient for the *TSCS* and *CDI* and the Kuder-Richardson (KR-20) coefficient for the *I-E*. The alpha coefficient (or the KR-20) sets an upper limit to the reliability of a scale. That is, all other forms of reliability estimates would yield lower figures. The alpha coefficients are shown in Table 9. Overall, the *TSCS* scale had the highest coefficient (.921) while the *I-E* scale had the lowest (.550).

Insert Table 9 about here

For the *CDI* scale, the coefficient of .879 was consistent with findings reported by Kovacs and others (ranges from .71 to .87). The mean and median item-to-total correlation were .437 and .454 respectively. Kovacs obtained comparable values (.41 for both) from a clinical sample.

For the *I-E* scale, the coefficient of .550 was lower than ones reported by Rotter in his monograph (ranging from .65 to .79). However, 3 of the 4 studies used university

students while the fourth one used normal adolescents. None of the studies used a clinical sample. Franklin (1969) reported internal consistency of .69 based on a sample of 1000 senior high students. The mean and median item-to-total correlation for this clinical sample were .171 and .184 respectively. Those reported by Rutter, based on a sample of 400 college students, were higher: .256 and .260 respectively.

For the *TSCS*, no data on internal consistency were provided by Fitts. However, test-retest reliability for the total score was .92 with subscale score reliabilities ranging from .80 to .91. Alpha coefficients for these data should yield values higher than the test-retest reliabilities. The total score, the *Ident* Scale, the *Self Satis* Scale, and the *Physical* Scale all showed alpha's that are comparable with the test-retest data (alpha ranged from .81 to .92). Alpha coefficients for the other subscales (ranging from .68 to .80) are slightly lower than their respective test-retest reliabilities. Item-to-total correlations were calculated for the three internal scales. The mean and median values for the *Ident* Scale were .381 and .418 respectively. The mean and median values for the *Self Satis* Scale were .372 and .352 respectively. The mean and median values for the *Behav* Scale were .310 and .318 respectively.

In summary, these findings indicate that both the *CDI* and *TSCS* scales are suitable for use with a clinical adolescent population. The internal consistency coefficients are similar to those reported by the developers of the respective scales. The *I-E* scale, however, has weaker internal consistency data, suggesting that it is only marginally suitable for this population.

B. Suitability of Self-Report Scales for an Adolescent Population - Factor Analyses

All three scales were subjected to factor analysis in order to determine the structure of these instruments for an adolescent clinical population. Two different extraction methods were used: principal axis and principal component. For principal axis analysis, the square multiple correlations were used as the initial communality estimates. For principal component analysis, the initial communality estimate was set at one. Principal component analysis attempts to explain variance in the data while principal axis attempts to find common elements in the data. The cutoff criterion for the initial number of factors extracted was eigenvalues greater

than one.

The detailed presentation of the analyses and interpretation can be found in Appendix D. All three scales produced *interpretable* factor structures that are consistent with those found in the literature. Therefore, it is concluded that the scales are suitable for an outpatient adolescent population. Consistent with the Cronbach's alpha results, the overall percentage of variance accounted for by the factors for the *I-E* scale is smaller than those for the *CDI* or *TSCS* scales.

C. Independence of the Measures for Depression, Self-Esteem, and Locus of Control

The issue to be explored here have arisen out of a theoretical consideration of a general question whereby if two variables show a substantial inter-correlation, should one not entertain the possibility that perhaps only *one*, and not two distinct underlying concepts are being measured. That is, the high inter-correlation may be the result of measuring the *same* underlying concept with two different variables. (There are other alternative explanations; for example, the correlation could be due to the two variables' relationship to a *third* variable.)

For this study, the question applies to the variables measuring *depression* and *low* self-esteem. Measures of depression and self-esteem typically show a negative correlation of the magnitude of -.50. That is, the higher the level of depression, the lower the self-esteem. Certainly one of the defining features of depression is low self esteem and thus measures depression and self-esteem should correlate - although it might be in a curvilinear manner. To relate this back to the original issue, the question is whether or not there is really only one concept - for instance depression - and that a measure of low self-esteem is really *another* measure for depression.

There are many ways to resolve that issue. One of them is to find cases that show *independence* of the two concepts. That is, can one find cases whereby there is low self-esteem without signs of depressive illness and visa versa. However, this creates a measurement type problem because the current scales for depression *all* contain questions to do with self-esteem. The question arises as to whether one can obtain pure measures of each concept without being *contaminated* by the other. That is, can one obtain a measure on

depression without measuring self-esteem at the same time? An seemingly obvious solution would be to *remove* those items that seem to measure self-esteem from the depression scales. However, without resorting to a long drawn out procedure of restandardization of the scales, one is faced with trying to identify and eliminate items based *solely* on face validity.

One possible remedy is to subject the two scales to factor analysis. This would provide a *statistical* rationale for identifying any cross-over items; that is, items from one scale loading on the other. If there were no cross-overs, it would suggest that items within one scale have more in common among themselves than with items from another scale. Although this would *not* provide a *definitive* answer to the issue of whether or not depression and low self-esteem are the *same* thing, a situation of no cross-overs would at least allow for *relative* independence of the *measurement* of the two concepts.

This method was used to investigate not only possible cross-over items between depression and self-esteem but also of these concepts with locus of control. Thus, four factor analyses were performed: *CDI+TSCS+I-E*; *CDI+TSCS*, *CDI+I-E*, and *TSCS+I-E*. The results are presented in Tables 10 through 13 (see also Appendix D, Tables D4 to D7).

For the three-scaled analysis, there was remarkably little evidence of cross-overs (Table 10). All solutions (three, or five, or seven factor) revealed *CDI* as an intact scale with a minimum of 17 items out of the possible 23 loading on the same factor. The multi-dimensional feature of the *TSCS* was maintained, with the maximum of five factors extracted in the seven-factor solution. The *I-E* scale appears to be relatively heterogeneous in that only three items showed any substantial loadings in the last factor of the seven-factor solution.

Insert Table 10 about here

A similar pattern of results were obtained when the factor analysis was performed with *CDI* and *TSCS* items revealing relative independence between the two scales (Table 11). Even at the level of the seven-factor solution, there were only three *CDI* items that cross-overed. When the two scales were individually examined with the *I-E* scale, there was

only one incidence of cross-over (of the *I-E* scale on the *CDI* scale) (see Table 12).

Insert Table 11 about here

Insert Table 12 about here

Insert Table 13 about here

In summary, this series of factor analysis revealed that the three scales used: *CDI*, *TSCS*, *I-E* are relatively *independent* of each other. That is, each would seem to measure different concepts within the outpatient adolescent population. Therefore, although there is substantial correlation between the score on the *CDI* and the scores on the *TSCS*, at the level of *individual* scale items, there is relatively no measurable relationship.

Part Two: GROUP DISCRIMINABILITY BASED ON MEASURES OF DEPRESSION, SELF-ESTEEM, AND LOCUS OF CONTROL

A. Profile Analyses - Differentiation of Diagnostic Groups Using Self-Report Data

Profile analysis was used to investigate group differences. Profile analysis is a multivariate technique that allows for the *simultaneous* comparison of two or more variables across two or more groups. Profile analysis produces four tests of significance which are analogous to the univariate analysis of variance. Profile analysis provides an overall test of significance plus tests for *parallelism*, *levels*, and *variable* differences.

For this study, a significant test for *parallelism* would mean that there is an *interaction* between the self-report measures and the diagnostic groups. That is, the *pattern* of test scores across the different diagnostic groups is *significantly* different. A significant test for *levels* would mean that the overall means (summed across all the self-report measures) of each of the diagnostic groups are different. In this study, a significant test for the *variable*

effect would not be relevant.

In order to perform profile analysis, three conditions must be satisfied. *One*, the variables that make up the profile must have the *same* unit of measurement. *Two*, there must *not* be linear dependencies among the variables. That is, no one variable can be generated from a *linear* combination of the rest. *Three*, there must be a conceptual rationale to view these variables together in a profile. More common uses of profile analysis are investigation of group and profile differences on scales from personality inventories or subtests from a battery of achievement tests.

The major advantage for using profile analysis in this study is that one can utilize the information from *all* the major dependent measures - including information about differences in profiles. The decision to use this analysis created a methodological problem as only 3 out of the 5 variables, the *TSCS* variables, were measured in the same metric. This was solved by performing a z-score transformation on the 5 variables based on the entire sample. This procedure not only assured that all 5 variables in the profile were measured in the same metric, but also provided a conceptual rationale for looking at the 5 variables simultaneously in a profile. This transformation meant that the analysis would be focused on the extent and direction of each group's *deviation* on these variables with regards to the entire sample.

Three sets of four different profile analyses were performed on the data. The different sets are comprised of either 4 or 5 or 6 diagnostic groups (see Appendix E, Table E1 for a display of means and standard deviations from the various scores). The use of different combinations of groups allow the investigation of the relative discriminability of different diagnostic groups. The first set consisted of only affective and behavioral disorders: *MDD, DYS, CD, OPP*. This set compares the affective and behavioral groups. The second set included the addition of the group *ADD*. The addition of ADD not only allow for the examination of the profile for ADD, it also examins how that profile compares to those of the affective and behavioral groups. For example, does the *ADD* group have features of both groups or a pattern unique to its own? The third set consisted of the further addition of *VC* to the second set. The same type of questions are asked of the *VC* group as for the *ADD* group.

For each set, four different profile analyses were performed (see Tables E2 to E4) based on the type of scores used: two using z-scores; one using non-transformed raw scores, and one using T-sores (for the *TSCS* variables). The first was performed on all five z-transformed scores. This provided the most comprehensive analysis, generating a profile that would reveal patterns of *deviations* among the measures of depression, locus of control, and self-esteem. The remaining three analyses examine only *TSCS* variables while *varying* the unit of measurement: z-transformed scores, T-scores, or nontransformed raw scores. The use of z-scores still addresses the question of patterns of deviations. The use of non-transformed raw scores allows the investigation of absolute profile differences (as opposed to relative differences in the case of z-scores). The use of T-scores adds a normative component. These analyses with the *TSCS* variables provide both a test of Beck's prediction with regards discrepancy between *Ident Self* and *Self Sat* Scales as well as an examination of which is the best measure for revealing this prediction. A specific test of the prediction necessitated the use of a univariate ANOVA on the computed difference between the two subscales of the *TSCS*.

The Five-Variable Analyses: Maximum Use of all Self-Report Measures

There was a significant overall effect for all sets. In addition the test of *parallelism* was also significant for *all* sets. This meant that all groups showed *different* patterns of deviations for the variables measuring depression, self concept, and locus of control. Since all three sets (ie., 4 or 5 or 6 diagnostic groups in the analysis) yielded identical results, the different *combinations* of diagnostic groups did not affect the *outcome* of any of the significance tests. That is, all tests were significant regardless of the number or type of groups involved. The profile of each diagnostic group would be described followed by an interpretation of the significant findings (see Table E1 and Figures 1 to 3).

Insert Figure 1 about here

Insert Figure 2 about here

Insert Figure 3 about here

The group that showed the least amount of deviations from the sample mean was the *DYS* group. The mean z-scores for all five variables were virtually zero.

The other affective group, *MDD*, showed quite a different profile. Aside from the *I-E* score, which showed little deviation from the sample mean, all other scores showed deviations in the expected direction. The mean deviation on the *CDI* of +0.52 was the highest among the six groups. All the *TSCS* variables showed negative deviations ranging from -0.23 for [illegible] -0.42 for *Self Sat* Scales. These were the most *negative* among the six diagnostic groups. This meant that the *MDD* group had endorsed the least amount of *positive* statements about their current view of self, their behaviors, and most of all their sense of self satisfaction about themselves - their self-esteem.

The two behavioral groups, *CD* and *OPP*, showed virtually *identical* pattern of deviations. Both showed a mean negative deviation on the *CDI* in the same *magnitude* as the *MDD* group but in the *opposite* direction. That is, both behavioral groups scored much less depressed on the *CDI* than the rest of the sample. The *CD* group showed a slightly more negative deviation on the *I-E* score as compared to the *OPP* group (-0.16 versus -0.09). Both groups showed a positive deviation on all three *TSCS* variables with the largest deviation on the *Self Sat* Scale. That indicates the behavioral groups had a much higher sense of self satisfaction relative to their *Ident* or *Behav* Selves.

The *ADD* group showed a unique pattern of deviations. The group had the second highest negative deviation on the *CDI*. That is, the group had the second lowest score on the *CDI* (relative to the sample mean) of the six groups. However, it had the highest positive deviation on the *I-E*. That is, the *ADD* group scored the most external among the six groups. This group also had the highest positive deviation on the *Ident Self*. That is, the *ADD* group

had endorsed the most number of positive *Ident Self* statements on the *TSCS* relative to the six groups. However, this can be contrasted with a large negative deviation on the *Behav Self*. Finally, the *ADD* group showed little deviation from the sample mean on the *Self Sat* Scale. This constellation on the *TSCS* variables was ***unique*** among the six diagnostic groups examined.

The *VC* group, like the *DYS* group, showed little deviation on both the *CDI* and *I-E*. This group showed a similar pattern on the *TSCS* variables as the behavioral groups: all positive deviations with the *Self Sat* Scale showing much higher positive deviation. In fact, the group showed the highest positive deviation on the *Self Sat* Scale. That is, the *VC* group had the highest number of positive *Self Sat* statements endorsed relative to the other groups.

The relative contribution to the significant effects would be considered next. Since all groups had virtually the same *I-E* score, this variable likely did *not* contribute to the overall significant effect. In terms of unique group patterns, the *DYS* group was the least distinct of the six groups. It had scored very close to the sample mean on all the five variables (that is, z-scores of close to 0). The *VC*, *CD* and *OPP* groups all showed very similar profile of deviations with the *CD* and *OPP* groups having almost identical pattern. On the other hand, the profile for the *MDD* group was quite different from the behavioral groups and the *VC* group. This likely contributed to both the significant tests of *parallelism* and *levels*. As well, the unique pattern of the *ADD* group also contributed towards the significant effects.

In summary, all groups with the exception of the *DYS* had distinct profiles based on measures of depression, self-esteem, and locus of control. Of the three major constructs, the locus of control (*I-E* scale) showed the least amount of variability among the six diagnostic groups (see Figure 1). The significant interaction effect is due to the differences in profile among the *MDD*, *CD+OPP*, *ADD*, and *VC* groups. The *MDD* has the most severe profile; showing the largest deviations, in the pathological direction, from the overall sample means. The behavioral groups, *CD* and *OPP*, had identical profiles; they were the least severe. The *VC* was more similar to the behavioral groups than to *MDD*. The *ADD* had both affective and behavioral group features. The use of z-scores made possible the examination of profile differences based on both measures of depression *and* aspects of self-concept. This

contributes to the overall understanding of the nature of the cognitive and emotional disturbances of the various diagnostic groups.

The Three-Variable Analyses: Self-Concept Scales

The three-variable analyses focus only on the *TSCS* or self-concept variables. Unlike the five-variable analyses, the *number* of groups being compared (ie, 4, 5, or 6) did have an effect on the pattern of significant results. As well, there were also different pattern of results due to the different units of measurement (ie, z-score, non-transformed raw scores, or T-scores). Thus, the results would be presented by unit of measurement.

Since the analysis using z-scores represents a subset of the overall five-variable analyses, the description of the profile for the different groups would not be repeated. For the z-score analyses, there was still an overall significant effect for all three sets (ie, varying the number of groups in the comparison). The *parallelism* test was only significant for the 6-group set. This would indicate it was the *inclusion* of the *VC* group that resulted in a significant interaction between the *TSCS* variables and diagnostic groups. However, the pattern of results were opposite for the *levels* test. While at the 4-group set (ie, the two affective and the two behavioral groups), the *levels* test was highly significant, this decreased when the *ADD* group was added. Finally, when the *VC* group was also added, the *levels* test was no longer significant. The pattern of results is due to the fact that the *ADD* group's pattern of *deviations* resembled that of the *MDD* while the *VC* group resembled that of the behavioral groups. The successive additions of these two groups *obscured* the initial differences between the affective and behavioral groups.

The results from the analyses using non-transformed raw scores would be presented next. A description of the profile for each group would be presented first. Of the six groups, the *MDD* group had the lowest scores on all three *TSCS* variables. More specifically, both the *Self Sat* and *Behav Self* Scales had very similar scores, and were considerably lower than the *Ident Self* Scale. The *DYS* group showed the similar pattern as the *MDD*, however, the means were higher for all three variables. The behavioral groups, *CD* and *OPP*, had virtually the same scores on the three variables. These two groups had the second highest scores on these

variables among the six groups. The score on the *Ident Self* Scale was considerably higher than that of the *Self Sat* Scale which in turn was higher than that of the *Behav Self* Scale. The *ADD* group profile was similar to that of the affective groups for the *Ident Self* and *Self Sat* Scales. However, unlike the affective groups, the *Behav Self* Scale was considerably lower than the both the *Ident Self* and *Self Sat* Scales. Finally, the *VC* group had the overall highest scores on all three Scales. It showed a pattern that is quite different from the other groups. Unlike the large difference between the *Self Sat* Scale and the *Ident* Scale evident for all the other five groups, the difference for the *VC* group was virtually zero.

The significant results would be addressed next. As with the z-score analyses, there was an overall test of significance for all three sets (ie, significant regardless of the number of groups being compared). The results from the *parallelism* test was similar in that the 4-group analysis was *not* significant. However, both the 5 and 6-group analyses were significant. These results indicate that the significant difference in the pattern (that is, the significant test of *parallelism*) is due to the large difference between the *Self Sat* and *Behav Self* Scales of the *ADD* group, and the lack of difference between the *Ident Self* and *Self Sat* Scales of the *VC* group. All three sets showed a significant *levels* test. This result complement those from the z-score analyses. Whereas there was an absolute overall mean difference among the six groups on the *TSCS* variables, the analysis of profiles (as in the z-score analyses) show some of them to be the same.

The results of the T-score analyses would be presented next. To reiterate, these T-scores were based on the norms from the standardization sample provided by the *TSCS*. Visual inspection revealed that the pattern of T-scores for the six diagnostic groups to be the *same* (see Figure 3). All groups scored considerably higher on the *Self Sat* Scale than the other two Scales. The median score, across all six groups, for the three Scales were: 34.69, 47.10, and 34.25 respectively. The significant results would be summarized next. As with the other units of measurements, there was a significant overall effect for all sets. As expected, the test of *parallelism* or pattern differences was *not* significant for all sets. There was however significant *levels* test for all sets. This indicated that although there was no difference in the pattern on the *TSCS*, the diagnostic groups did differ in terms of the levels on these

variables.

It can be seen that analyses using the different units of measurements contributed to the overall understanding of group differences in different asepcts of the self. The groups showed no difference in pattern of scores when T-scores were used. However, the use of both z-scores or non-transformed raw scores revealed interesting patterns. Furthermore, none of the 4-group comparisons revealed any significant pattern differences. This indicated that the affective and behavioral groups do not differ in their *pattern* of scores on the *TSCS*. They do differ in the *level* for each of the three subscales (as revealed by the significant *levels* tests on all three sets).

Finally the results from the univariate ANOVA of the computed difference between *Self Sat* and *Ident Self* Scales would be presented (see Table E5). Of the three different units of measurements (z-score transformation, raw scores, or T-score), the raw score seems to be the most appropriate.[22] The ANOVA of the difference score (*Self Sat* minus *Ident*) was significant ($p = .044$). All groups showed a negative discrepancy: ranging from -15.7 (*ADD*) to -2.4 (*VC*). The directionality of the discrepancy, *negative*, means that the level of self satisfaction is *lower* than the individual's current view of oneself. Post hoc analysis using the Scheffe test did *not* reveal any specific group differences. However, when the post hoc Duncan procedure was used (more liberal), the *MDD* group's discrepancy score (-13.5) was significantly different from those of the *CD* (-5.6) and *VC* (-2.4) groups. Thus, the trend in the data lends support to Beck's prediction with respect to the *direction* of the discrepancy.

In summary, the analyses with the *TSCS* variables using different unit of measurements provided complementary information. The analyses with z-scores revealed that although the diagnostic groups differ in their pattern and direction of deviations from the sample mean, their absolute amount of deviations showed similarity among some of the groups. The analyses with non-transformed raw scores revealed that the *ADD* and *VC* groups showed unique patterns of scores. The analyses with T-scores revealed that all groups had a

[22]The use of the z-score would make interpretation difficult because both the direction and the sign of the difference score are affected by the relative ranking of the individual scores. The use of the T-score may not be appropriate because of the normative sample.

similar pattern of scores with respective to the standardization norms. They differ in their overall level of positive self-concept with the *MDD* group showing the poorest and the *VC* group the best of the six groups. Finally, the ANOVA on the discrepancy score between *Self Sat* and *Ident Self* Scales revealed that there is support for Beck's prediction about the process of depression on this discrepancy.

These series of profile analyses, varying the number of groups and the type of scores used (for the *TSCS* variables), have provided a detailed *quantification* of differences and similarities amomg the six diagnostic groups on measures of depression, self-esteem, and locus of control. The transformation to z-scores based on the entire sample was instrumental not only in allowing the use of *all* the self-report data but in the *shift* to analysing differences in *deviations* rather than just absolute differences.

B. Discriminant Function Analyses: Accuracy in Predicting Group Membership

The use of the discriminant analysis complements the results from the profile analyses. While profile analysis studies differences in *profile* of groups on specific variables, discriminant analysis provides information regarding the *accuracy rates* of specific sets of variables on the prediction of group *membership*. To the extent that different groups score similarly on different scales, they would be more difficult to discriminate than those groups that score differently. Discriminant analysis also allow the combination of predictor variables regardless of unit of measurement, therefore, it does not have as many restrictions as profile analysis. The only restriction is that the none of the predictor variables are linear combinations of another. In addition to providing researchers with specific accuracy rate tables, discriminant weights are generated for each predictor variable so that one can attempt to classify cases of *unknown* group membership.

For this study, the membership to be predicted was *diagnostic category* and the predictors were the *self-report measures*. The six diagnostic groups were: *MDD*, *DYS*, *CD*, *OPP*, *ADD*, and *VC*. The five predictor variables were scores on: *CDI*, *I-E*, *Ident Self*, *Self Sat*, and *Behav Self*. Two levels of discriminant analysis were performed on the data. The *first* level was to compare the *discriminant power* of using z-scores, raw scores, or T-scores.

To reiterate, z-scores referred to the use of scores from the z-score transformations made on all five variables as in the profile analysis. Raw scores referred to the use of non-transformed scores for all five variables. T-scores referred to the use of standardization scores for the *TSCS* variables based on the norms provided by the test manual while using raw scores for the *CDI* and *I-E* scales. The *second* level was to contrast different *combinations* of diagnostic groups. That is, are there combinations or deletion of groups that would improve overall and specific discrimination?

Appendix F shows the classification tables for the two levels of discriminant analysis. The tables are set up such that both the pattern of correct and incorrect predictions can be readily discernible. For example, for the *MDD* group in the first table, it can be seen that 32/61 (52.5%) cases were correctly predicted. Most of the incorrect prediction placed the *MDD* cases in the *ADD* group: 9/61 (14.8%) cases. That is, the pattern of scores from 9 *MDD* cases was closer to that of the *ADD* group than *MDD*.

Overall, at the level of different kinds of measures, the discriminant analysis based on *raw scores* was generally the most *accurate* across the different combinations of groups. For example, for the six group combination, the accuracy rate were 38.6%, 36.8%, and 33.7% for raw scores, T-scores, and z-scores respectively. At the level of different diagnostic groupings, the most accurate one was the combination with *MDD*, *CD+OPP*, and *VC*. Since the pattern of results among the different kinds of measures were the same, only the raw score set would be discussed in detail.

The overall accuracy based on all six groups was only 38.6%. Although all groups achieved correct identification greater than chance (ie., greater than 1/6), only two groups achieved greater than 50% identification: *VC* and *MDD* (54.5% and 52.5% respectively). Based on the results from the profile analysis that showed the *CD* and *OPP* groups to be virtually identical, the *CD* and *OPP* groups were combined for the next analysis. This resulted in a slight improvement in the overall accuracy to 44%. The behavioral groups could now be correctly identified at 41.2%.

The next analysis focused on three broad groupings: affective (*MDD+DYS*), behavioral (*CD+OPP*), clinical control (*VC*). This resulted in a substantial improvement in

the overall accuracy to 60.78%. The best group is the affective one (62.6%). Based on the finding (from the profile analysis) of lack of *distinctiveness* of the *DYS* group, the last analysis focused on only the *MDD*, *CD+OPP*, and *VC* groups. That improved the overall accuracy to 63.4%. All three groups showed above 50% accuracy rates. The *MDD* group showed the highest hit rate at 67%. Depending on the theoretical perspective, either of the last two groupings are both valid and have quite acceptable accuracy rates.

The same series of discriminant analysis was performed substituting two different subscore for the *I-E* global scale (see Tables F4 and F5). Because of the proportional nature of the subscores, only one from each perspective was used: *VIC* from the self attribution and *NC* from the world attribution. (Please refer to the section on Treatment of Data for the derivation of these *I-E* subscores.) Overall accuracy rates remained similar as compared to the ones obtained from the analysis using the global score. There were small decrease in accuracy for the affective groups but this was offset by the increases for the behavioral groups. There was virtually no change for the *VC* group.

In summary, the five self-report predictor variables achieved accuracy rates ranging from 34% to 63%. Generally the use of raw scores was superior to either z-scores or T-scores. The substitution of subscores from the *I-E* scale produced minor changes over those obtained from raw scores in the accuracy rates but the overall rates remained the same. Overall, the combinations of groups that produced the best accuracy rates were either: (1) *MDD+DYS*, *CD+OPP*, and *VC* (60.8%); or (2) *MDD*, *CD+OPP*, and *VC* (63.4%). Not surprisingly (given the profile analyses results), the *MDD* group had the best overall accuracy rate of 67%.

C. Univariate Analyses: Gender Differences in Diagnostic Groups

Gender and diagnostic group differences were investigated for all major variables in a two-way diagnostic group by gender ANOVA design. The results are presented in Appendix G. The main effects of gender would be presented first. There were *gender* differences on all the three major concepts investigated in this study. In the area of *depression*, females scored more depressed on the CDI than males (16.6 versus 11.6). For *locus of control*, females

scored more external on the *I-E* than males (11.0 versus 9.9). Further analyses of the *I-E* subscales revealed that females scored higher on the *VIC* subscale from the self attribution perspective and scored higher on the *NC* subscale from the world attribution perspective (4.8 versus 4.1, and 7.0 versus 6.5 respectively). For *self-concept*, females scored lower on the *Identity* subscale of the *TSCS* than males (104.6 versus 110.6).

There was only significant gender by diagnostic group *interaction* for the locus of control variables: *VIC* and *NV*. The pattern is the same for both of these variables. Females scored higher or the same on the *VIC* and *NC* variables than males for all diagnostic groups except the *OPP* group where they scored significantly lower.

There were significant *group* differences across all three major concepts: depression, locus of control, and self concept. Post-hoc Scheffe tests ($p=.05$) were used to delineate group differences. For the *depression* score, the *MDD* group scored significantly higher than both *CD* and *OPP* groups. For the *locus of control* measures, although there was a significant main effect on the *PNC* variable, post hoc Scheffe tests did not reveal any group differences. The trend would suggest that the *CD* group scored higher than either of the affective groups (*MDD* and *DYS*). For the *TSCS* variables, there were significant main effects for *Total Positive*, *Self Sat*, and *Behav Self* Scales. These results were obtained with both T-scores and raw scores. Scheffe tests revealed that the *MDD* group scored lower than the *CD* group on *Total Positive*, and *Self Sat* Scales (285.6 versus 314.3 and 90.3 versus 104.7 respectively). As well, the *MDD* group also scored lower than the *VC* group on the *Self Sat* Scale (90.3 versus 109.0). Scheffe testing did not reveal any group differences for the *Behav Self* Scale. The trend would suggest that the *MDD* group also scored lower than both the *CD* and *VC* groups (91.0 versus 99.3 and 99.9).

In summary, there were gender differences for all three constructs. Females scored more depressed, more external, and lower in self-esteem than males across virtually all diagnostic groups considered. There was only one minor group by gender interaction. This pattern of gender differences is consistent with those in the adult literature, suggesting that adolescent females (at least those in this study) already share the same cognitive and emotional vulnerabilities as their adult counterparts. The univariate analyses of group

differences showed that many of them were due to differences between the *MDD* and behavioral groups (*CD* and *OPP*).

Part Three: INTERRELATIONSHIPS - DEPRESSION, SELF-ESTEEM, AND LOCUS OF CONTROL

A. Interrelationships in an Outpatient Adolescent Facility

Up to now, the focus of analysis had been diagnostic group differences. In this section, the relationships among the three major concepts: depression, locus of control, and self-esteem would be examined for this outpatient clinical population. The issue is the relationships of these constructs in selected psychopathologies. Most investigations, because of the emphasis on the delineation of group differences, have focused on *differences* of these constructs in different groups. The issue of *interrelationships* has not received the same emphasis. (A more specific discussion of the process variables of depression and their relationship to locus of control and self concept would be presented in the next section.) The interrelationships were examined by the generating a Pearson Product Moment correlation matrix (see Tables 14 and 15).

Insert Table 14 about here

Insert Table 15 about here

The use of the correlation coefficient necessitates a discussion of the decision rule for establishing its significance. The current accepted rule is to set the criterion for significance at $p=.05$. However, the significance level for a correlation coefficient is dependent on the sample size. That is, the size of the correlation required to reach significance (eg., $p<.05$) decreases with increasing sample sizes. Although this is the same for any other tests of significance, this poses a particular problem for correlation coefficients. A coefficient of much less than *0.3*, although significant at $p=.05$ for sample sizes greater than 30, would

only account for approximately 10% or less of the variability between the two variables. For this study, some of the coefficients calculated would be based on the entire sample of 214. In these instances, a coefficient of approximately *0.15* would have been declared significant at the $p=0.05$ level. This would only account for approximately 2% of the variance between the two variables being correlated. Thus, in an effort to balance between reporting *trivial* correlations and adherence to the $p=0.05$ cut-off, only coefficients that are at least *0.20* would be reported. The results would be presented for *CDI*, followed by those of the *I-E*.

The *CDI* showed only one notable correlation with locus of control variables. *CDI* was positively correlated with *PAG* items ($r=.209$). That is, as the severity of depressive symptoms increases, so does the feeling of passivity. *CDI* was not correlated with the global score from *I-E* nor any of the other derived scores. However, the *CDI* had notable correlations with all four *TSCS* variables. *CDI* was negatively correlated with all three subscales and total score of the *TSCS* (ranges from -0.378 to -0.526). Generally, the coefficients were higher when raw scores were used instead of T-scores. The negative correlations were consistent with findings in the existing literature.

The global score from the *I-E* scale was not correlated with any of the other variables. However, subscale *PAG* was negatively correlated with three out of the four variables from the *TSCS* (both raw and T-scores). The coefficients (with raw scores) were: -.216 for *Ident Self*, -.245 for *Behav Self*, and -.239 for *Total Positive*. (The correlation with *Self Satis*, $r=-.16$, failed to reach the suggested cut-off of $r=.20$.) These findings indicate that as various aspect of the self-concept decreases, the feelings of passivity increases. Unlike the absolute score, there was only one significant correlation for the proportion score for *PAG* (with *Behav Self*, $r=-.206$, raw score). Finally, feelings of non-control (*NC*) was negatively correlated with *Ident Self* ($r=-.207$; T-score). That is, as the self-concept decreases, the feelings of non-control increases.

Since *CDI* was correlated with some aspect of locus of control (*PAG*), the relationship between locus of control variables and *TSCS* variables were re-examined by partialling out the influence of depression (Table 15). When this was done, none of the previously noted relationships achieved the suggested cut-off (i.e., to have a coefficient of at

least .20). The coefficients for *PAG* dropped to -.171 with *Behav Self* and -.130 with *Ident Self*. Thus, it can be concluded that the relationships between feelings of passivity (*PAG*) and *TSCS* variables were due to its relationship with severity of depression.

In summary, severity of depressive symptomatology was correlated with aspects of self-concepts. Feelings of passivity (*PAG*) was also correlated with aspects of self-concept. However, these seemed to be mediated through its correlation with severity of depression. The generalizibility of these interpretations to psychopathology per se need to be cognizant of the large proportion of affective disorders in this sample. The noted relationships may largely be specific to depressive disorders.

B. Length of Depression: Impact on Self-Esteem and Locus of Control

This section deals exclusively with the affective groups, *MDD* and *DYS*. It examines, in detail, the relationship between length of depression (and dysphoria) and measures of self-concept and locus of control. Two variables: length of current depressive or dysthymic episode (in months), and lifetime total (of same), were estimated from the initial report and psychiatric assessment. These two *process* variables were then correlated with the psychometric measures in the study (see Table 14).

For the *DYS* group, all cases presented with only one episode of dysthymia. Thus, the length of the current episode is the *same* as the lifetime total. The average length of the current episode of dysthymia (*TDYS*) was 14.87 months (SD=5.91, ranges from 8 to 36 months). For the *MDD* group, the average length of the current episode of major depressive disorder was 9.98 months (SD=6.04, ranges from 1 to 30 months). Unlike the dysthymia group, there were individuals in this group who have had more than one episode of depression (that is, the current length was not equal to the lifetime total). The average lifetime total was 11.72 months (SD=7.45, ranges from 1 to 36 months).

The findings with *TDYS* would be presented first. There were three notable correlations (r of at least 0.20). TDYS was negatively correlated with *Self Sat* Scale (r=-.292). This means that as the length of the current episode increases, the level of Self Sat decreases. *TDYS* was positively correlated with both *PAG* and *PPAG* (r=+.278, and

$r = +.266$ respectively). This means that as the length of the current episode increases, the adolescent endorses more *PAG* items from the *I-E* overall, and proportionally more *PAG* items than *VIC* items. That is, as the length of the current episode increases, there is greater feelings of passivity. This is similar to the relationship between severity of depression (*CDI*) and passivity noted previously.

The strength of these relationships dropped slightly when the effect of depression (*CDI* score) was partialled out. The correlation with *Self Sat* Scale changed to -.242 while the ones with *PAG* and *PPAG* changed to .229 and .224 respectively. Thus, length of dysthymia seems to be related to both self-esteem and locus of control measures *irrespective* of the current level of depression. It was surprising that length of dysthymia was not correlated with level of depression as measured by the *CDI*.

For the process measures of major depression, there was only one correlation that reached the cut-off level with the initial analysis. The lifetime total (*TTMDD*) was negatively correlated with the proportion of *NC* items endorsed on the *I-E* ($r = -.213$). Although the correlation with the absolute number of *NC* items endorsed did not reach the cut-off of .20, the r of -.169 was was in the same direction as the proportional score.

When the current level of depression (*CDI* score) was partialled out, the strength of the relationship did not change ($r = -.212$) (see Table 15). That is, the longer the exposure to depression, the less likely that the adolescent would endorse proportionally more *NC* items on the *I-E* irrespective of the current level of depression. However, the correlation of lifetime total with *Ident Self* Scale improved substantially, from $r = .185$ to $r = .251$. That is, when the current level of depression was controlled for, the longer the lifetime total exposure to depression, the higher the number of positive self statements endorsed.

The length of the current depressive episode (*TMDD*) was not correlated with any of the variables of interest either with or without the effect of current level of depression being controlled for. Finally, as with the process variable for dysthymia, the process variables for depression (*TMDD, TTMDD*) were not correlated with *CDI*.

In summary, although the process measures were very inexact proxies for *chronicity*, there were some modest relationships with locus of control and self-esteem measures. These

relationships held up even when the *current* level of depressive symptomatology was controlled for (ie, *CDI* score). The most interesting relationship was the unexpected *positive* correlation between length of depression (*TTMDD*) and the number of positive self-concepts (*Ident Self*).

Result Highlights

The results are summarized below, organized by the major parts: instrumentation, group discriminability, and interrelationships.

Part One: Instrumentation - DSM-III

1. *Inter-rater Reliability of DSM-III Diagnostic Categories*

   Two methods used to determine the inter-rater reliability of the DSM-III diagnosis used in this study: the Kappa coefficient, and a rating scale of agreement. The Kappa coefficients for the six major diagnostic categories range from 0.558 (Dysthymia) to 0.771 (Conduct disorders). The overall Kappa was 0.688 which falls in the 'good' range. The results using the rating scale which considers all the diagnoses for each case was consistent with the Kappa calculations. Eighty-three percent (83%) of cases had either an excellent or good rating. Thus, it can be concluded that the Axis-I DSM-III diagnoses have been reliably assigned.

2. *The Effect of Multiple Diagnoses on Group Placement*

   The central question was whether cases with the same primary diagnosis but different secondary diagnoses (or no secondary diagnosis) were *homogeneous* enough to be considered in the same diagnostic group. Forty-eight percent (48%) of all cases in the study had more than one Axis-I diagnosis. When only the six major diagnostic groups were considered, 43% still had more than one diagnosis. The various analyses revealed that there were few *minor* differences within some of the diagnostic groups. However, it was concluded that these differences were not central enough to change any of the group assignments.

Part One: Instrumentation - Self-Report Scales

1. *Suitability of Self-Report Scales for an Adolescent Population - Internal Consistency*

   Alpha coefficient was calculated for each of the three scales used in the study to determine the scales' suitability for use in this clinical adolescent population. All three scales showed adequate to excellent alpha coefficients. The coefficients ranged from 0.550 for the *I-E* scale to 0.921 for the *TSCS* (overall score). These results are generally consistent with those reported by the publishers of the respective instruments. The low internal consistency of the *I-E* scale for the clinical adolescent population is problematic and it may indicate either the scale is not suitable for this group or that the concept of locus of control cannot be measured reliably in this group. Since Franklin (1969) did report internal consistency of 0.69 for the *I-E* on a sample of 1000 senior high students; that would imply that the concept of locus of control can be measured in this age group. Thus, it was concluded that the *I-E* was ***marginally*** suitable to be used for this population.

2. *Suitability of Self-Report Scales for an Adolescent Population - Factor Analyses*

   Each scale was individually factor analyzed to examine the factor structure for a clinical adolescent population. All three scales yielded interpretable factors for this sample.

   For the *CDI*, principal component analysis resulted in a 4-factor solution accounting for 44% of the variance. The first two factors have to do with depressed mood and loneliness. The third factor has to do with oppositional and self-blaming behaviors. The last factor has to do with problems in the school setting.

   Principal component analysis of the *I-E* scale yielded two factors accounting for 18% of the variance. The first factor deals with feelings of ***externality*** with regards to world or political affairs. The second factor deals with feelings of ***passivity*** with regards to one's control of one's life.

Principal component analysis of the *TSCS* yielded at least eight factors. However, the 5-factor solution was the most interpretable. Most of the eight major subscales of the *TSCS* were reproduced. *Factor I* consisted of items mostly from the *Ident Self* subscale for the internal reference and items from the *Physical Self* subscale for the external reference. *Factor II* consisted of items from the *Behav Self* subscale (internal) and items from the *Social Self* subscale (external). There was no consistent pattern on *Factor III* for the internal reference but these items were mostly from the *Family Self* subscale for the external reference. *Factor IV* consisted of items from both the *Self Satis* and *Behav Self* subscales (internal) and the *Moral-Ethical Self* (external). *Factor V* consisted of items from the *Self Satis Scale* (internal) and the *Moral-Ethical Self* (external) subscales.

3. *Independence of the Measures for Depression, Self-Esteem, and Locus of Control - Crossed Scaled Factor Analyses*

The major concern was to identify cross loadings among the three scales in the study. To reiterate, a cross loading was defined as an item that loaded significantly higher on another scale than its own. Four different combination of crossed-scales factor analyses were performed: *CDI+TSCS+I-E*, *CDI+TSCS*, *CDI+I-E*, and *TSCS+I-E*. There were remarkably little cross loadings of any of the items onto another scale. For the *CDI*, there were only three items that showed any cross loadings. These were items dealing with feelings of fatigue (*C17*), isolation (*C22*) and disobedience (*C26*). All of these occurred in the *CDI+TSCS* analysis. There was only one item on the *I-E* that showed cross loading (*school grades-I23*) in the *CDI+I-E* analysis. None of the *TSCS* items showed any cross loadings in any of the analyses involving the *I-E* scale. Thus, it can be concluded that the amount of cross loadings was not severe enough to consider altering any of the scales by either deleting the cross-over items from the original scale or by adding the items to the new scale.

Part One: Instrumentation - Summary

In summary, the DSM-III diagnoses have been assigned reliably. The inter-rater reliability estimates based on the kappa calculations were very similar to those based on the rating scale. The impact of multiple diagnoses on the self-report measures used in this study was miminal; therefore, group assignment based on primary DSM-III diagnosis was justified. Based on internal consistency results, two of the three self-report scales showed excellent suitability; the *I-E* scale showed weaker internal consistency. Individual factor analysis results complemented those from the internal consistency. The cross-scaled factor analyses revealed *relative* independence of the three scales.

Part Two: Group Discriminability Based on Measures of Depression, Self-Esteem, and Locus of Control

1. *Profile Analyses - Differentiation of Diagnostic Groups Using Self-Report Data*

   Profile analysis was used to investigate the nature and extent of differences in profile on the psychometric measures for each of the six main diagnostic groups. The results from the *5-variable* analyses revealed that there were significant tests of *parallelism* and *levels*. The *DYS* group showed a surprisingly flat profile of minimal deviation from the sample mean on all 5 variables. The behavioral groups, *CD* and *OPP*, showed a pattern of deviations that were virtually opposite to that of the *MDD* group. The *VC* group had a similar pattern to the behavioral groups and thus also contributed to the overall significant tests of *parallelism*. The *ADD* group, having an unique pattern of deviations, also contributed towards the overall significant effects.

   The results from the *3-variable* analyses revealed that the different units of measurements of the *TSCS* variables provided complementary information on the pattern of differences among the six diagnostic groups. The *z-score* analyses revealed that although the groups had different pattern and direction of deviations from the sample mean, the total amount of deviations showed several groups to be similar. The *non-transformed* raw score analyses revealed that the significant test of *parallelism* was due to the different patterns of the

ADD and *VC* groups from the rest. Finally, the *T-score* analyses revealed that although the groups all showed a similar profile with respect to the standardization norms (of the *TSCS*), the groups did differ in the overall number of positive self concepts endorsed.

The series of profile analyses were performed to test three hypotheses. The various significant results allowed for the rejection of two out of three. All groups, except the *CD* and *OPP* groups, did show *different* patterns of scores across the 5 dependent variables. Secondly, there was a significant difference in the *profiles* of the groups with respect to the *TSCS* variables. Finally, although the *MDD* group did not show the largest discrepancy between the *Self Sat* and *Ident Self* Scales in the ANOVA, post hoc analysis with the Duncan procedure revealed that the *MDD* group to be different from the *CD* group on this variable.

2. *Discriminant Function Analyses - Accuracy in Predicting Group Membership*

Discriminant analysis was performed using the five major psychometric measures to predict diagnostic group membership. Two levels of discriminant analysis were performed: varying the *kind* of scores used, and varying the *combination* of groups to be predicted. The results from the kind of scores revealed that the analyses using *raw scores* were superior to those using either *T-scores* or *z-scores*. The results from the different combination of groups revealed that the combination with the best overall accuracy rate was: *MDD*, *CD+OPP*, and *VC*. For this combination of groups, the hit rate was 67.2%, 60.8% and 54.5% for *MDD*, *CD+OPP*, and *VC* respectively. This resulted in an overall accuracy rate of 63.4%. When either the subscale *VIC* or *PC* were substituted for the global *I-E* scale score in the raw score analyses, the accuracy rates remained essentially the same.

The null hypothesis that diagnostic group membership could not be predicted from psychometric measures was rejected. The specific accuracy rate for different diagnostic groups varied greatly. The *MDD* group could be predicted most accurately, achieving the

highest hit rate at 67.2%. In contrast, the most difficult group to be predicted was the other affective group: *DYS*. That group only achieved an accuracy rate of 26.7%. These results parallelled those from the profile analyses wherein the *DYS* group was the most indistinctive of the six major diagnostic groups.

3. *Univariate Analyses - Gender Differences in Diagnostic Groups*

Two-way analysis of variance was used to investigate gender and diagnostic group effects on the psychometric measures. There were gender main effects on all three concepts: depression, locus of control, and aspects of self concept. Females scored more depressed, more external, and endorsed fewer positive self statements on the *Ident Self* scale of the *TSCS* scale than males. There was only significant interactions for the subscales of *I-E*: *VIC* and *NV*. Females endorsed more *VIC* and *NC* items than males for all diagnostic groups except the *OPP* group.

In terms of diagnostic group main effects, there were also significant effects on all concepts: depression, locus of control, and aspect of self concept. The *MDD* group scored higher on the *CDI* than both the behavioral groups, *CD* and *OPP*. For the locus of control variables, the trend was for the *CD* group to score higher on the *prop NC* than the affective groups, *MDD* and *DYS*. For the *TSCS* scales, all specific group differences centred around the *MDD*, *CD* and *VC* groups. The *MDD* group scored lower than the *CD* group on both *Total Positive*, and *Self Sat* Scales. As well, the *MDD* group scored lower than the *VC* group on *Self Sat* Scale. Finally, the trend suggest that the *MDD* group also scored lower than both *CD* and *VC* groups on the *Behav Self* Scale.

Thus the null hypotheses concerning gender and diagnostic group differences were rejected. Measures from all the three concepts of depression, locus of control, and self concept showed significant gender and diagnostic group differences. Most of these differences were from the *MDD*, *CD*, *OPP* and *VC* groups. Neither the *DYS* nor the *ADD* groups were involved in any specific significant effects.

Part Two: Group Discriminability - Summary

In summary, the majority of the diagnostic groups showed distinctive profiles on the self-report scales. In particular, the *MDD* group had the most severe profile: highest score on the *CDI*, lowest scores on *TSCS* subscales, and largest discrepancy between *Self Sat* and *Ident* subscales. Behavioral groups, *CD* and *OPP*, were virtually indistinguishable from each other. The best overall accuracy rate achieved with the discriminant function analyses was 63.4%, based on the discrimination of the following: *MDD*, *CD+OPP*, and *VC* groups. The univariate analysis results complemented those from the profile analyses. Many of the specific group differences were due to those between the affective (*MDD*) and behavioral groups (*CD* and *OPP*).

Part Three: Interrelationships - Depression, Self-Esteem, and Locus of Control

1. *Interrelationships in an Outpatient Adolescent Facility*

   Correlational analysis was used to examine the relationships among depression, locus of control, and self concept for the entire sample. The results revealed that there were significant correlations among these variables. *CDI* score was positively correlated with number of *PAG* items endorsed on the *I-E*. Thus, as the severity of depression increases, so does the feeling of passivity concerning one's control over life. The *CDI* score was also correlated with measures from the *TSCS*. The coefficients ranged from -0.38 (with *Self Sat* Scale) to -0.53 (with *Total Positive* Score). Thus, as the severity of depression increases, the number of positive self statements endorsed regarding different aspects of one's self concept decreases.

   In addition to correlating with the severity of depression, the number of *PAG* items endorsed was also correlated with variables from the *TSCS*. However, when the severity of depression was controlled for, these correlations disappeared.

   Thus, the null hypothesis that there would be no relationship among scores on depression, locus of control, and self concept was rejected. Although the strength of the association

between depression and locus of control was quite modest, the direction -*positive*- was as predicted. The moderate negative correlations between depression and aspects of self concept were consistent with existing literature.

2. *Length of Depression: Impact on Self-Esteem and Locus of Control*

These variables were used to examine the relationships among the length of depressive or dysphoric episodes, locus of control and aspects of self concept. For the *DYS* group, there were notable correlations between *length* of dysthymia and the *Self Sat* scale (negative) plus dysthymia and the number and proportion of *PAG* items endorsed (both positive). The strength of these relationships were retained even when the current level of depression was controlled for.

For the *MDD* group, there was only one notable negative correlation between the *lifetime total* of depressive episode and proportion of *NC* items endorsed. When the current level of depression was controlled for, the lifetime total was positively correlated with *Ident Self* Scale. This was a somewhat unexpected finding because of the well established inverse relationship between the level of depression and self concept. However, this finding may indicate that with longterm exposure to depression, there is a strong need to project a more positive image of oneself as a way of coping with the debilitating effects of chronic depression.

The null hypothesis that there would be no relationship between these process variables and *TSCS* and locus of control variables could be rejected. However, the alternative hypothesis regarding the positive correlation between length of depressive episode and locus of control variables was not founded. As well, the complex interplay of level of depression with these variables was unexpected.

Part Three: Interrelationships - Summary

Scores on the *CDI* were correlated with both the *PAG* score on the *I-E* and *TSCS* subscales. The positive correlation with *PAG* suggests that as depressive symptomology increases, the feeling of passivity also increases. The negative correlations with *TSCS* scales were consistent with findings from existing literature. Results from the process variables suggest that the duration of dysthymia and major depression significantly impacts on one's self-esteem and locus of control.

Overall Summary

Analyses were aimed at addressing three major questions: (1) the reliability and suitability of the instrumentations used; (2) diagnostic group discriminability; and (3) the interrelationships among the three major constructs (of depression, self-esteem, and locus of control). Inter-reliability estimates using either the Kappa coefficient or the proposed rating scheme yielded similarly good results. The effect of multiple diagnoses was minimal, thus allowing cases to be placed in groups based on only the primary DSM-III diagnosis. The three scales used showed excellent to adequate internal consistency for use with a clinical adolescent population. Cross-scaled factor analyses established the relative independence of the self-report instruments despite the obvious conceptual overlap between depression and low self-esteem.

Group discriminability analyses revealed that each of the diagnostic groups to have distinctive profiles. The *MDD* group was the most pathological; the *VC* group the least. The *ADD* group had both affective and behavioral group features. Prediction using all self-report measures resulted in the best overall accuracy rates when the *ADD* group was excluded and the behavioral groups were collapsed into one.

Interrelationships of depression and self-esteem were as expected from the literature. The correlations of locus of control and self-esteem were mediated by current level of depressive symptomatology. The length of depression or dysthymia seemed to be correlated with both self-esteem and locus of control. These findings suggest that more rigorous measures of chronicity (of depression) should be pursued.

Chapter V DISCUSSION

This study investigated the cognitive and emotional aspects of depression in adolescents by examining the relationship of depression with self-esteem and locus of control in an outpatient adolescent population. It was hypothesized that a better understanding of depression can be obtained by comparing affective disorders with other psychopathologies. The study used adult-based theory and classification system. Beck's cognitive theory of depression was developed from and for adults; its application for children and adolescents has not been vigorously pursued. Whereas there has been tremendous debate in the past 10 years regarding the phenomenon of depression in prepubertal children, work with the adolescent group has not benefitted from the same intense discourse. It is only with the new interest in the adolescent as a *separate* group that instruments are beginning to be developed *specifically* for this population. Some of the measurement issues raised in this study are in part to deal with the *suitability* of existing assessment instruments for adolescents.

The discussion is divided into six major sections: (1) psychiatric diagnosis and classification, (2) self-report scales, (3) group discriminability, (4) interrelationships among depression, self-esteem, and locus of control, (5) contributions of the study, and (6) conclusions and implications.

Psychiatric Diagnosis and Classification

As with any classification system, the two most important aspects are reliability and validity of the diagnostic categories. Although there are some variability in the reliability estimates for specific categories, the DSM-III has made strides to improve its reliability over its predecessors. The DSM-III and the ICD-9 have more similarities than differences. The question of validity of the categories remains an area that require continual research. Although this study is not specifically designed to deal with the construct validity of psychiatric diagnoses, differentiation among the different diagnostic groups on self-report data offer modest evidence towards diagnostic validity.

Utility of the Rating Scheme

The study's proposed rating scheme seems to show promise as an alternative tool for assessing inter-rater reliability for concurrent multiple clinical diagnoses. The more commonly used Kappa procedure is most suitable for testing the inter-rater reliability for the occurrence of *discrete* events (Cohen, 1966). Although the procedure has been used to determine reliability of clinical diagnosis, it cannot deal with the *pattern* of multiple events such as the possibility of multiple diagnoses with the DSM-III. Although there is also the possibility of using the weighted Kappa procedure for this situation, this procedure confounds the inaccuracy of determining the relative contingent frequencies among the multiple events and the actual inter-rater reliability of the occurrence of the events. Mezzich and associates have suggested a procedure to deal with multiple diagnoses and multiple raters (Mezzich, Kraemer, Worthington, & Coffman, 1981). However, the calculations are quite involved.

Much further research would be required to test out the utility of the rating scheme. The next step would be to replicate the utility using another sample perhaps in another setting. This step is very important as the actual inter-rater reliability for another sample may be quite different and the *sensitivity* of the rating scheme may not be uniform for the entire range of reliabilities. More importantly, the range of possible disorders found in another setting may significantly interact with the difficulty level of differential diagnosis and in turn affect the level of inter-rater reliability that can be attained. The base-rate of a disorder also affect the ease with it can be diagnosed (Grove, Andreasen, McDonald-Scott, Keller, Shapiro, 1981; Widiger, Hurt, Frances, Clarkin, & Gilmore, 1985).

Although DSM-III was especially designed to accommodate the possibility of multiple diagnoses, the issue of reliability of multiple diagnoses has not been substantially investigated. Studies that report reliability information typically report that for the primary diagnosis. For studies that especially investigate the co-occurrence of disorders, reliability information would either be not reported or reported in such a way that it would be impossible to tease out how it was derived.

Nevertheless, for the purpose of this study, the similarity of the findings from using the Kappa procedure and the rating scheme suggest that the DSM-III diagnoses has been

reliably assigned. With the introduction of the DSM-IV to come in the near future, it would be interesting to see if that would spur a renewed interest in issues of inter-rater reliability of multiple diagnoses.

Specific Diagnoses

The inter-rater reliability information suggests that the diagnosis of dysthymia was the most difficult to make (ie, has the lowest reliability). This is consistent with findings of the relative heterogeneity of the concept in other studies (Kocsis & Frances, 1987; Marriage, Fine, Moretti, & Haley, 1986). The relative heterogeneity may also explain the indistinctiveness of the *DYS* group in analyses of group differences. Kocsis & Frances noted the following changes in the diagnosis of dysthymia in the DSM-III-R. Dysthymia can now be categorized as one of the following: "1) as a residual syndrome following major depression, 2) primary versus secondary, 3) with an early versus a late onset, 4) related to chronic severe stress, 5) with or without an accompanying personality disorder diagnosis on Axis II, and 6) with or without an accompanying major medical disorder on Axis III" (Kocsis & Frances, 1987, p. 1540). Research is needed to judge if these changes improve the reliability of the dysthymia diagnosis.

The inter-reliability estimates of the other disorders are in the acceptable ranges. Although the *OPP* diagnosis seems reliable, there has been questions concerning its validity (Rey, Bashir, Schwarz, Richards, Plapp, & Stewart, 1988; Rutter & Shaffer, 1980). The *similarity* of the group's profile on depression, self-esteem, locus of control measures to that of the conduct disorders in this study also raise the issue of validity and lends support to the hypothesis that *OPP* is a milder form of *CD* (Rey, *et al.*, 1988).

One of the major changes of the DSM-III-R over the DSM-III is the explicit documentation of the severity of the disorders: mild, moderate, severe, in partial remission, and in full remission (DSM-III-R, 1987). Furthermore, for nine disorders, specific criteria are listed for the rating of severity levels. It is significant that of these nine, three are childhood disorders: Conduct Disorders, Oppositional Defiant Disorder (formerly Oppositional Disorder in DSM-III) and Attention Deficit Disorders. In addition, the

diagnostic criteria of both the Conduct Disorders and Attention Deficit Disorders have been substantially changed. It would be interesting to see how these changes would affect the reliability and construct validity of these disorders.

Multiple Diagnoses

The analyses suggest that although more than 40% of the cases have multiple diagnoses, the impact of secondary diagnoses seems minimal. Cases with secondary diagnoses did not differ substantially from those that have only one primary diagnosis. For this study, the self-report data showed little difference between those with single versus those with secondary diagnoses. This is inconsistent with studies that suggest cases with multiple diagnoses are different than those with only one (Biederman, Munir, & Knee, 1987; Marriage, *et al.*, 1986). However, some of these differences dealt with demographic and background variables.

As stated previously, this study was not specifically designed to study the impact of multiple diagnoses on the presentation of symptomatology. The lack of any substantial differences among cases with secondary diagnoses when compared to those with only the primary diagnosis permited the aggregation of all cases by only the primary diagnosis.

Comorbidity

The literature on comorbidity has typically dealt with associated background and demographic features (eg, Werry and his associates; Werry, Reeves, & Elkind, 1987; Reeves, *et al.*, 1987). These measures attempt to address the question, among others, of *differential* etiologies. Although this study did not focus on background and demographic data, it can address the *pattern* of comorbidity. The *ADD* group has the highest percentage of secondary diagnosis: 61% (see Table 4; *MDD*: 32%; *DYS*: 50%; *CD*: 46%; and *OPP*: 31%). Of the 8 cases with secondary diagnosis, 5 of them were *CD* or *OPP* (see Table 8). This is consistent with other studies noting the co-occurrence of *ADD* and other disorders (Shapiro & Garfinkel, 1986; Biederman, Munir, & Knee, 1987; Munir, Biederman, & Knee, 1987). The DSM-III states that *ADD* is a common additional associated features of all subtypes of

conduct disorders (APA, 1980, p. 46). The findings from this study of (1) no difference between *ADD-alone* and subgroups of *ADD+others* on depression, self-esteem, and locus of control, and (2) *ADD* showing moderately *poor* discriminability from other disorders (correct identification <54%) are consistent with the conclusions of Werry and associates that *ADD* and behavioral disorders have weak *differential* diagnostic validity.

Aside from the comorbidity of *ADD* and behavioral disorders, *CD* and anxiety disorders are often found to co-exist with *MDD*. Concerning the co-occurrence of anxiety and affective disorders, the DSM-III states that "in some instances prodromal symptoms - eg, generalized anxiety, panic attack, phobias...- may occur over a period of several months" (APA, 1980, p. 216). Although anxiety disorder was not included in the majority of the analysis, there were 5 cases of *MDD+ANX*. A preliminary analysis found that these cases were indistinguishable from *MDD-single* or *MDD+other* disorders. This may be interpreted as the psychometric measures used were not sensitive to these differences or that the disorder of major depression has such a strong penetrance that the symptomatology of these multiple cases are essentially that of a major depressive disorder.

The co-occurrence of *MDD* and *CD* has been well documented (Chiles, Miller, & Cox, 1980; Marriage, *et al.*,1986; Jensen, Burke, & Garfinkel, 1988; Reich, 1985; Politano, Edinger, Nelson, 1989; Puig-Antich, 1982; Puig-Antich, *et al.*, 1989). The DSM-III identifies as one of the age-specific associated features of major depression: "in adolescent boys negativistic or frankly antisocial behavior may appear. Feelings of...restlessness, grouchiness, and aggression are common" (APA, 1980, p. 211). For this study, 32% of the *MDD* group had a secondary diagnosis (19/59); of these 19, 15 (79%) were either *CD* or *OPP*. As with the analysis of multiple diagnoses within the *ADD* group, there was no differences between *MDD alone* versus *MDD+others* subgroups. (The differences found were essentially between *CD-alone* and *MDD-alone* but not with the combined subgroups.) This is inconsistent with the findings of Marriage *et al.* (1986) where the *MDD+CD* group rated themselves more depressed on a self-report depression scale (CDS). However, there was no difference when the *CDI* was used on the same groups. The mean *CDI* scores from the two studies were comparable (Marriage *et al.*: *MDD* alone, 21.15; *CD* alone, 7.93; *MDD+CD*, 11.28. This

study: *MDD* alone, 18.54; *CD* alone, 9.11; *MDD+CD*, 17.75).[23] Undoubtedly, the co-occurrence of *MDD* and *CD* will continue to challenge both the clinical and research communities.

The CDI, I-E, and TSCS Scales

The psychometric properties of assessment instruments are crucial to the utility of the information collected by them. There has been increasing use of statistical techniques such as confirmatory factor analysis in the scale development and construct validation phases. Some of the studies using these techniques have criticized the scales used - *CDI*, *I-E*, and *TSCS* - on their factorial validity. Comrey (1988) cautioned that the ready availability of computer programs for sophisticated techniques such as causal modeling may lead to *inappropriate* applications of them by researchers. Cole (1987) has similar cautions for the use of conformatory factor analysis (CFA). Although he suggest that CFA can have tremendous utility for test validation research, he argued that CFA is only as useful as the proposed underlying model. Even a particular model may have a good fit, if the model is flawed or misspecified, the estimates may be quite inaccurate. An acceptance of a model must go beyond the statistics to the *theory*.

It is important to keep in mind that the hypothetical constructs of depression, locus of control and self-esteem have been *inferred* from these inventories. A particular scale may only assess part(s) of that construct and should be viewed only as a *proxy* measure. The criteria for judging a scale should consider its validity claims with its intended use(s) (American Psychological Association, 1985). For example, the multidimensionality of the construct, such as depression or locus of control, does not *necessarily* negate the use of a scale that is unidimensional, such as *CDI*, and *I-E*. On the other hand, even if a particular model concerning a specific number of factors "fits", it does not *automatically* mean that the scale or the underlying construct has the specified number of factors.

---

[23]When post-hoc analysis used the Duncan multiple test instead of the more conservative Scheffe test, there was a significant difference between *CD* alone and *MDD+CD* for this study.

The cross-scaled factor analyses suggested that the three scales are relatively homogeneous; items from one scale are have more in common with its intended scale (eg *I-E* items with the *I-E* scale) than with other scales (eg, *I-E* items with the *CDI* or *TSCS* scales). Since the total scores from the scales do correlate (eg, depression scores correlate with self-esteem scores), it suggest that it is more the *pattern* of scores rather than the individual items per se that are correlated. Questions regarding the construct validity of depression versus low self-esteem undoubtedly require more in-depth research. At least at the level of analysis in this study, there are no cross-scale contaminations. One can rule out similar item content as a *reason* for the observed correlations between scales.

Children's Depression Inventory

The internal consistency data from this study is consistent with those found in the literature. Factor analytic studies have identified from 2 to 8 factors (Carey, Faulstich, Gresham, Ruggiero, & Enyart, 1987; Helsel & Matson, 1984; Hodges, Siegel, Mullins, & Griffin, 1983; Politano, Nelson, Evans, Sorenson, & Zeman, 1986; Saylor, Finch, Spirito, & Bennett, 1984; Weiss & Weisz, 1988). Different factor structures have been found for normal versus clinical, and children versus adolescent populations. Carey *et al.* were critical of the use of the eigenvalue equal or greater than '1' rule for the number of factors extracted. They used in addition: the scree test and an interpretable simple structure. These rules are also the ones adopted in this study. The two most common factors found across all these studies were an affective and a behavioral factor. The factors identified in this study are consistent with the literature.

Some of the problems of *nonspecificity* of the *CDI* in clinical populations may be related to the items pertaining to the behavioral factor (particularly items 5,26,27). As well, although the *CDI* is intended to measure the *severity* of depressive symptomatology, it has been evaluated for use as a diagnostic tool for depression. This is probably not the best *application* of the scale because presence of *some* depressive symptomatology per se does not necessarily justify an automatic diagnosis of depression. The suggested use of *differential* weights (Lobovits & Handal, 1985) for items may increase the diagnostic utility of self-report

scales such as the *CDI*.

Rotter's I-E Scale

The internal consistency data from this study was weaker than Rotter's data. Many studies have been conducted with respect to the factor structure of Rotter's *I-E* scale and of the dimensionality of the locus of control construct. The number of factors extracted ranged from 1 to 9 with the 2-factor solution the most common. The 2-factor solution was chosen for this study. Factor I, concerning political control, is similar to others from the literature. Factor II, concerning passivity, is similar to what others have identified as *general luck* (Marsh & Richards, 1987). The results from using the subscales of Tyler *et al.* (1979), passive agents or victims; and noncontrollable others or powerful others, suggest that this may be a possible compromise for the continued use of the *I-E* scale while acknowledging the *multidimensionality* of both the scale and the locus of control construct.

Tennessee Self Concept Scale

One of the strongest criticism of the *TSCS* is the multiplicity of interpretive scales that can be derived (Wylie, 1979). The use of only *mutually exclusive* scales in this study has circumvented this problem. Previous factor analytic studies tended to use only the eigenvalue equal or greater than '1' rule for factor extraction. This has in some ways perpetuated the over-interpretation problem for the *TSCS*. The strategy used in this study of combining the eigenvalue rule, the scree test, and interpretability for factor extraction seems to be superior. Contrary to previous studies, the subscales from *both* the internal and external frames of reference were replicated. This study did not specifically address the *dual-dimensionality* of each item, that is, each item being classified simultaneously in both internal and external frames of reference. Although both sets of subscales (ie, the 3 x 5 matrix) can be used, a more conservative approach is to use *either* the internal *or* the external in any one particular study.

Group Discriminability

The ability to differentiate among different diagnostic groups is desirable on clinical and theoretical grounds. Multivariate techniques of profile analysis and discriminant analysis have been used in this study to address this question. Univariate analyses were used to provide a more focused analysis. Profile differences can be used to aid in the diagnostic process, help in treatment planning, and further the understanding of the disorder - through the process of searching for similarities and contrasts. This is the type of process suggested by Cantor *et al.* (1980) in their discussion of categorization or classification. For this study, the variables used in the profile are *limited* to self-report data on key emotional/cognitive domains. Undoubtedly, the use of other variables such as background and family dynamics will increase the differentiation of the different groups. Information from discriminant analysis is complementary to those from profile analysis. Discriminant analysis provides information regarding the *accuracy* of group membership given the specified predictor variables. Once discriminant weights have been determined, they can be used to classify new members with *unknown* group membership.

Profile Analyses

The transformation of the raw data into *z*-scores based on the study group was quite revealing for the differentiation of the major diagnostic groups (see Figure 1). Although on measures of depression, self-esteem, and locus of control, clinical groups have been differentiated from the normal populations, the differentiation *among* clinical groups has been less successful. The *z*-score profiles clearly delineated four patterns: *MDD*, *DYS*, *ADD*, and *CD+OPP+VC*. Of these four, the *MDD* is the most distinctive and most severe: they showed the highest level of depression and lowest level of self-esteem. This may in part be due to the *MDD* group being the most severely disturbed; a fact that may be specific to the particular mandate of the centre where adolescents with *severe* problems with substance abuse and/or behavioral control as well as active psychosis are referred elsewhere. The distinctiveness of the *MDD* group can be contrasted to the virtual lack of presence of the other affective group: *DYS*. The data suggested that the *DYS* group can be ranked as being in the *mid-range* of severity/pathology in terms of depression and self-esteem.

The *similarity* of the *CD* and *OPP* groups in these self-report variables cast some doubts to the validity of *OPP* as distinct from *CD*. The *exclusion* of severely conduct disorders adolescents (from the treatment facility) may have contributed to the similarity of these two disorders. That is, a more disturbed group of *CD* adolescents may well show differences on these self-report variables. The similarity of the *VC* group to the *CD+OPP* groups, especially on self-esteem, suggest that the problems of this group is largely *inter*-personal or behavioral. This can be contrasted to the affective group where the disorders have a much larger *intra*-personal focus. Although the *VC* group, by definition, does not have a mental disorder, the presentation of acute depressive symptomatology should be noted by clinicians. The *ADD* group has a combination of behavioral and affective disturbances: showing similarity to both *MDD* and behavioral groups. The complexities of this group's presentation may be the result of years of coping with a *chronic*, sometimes debilitating disorder and poses a challenge for treatment planning.

It is interesting to compare the profiles of the groups using different forms of the *TSCS* data: nontransformed raw scores (Figure 2) versus T-scores (Figure 3). While the nontransformed score profiles showed *Self Sat* to be similar to *Behav* and *Ident* to be the highest, the pattern was different with T-scores.[24] Of the three different type of scores, the T-score is probably least appropriate for two reasons. One, there is the question of appropriateness of the standardization sample for this study. Not only is the norming data quite dated, the population is mostly adults.[25] Two, in terms of profile analysis, it yielded the least amount of differences among groups.

The success of the z-score transformation in generating *distinctive* profiles for the different groups must be viewed conservatively. Since the z-scores or deviation scores are *entirely* dependent on the characteristic cases used, a different sample of adolescents with different pathologies *will* result in a different set of deviation scores. These may or may not yield distinctive profiles. However, if a reasonably large database can be established, one can

[24]A comparison of nontransformed raw scores is valid *across* scales because all three has the same maximum (5 x 30 items or 150).
[25]Although there are separate samples of adolescents drawn after the *TSCS* has been published, only sets of means and standard deviations were provided. T-scores conversions were still based on the original 1965 sample.

generate reliable (stable) deviation scores for new cases.

Discriminant Analyses

The results from discriminant analyses parallel those from the profile analyses. The accuracy rate for predicting the *DYS* group alone was very poor, ranging from 6.7% to 26.7%. When only three composite groups were selected: *MDD*, *CD+OPP*, and *VC*, the overall accuracy rate was quite good, 64%. This is comparable the finding of Kazdin, Colbus, & Rogers (1986) who used more variables and only two groups: depressed versus non-depressed. They investigated the discriminative power of related variables of depression. Using self-reported measures of depression, hopelessness, self-esteem, and internalizing symptoms, they achieved an accuracy rate of 67.9% between depressed and non-depressed children. Although results from this type of analysis cannot *technically* be compared to sensitivity (true positive) and specificity (true negative) rates for specific disorders, it is useful to examine some of these rates for the detection of depression. Biological indicators such as the DST has a very high specificity rate, usually in the range of 80% - 90%, while scores from self-report such as the *CDI* has more modest rates, usually in the range of 60% - 70%. Sensitivity rates are in the range of 60% - 70% for both types of indicators. For this study, by using a combination of depressive symptomatology, self-esteem and locus of control, the *MDD* group can be discriminated in the range of 67% from behavioral disorders. This range of accuracy is quite acceptable.

It is interesting to note some of the *errors* of classification (see Appendix F). For example, individuals in the *OPP* group were as likely (25%) to be classified as *DYS* or *OPP* (see Table F2). Individuals in the *CD* group were equally likely to be classified as *CD*, or *OPP*, or *VC*. These results complement the finding of similarity among these three groups in the profile analysis. The other interesting misclassification concerns the *MDD* group. When considered with *CD+OPP*, and *VC*, *MDD* was often misclassified in the *CD+OPP* group. This result is consistent with the observation of comorbidity of *MDD* and *CD*. The similarities that led to the misclassifications were *not* due to cases that have both a diagnosis of *MDD* and *CD* because analyses of these mixed cases with *MDD* and *CD* alone cases

revealed differences only between the *pure* groups.

Univariate Analyses

The results from the univariate analyses complement those from the multivariate. Univariate ANOVAs were used to investigate any gender and/or gender versus diagnostic group interactions. The gender effects were consistent with those in the literature. Females scored more depressed on the *CDI*, more external on the *I-E*, and less positive on the *Ident* of the *TSCS*. In terms of specific diagnostic group differences, the major differences were between the *MDD* and *CD* groups: the *MDD* was more depressed on the *CDI*, has lower self-esteem (*Self Sat* on the *TSCS*), and tended to endorse proportionally more noncontrollable (versus powerful others) items on the *I-E*. These differences suggest that although the two disorders tend to *coexist*, they are distinctive in certain emotional and social domains. That is, although both groups showed the presence of depressive symptomatology and problems with their self-concepts, they vary in the *level* of disturbance in these areas.

In a discussion of whether to use univariate or multivariate profile analyses, the complex relationships among different variables of interest suggest that profile analyses are more *appropriate* than univariate analyses. Profile analysis is also closer to the somewhat tacit decision-making process involved in diagnosis. A clinician typically considers not just individual signs/symptoms in *isolation* (as in univariate analyses) but considers *patterns* or clusters of symptoms (as in profile analyses). A common example of this process is the analysis of the MMPI by identifying distinctive profiles such as the 2 and 3-point code types (Graham, 1987). Profile analysis provides the *statistical* tool for this important activity.

Relationships Among Depression, Self-Esteem, and Locus of Control

Whereas all the previous sections of this study were focused on differentiations among diagnostic groups, this section focuses more on the relationships of these socio-emotional constructs within a clinical adolescent population. Often, studies have focused on *differences* of these constructs for different pathologies, their *interrelationships* within selected psycholopathogies have received less attention. Self-esteem and locus of control are

particularly important for the phenomenon of depression. The relationship of self-esteem in depression has been well established. Similarly, the importance of locus of control has been implicated in Beck's theory. Two results are particularly encouraging: the evidence of self-discrepancy, and the impact of chronicity of depression on self-esteem and locus of control.

Depression and Self-Esteem: Evidence of Self-Discrepancy

In addition to providing measures of different aspects of the self-concept, the *Self Sat* and *Ident* Scales of the *TSCS* has the potential to be used as a proxy measure for the self-discrepancy score as postulated by Higgins. That is, when an individual has a low score on the *Self Sat*, it can be interpreted as *indirect* evidence of a set of high ideals about the self. Score on the *Ident* scale is a reflection of the individual's current or actual self concepts. Analysis of the size of the *Self Sat* - *Ident* difference among the diagnostic groups can be considered as a comparison of self-discrepancy. The finding that the *MDD* group had one of the largest discrepancy (mean of -13.5) is consistent with the postulate that *actual/ideal* difference is related to the phenomenon of depression.

It is interesting to note that the *ADD* group also has a large discrepancy (mean of -15.7). Inspection of the group means revealed that *ADD* had the second lowest *Self Sat* score while having the highest *Ident* score. The moderate level of depressive symptomatology of the *ADD* group (mean of 12.5) lends support to the relationship between self-discrepancy and depression. However, while the *VC* group also has a moderate level of depression (mean *CDI* of 13.6), its discrepancy score was quite small (mean of -2.4). These findings suggest that this operational definition of self-discrepancy is only *moderately* useful. The validity of this claim - *to use the TSCS scores to generate a self-discrepancy score* - can be tested by comparing the values obtained with those from Higgins' own Selves Questionnaire (which specifically measures self-discrepancy).

The correlations between *CDI* and *TSCS* variables were consistent with those in the literature citing correlations between measures of depression and low self-esteem (eg, Battle, 1987; Knight, *et al.*, 1988; Kovacs, 1983; Lakey, 1988; Yanish, & Battle, 1985). The

magnitude of the correlation is moderated by the use of the full sample rather than limiting it to the affective groups. The use of the full sample is justified in that the purpose is to uncover relationships that might aid diagnosis and classification for the treatment facility. As well, this acknowledges that depressed symptomatology and problems in self-esteem exist in some degree in *all* referred adolescents. Those diagnosed with *MDD* or *DYS* may have more *severe* forms of these problems.

This study did not have a measure of competence, but based on other studies, one can speculate that the referred adolescents likely do *not* have a high sense of competence (Blechman, McEnroe, Carella, & Audette, 1986; Kennedy, Spence, & Hensley, 1989; Zimet, & Farley, 1987). A diminished sense of competence likely contributes to an overall diminished self-esteem. The *TSCS* measures provide an indication of the adolescents' self-esteem. It is interesting to note that the behavioral groups have the highest level of *Self Sat* scores (see Figure 1). This *may* be an indicator of the need to exaggerate one's self-worth. Kaplan (1980) has proposed that delinquents suffer from a self-image problem and need to engage in self-enhancing behaviors as a *self-protective* measure. In order to test this hypothesis, a further investigation should include interviews with the adolescents to obtain other indicators of level of self-esteem. Synder *et al.* (1983) also concurred that active maintenance of a positive self-image (through excuse-making) results from a sensitivity to negative feedback. Zimet & Farley (1987) cautioned clinicians working with emotionally disturbed children to "preserve or develop the child's defenses and confidence and, thereby, to reduce the threat posed by self-disclosure and self-denigration." (p. 37). In a large sample of 800 normal children, measures of defensiveness were found to influence the reporting of self-esteem (Lawton, Fergusson, & Horwood, 1989). As defensiveness increased, there was also a tendency for reported self-esteem to increase. The effect was quite small: defensiveness scores accounted for between 1% and 3% of the variance of self-esteem. These studies all suggest the *centrality* of self-esteem in normal, depressed, and *non-depressed* clinical populations.

Depression and Locus of Control: Impact of Chronicity

The *I-E* measure has been quite ineffective as a predictor variable for group differences. There was only small variations among the groups on the global I-E score (see Figure 1). There was a notable correlation with depression: feelings of passivity (*PAG*) was positively correlated with severity of depression (*CDI*).[26] Although the correlation is consistent with reported relationships between depression and externality (such as Benassi, Sweeney, & Dufour, 1988), the global *I-E* score was only marginally correlated with *CDI* ($r=.171$, $p=.006$). Part of this is likely due to the attenuation from the use of the full sample rather than the more homogeneous depressed subsample. Benassi *et al.* also found that studies using Rotter's *I-E* and the *BDI* have the smallest effect sizes.

The *lack* of relationship between current depressive symptomatology (*CDI*) and length of depression/dysthymia may be due to a restricted range of the CDI within the affective groups. The analyses of the relationship of the length of the depressive/dysthymic episodes with self-esteem and locus of control were interesting. The positive correlation between *length* of dysthymia (*TDYS*) and feelings of passivity (*PAG*), even after controlling for current level of depression, may be similar to the reported relationship between depression and helplessness. A prospective study simultaneously monitoring passivity and depressive symptoms should tease out the causal linkages.

The lifetime total exposure to depression (*TTMDD*) was negatively correlated with the proportion of noncontrollable items (*PNC*) on the *I-E* regardless of current *CDI* level. This dimension or perspective of the *I-E* scale has not been notable (ie, significant) before; only the self-attribution dimension (namely *PAG*, and *VIC*) has been shown to have significant relationships with the other variables in the study. This finding suggests that the adolescent tended to feel *less* noncontrollable, perhaps more in control, as the length of exposure to depression increases. This may be similar to findings of increased need for control from victims of violent crimes (Janoff-Bulman, 1979). Children and adolescents, especially those who have had traumatic life experiences, often do not have control over large aspects of their lives. The occurrence of *repeated* episodes of depression, regardless of their etiology, must *add*

[26]Although there were correlations with TSCS variables (see Table 14), these became nonsignificant when the level of depression was controlled for (see Table 15). Therefore, these effects were mediated through depression.

to the sense of noncontrollability. Thus, this finding of perceived control may be a coping mechanism. More in-depth probing should reveal the strength of this perception.

The hypothesis of coping mechanism is more plausible when considered with the finding of a unexpected *positive* correlation between *TTMDD* and [illegible] scale on the *TSCS* when level of depression has been controlled for. This may be similar to the excuse-making phenomenon postulated by Synder *et al* (1983). This finding needs to be replicated with a larger sample and a more rigorous measure of length of depressive episode. If the finding is replicated, it would suggest that there is a difference between depression in adults versus that in adolescents.

Interpretation of the findings with the process variables, *TDYS*, *TMDD*, and *TTMDD*, are difficult. These measures are very *rough* indicators of chronicity. Although there are standardized measures for assessing the duration and frequency of psychopathology (eg, Kiddie-SAD: Orvaschel, Puig-Antich, Chambers, Tabrizi, & Johnson, 1982), they have not used to examine the impact of *chronicity* on socio-emotional indicators. At a more theoretical level, chronicity is often confounded with severity. Although severity of psychopathology can be measured quite easily for a *current* episode, it is very difficult to obtain for previous episodes because of the *retrospective* nature of the design. This is further compounded by the need to rely on secondary sources of information. For children and adolescents, it is often the *parent(s)* that is(are) interviewed with respect to duration and frequency of episodes. The continued refinement of structured interviews for children and adolescents coupled with better understanding of cognitive-emotional development promises to improve the quality of information that can be elicited from children and adolescents (Kovacs, 1986).

Contributions of the Study

The contributions of the study are both conceptual and methodological. The study accorded equal importance to the investigation of the impact of the tools used in the measurements of the constructs in the study as well as the relationships among the constructs themselves. Psychometric properties of reliability and validity of any instrument or scale are *not* static but

are affected by the *appropriateness* of its use in any particular research situation or question. More specifically, the impact of conceptual overlap of specific constructs on the measurement of each respective constructs is often overlooked. These issues are particularly pertinent for the use of adult-based typology and instruments with adolescents and the investigation of depression and low self-esteem. Although the study can be criticized for the massive amount of data analyses, these *did* establish the suitability of the instruments for use in an outpatient adolescent population.

A more design-related issue was the appropriateness of using only the primary DSM-III diagnosis for group placement. The impact of multiple diagnoses on overall symptomatology is usually only addressed when an investigation is specifically focused on the issue of comorbidity. For most other studies, cases are either assigned to different groups based only on the primary diagnosis or the researchers conceptualize disorders only in their 'pure' form - ignoring the whole issue of comorbidity. The finding of *no* impact of multiple diagnoses should *not* be interpreted as support for the existence of 'pure' forms of disorders but rather that based on the self-report measures used, the impact of multiple diagnoses is minimal. Had there been significant and notable differences between single- and multiple-diagnoses cases, the study would have had to use only the single cases.

The use of profile analysis to aid in group identification is not new. The representation of individual cases using deviation scores is also not unique. However, the combination of profile analysis and the use of the concept of deviation scores *across* a number of different groups and different instruments is unique. There is increasing *acknowledgement* of the complexities of various psychopathologies. Clinicians and researchers alike have to integrate a whole array of information from diverse sources for purposes of diagnosis and treatment. The use of *z*-scores in profile analysis shows potential as a viable methodology for this process.

Conclusions and Implications

The focus of this study was the cognitive-emotional domains of depression in adolescents. Two other key cognitive-emotional variables, self-esteem and locus of control, were also included. Similar to many other studies, this one used adult-based theories, classification systems, and instruments in these areas and examined their applicability for an adolescent population. Although there is a push to develop specific instrumentations for this age group, much of the work lacks the *accumulated* weight of knowledge gained from earlier instruments. Unless an adult (or existing) tool is flagrantly inappropriate for the adolescent, its use may even be beneficial because of the possibility of successive follow-up into adulthood using the same instrument.[27]

The findings from the study suggest that the utility of several potential tools warrants further investigation. The rating scale promises to be an efficient measure of inter-rater reliability when one has to deal with multiple diagnoses. The use of *z*-scores and profile analysis may provide a statistical tool and methodology for assisting in the diagnostic process. It reveals patterns that may only have been *implicitly* known and *quantifies* differences among groups. It offers a conceptual framework for dealing with multiple, diverse information simultaneously. The increasing acknowledgement of complexities of psychological constructs pushes the use of multidimensional instruments. Both the *TSCS* and *I-E* scales show the potential to be used in this way. Further validation work is required with different samples.

It is clear from the findings of this study that depression in adolescents share many of the features of adult depression. The co-existence of *MDD* and *CD* is consistent with the stated age-associated behavioral features of major depression in the DSM-III. This has treatment implications for both disorders - complicating the treatment planning for both. Although the study was not designed specifically to investigate the validity of the other disorders, such as *ADD* or *VC*, the discriminability of most of the disorders based on self-report data *alone* offers supporting validity evidence for these disorders.

---

[27]Although one can argue that there is a possibility that the same tool may measure different constructs with *age*, this is still likely to be less problematic then when entirely *different* tools are used each time.

This study found some intriguing results for specific diagnostic groups. For example, the possibility that the behavioral groups' healthy self-esteem is really a protective shell or *facade* needs to be tested more thoroughly. It has treatment implications. If this is true, clinicians will have to work through the facade before any real change can be expected in this group. There are some indication that chronicity of depression is associated with a need to be more in control. The issue of control is an important but complicated one. The work of Rothbaum *et al.* (1982) illustrated its complexities and urged the learning of *both* primary and secondary processes in order to stay adaptive. The level of presenting depressive symptomatology of the *VC* group was surprisingly high. In part, this was due to the specific orientation of the treatment facility for dealing with adolescents from severely dysfunctional families; the *VC* group comprised mostly of these adolescents. Nevertheless, the presence of depressive symptomatology in *all* diagnostic groups suggests that treatment needs to first deal with these concerns before other issues can be tackled. Untreated depressive symptoms not only increase the suicidal risk, they also interfer with other phases of treatment.

One of the objectives of diagnostic process is to provide the *best* possible treatment for each specific disorder. This was perhaps a less important activity when there were few treatment options for *any* one particular disorder. However, as the range of successful treatment strategies increases, it is advantageous to obtain the most accurate *differential* diagnosis possible. The results from this study have provided some promising leads. It identified areas of overlap and areas of clear differences of presenting symptomatology for some of the major disorders encountered in adolescent psychopathology. The diagnostic process is a very difficult activity to master. The findings of Cantor *et al.* (1980) suggest that the kind of information needed by a diagnostican differs depending on the level of training and the typicality of the presenting case. The kind of information provided in this study may not be viewed as useful to someone who is an expert in adolescent psychopathology. However, for those who are less knowledgeable, the discriminating information obtained by the self-report scales can be extremely valuable.

This study was made possible because of the availability of a testing program in the particular outpatient facility. This leads to the question of the utility of self-report scales for

diagnosis and treatment planning. With the increasing funding pressures experienced by treatment facilities, the resources needed to properly administer and maintain a testing program are strained. Often, prospective scales or instruments are rejected not based on suitability but based on cost factors - such as monetary and time requirements. A valid and reliable self-report instrument, if properly used, can yield valuable information that may take an interviewer or therapist many hours to obtain. The results from this study have demonstrated the utility of self-report scales for diagnostic and treatment purposes. The final choice of instruments should be based on the consideration of the following: the purpose of the assessment, the type of diagnostic differentiation desired, the level of training of the staff responsible for the testing program, the type of instruments available, and lastly the resources available for maintaining a testing program.

Finally, there needs to be more integration of the theoretical work of developmental psychopathologists within the clinical area. For example, one must be mindful that self-schemas established early in an individual's life carries with them *limitations* of that age (Leahy, 1985). As well, the earlier these dysfunctional schemas were established, the more distorted the rest of the individual's schemas would be (due to the accumulated distorting effects of these early ones). If treatment approaches are to be successful, they must take into account these cognitive limitations. The current age of the client is *less* important than the age at which these dysfunctional schemas were established. This postulate is not limited to just depression but can be applied to all psychopathologies.

Table 1

Frequency Distribution of Gender by Diagnostic Group

Gender	1[1]	2	3	4	5	6	7	8	9	10
Male	23	13	1	0	26	13	9	6	4	7
Female	38	17	0	1	9	3	4	3	2	1

Table 1 (con't)

Gender	11	12	13	14	15	16	17	18	19	20
Male	2	1	1	7	4	1	2	4	1	1
Female	2	0	0	4	0	0	0	0	0	2

Table 1 (con't)

Gender	21	Total
Male	2	128
Female	0	86

[1] 1=MDD, 2=DSY, 3=Bipolar Depressed, 4=Bulimia, 5=CD, 6=OPP, 7=ADD, 8=ANX, 9=ADJ, 10=PSY, 11=SUB, 12=Organic Affective, 13=Organic Personality, 14=VC, 15=Borderline IQ, 16=Mental Retardation, 17=Pervasive Developmental, 18=Axis-II Dev, 19=PERS, 20=Deferred diagnosis, 21=No diagnosis.

Table 2

Mean Age (and Standard Deviation) by Gender and Diagnostic Group

Gender	1[1]	2	3	4	5	6
Male	15.10 (1.32)	14.57 (1.08)	13.53 (0)	n/a n/a	14.76 (1.18)	14.08 (1.44)
Female	14.89 (1.39)	14.62 (1.35)	n/a n/a	14.26 (0)	15.08 (0.98)	13.74 (1.02)
Total[2]	14.97 (1.36)	14.60 (1.22)	13.53 (0)	14.26 (0)	14.84 (1.13)	14.01 (1.35)

Table 2 (con't)

Gender	7	8	9	10	11	12
Male	13.89 (1.17)	15.39 (1.45)	13.97 (1.81)	15.36 (1.58)	13.80 (0.07)	14.78 (0)
Female	15.10 (2.03)	13.87 (1.56)	14.26 (14.26)	12.70 (0)	15.29 (1.57)	n/a n/a
Total	14.97 (1.36)	14.60 (1.22)	13.53 (0)	14.26 (0)	14.84 (1.13)	14.01 (1.35)

Table 2 (con't)

Gender	13	14	15	16	17	18
Male	15.84 (0)	14.53 (1.35)	15.08 (1.48)	17.65 (0)	13.95 (0.93)	13.65 (1.23)
Female	n/a n/a	13.31 (1.03)	n/a n/a	n/a n/a	n/a n/a	n/a n/a
Total	15.84 (0)	14.08 (1.34)	15.08 (1.48)	17.65 (0)	13.95 (0.93)	13.65 (1.23)

[1] 1=MDD, 2=DSY, 3=Bipolar Depressed, 4=Bulimia, 5=CD, 6=OPP, 7=ADD, 8=ANX, 9=ADJ, 10=PSY, 11=SUB, 12=Organic Affective, 13=Organic Personality, 14=VC, 15=Borderline IQ, 16=Mental Retardation, 17=Pervasive Developmental, 18=Axis-II Dev, 19=PERS, 20=Deferred diagnosis, 21=No diagnosis.

[2] Please see Table 1 for the number of cases in each category.

Table 2 (con't)

Gender	19	20	21	Total
Male	16.44 (0)	17.00 (0)	16.04 (1.92)	14.72 (1.37)
Female	n/a n/a	14.17 (1.19)	n/a n/a	14.66 (1.37)
Total	16.44 (0)	15.11 (1.84)	16.04 (1.92)	14.69 (1.37)

Table 3

Frequency Distribution of DSM-III Diagnostic Groups

Group	Primary	Secondary	Tertiary
Major Depression (MDD)	61	6	1
Dysthymia (DYS)	30	8	0
Conduct (CD)	35	19	3
Oppositional (OPP)	16	22	1
Attention Deficit (ADD)	13	8	1
Anxiety (ANX)	9	12	0
Adjustment (ADJ)	6	1	0
Psychotic (PSY)	8	1	0
Substance Abuse (SUB)	4	2	3
Organic Brian Synd. (OBS)	2	1	0
V-Codes (VC)	11	20	7
Mental Retardation (MR)	3	1	1
Developmental (Axis-II) (DEV)	4	0	0
Personality Disorders (PERS)	1	0	0
No, Deferred, Others (OTHER)	5	0	0

Table 4

Frequency Distribution of the Number of Diagnoses Within Major Diagnostic Groups

Diagnostic Group	Number of Diagnoses		
	1	2	3
MDD	33 (56%)	23 (39%)	3 (5%)
DYS	12 (40%)	15 (50%)	3 (10%)
CD	18 (51%)	13 (37%)	4 (11%)
OPP	11 (69%)	5 (31%)	0 (0%)
ADD	4 (31%)	9 (69%)	0 (0%)
VC	9 (82%)	2 (18%)	0 (0%)

Table 5

Criteria for Rating Scale for inter-rater agreement of multiple DSM-III Diagnoses

Scale	Criteria[1]
1.	Perfect *match*; all diagnoses including differentials.
2.	Same as 1 except *different* for differentials.
3.	Same as 1 except primary diagnosis not exactly the same, but still in *same* category. For example code of Conduct Disorder, undersocialized versus Conduct Disordered, Socialized.
4.	Primary diagnosis *matches*, but extra secondary diagnoses and/or differentials.
5.	Same as 4 but primary diagnosis in same category only (instead of exact match).
6.	Primary diagnosis matches, but others in different order.
7.	Essentially all diagnoses present but the order scrambled or reversed.
8.	Primary diagnosis only in approximate similar category, eg., Major Depression versus Dysthymia. There are also some *matches* in the other diagnoses.
9.	Same as 8 except other diagnoses are only in approximate similar categories.
10.	No matches at all, all diagnoses different.

[1] The criteria can be collapsed into four general categories: (a) *excellent* agreement (points 1,2,3); (b) *good* agreement (points 4,5,6); (c) *poor* agreement (points 7,8); and (d) *no* agreement (points 9,10).

Table 6

Results of Agreement on Diagnoses using the Rating Scale

Rating	Cases	Percentage	Collapsed %
1	47	25	
2	27	14	
3	14	7	47 (excellent)
4	21	11	
5	13	7	
6	8	4	22 (good)
7	11	6	
8	10	5	11 (poor)
9	15	8	
10	22	12	20 (no)

Table 7

Kappa Coefficients for Major Diagnostic Groups

Group[1]	Coefficient	Rating A[2]	Rating B[3]
MDD	0.747	good to excellent	substantial
DYS	0.558	fair	moderate
CD	0.771	excellent	substantial
OPP	0.718	good	substantial
ADD	0.674	good	substantial
VC	0.605	fair to good	moderate
Overall	0.688	good	substantial

[1] The calculation is based on only those cases that received a *single* diagnosis by the psychiatrist(s) in any one of the six major groups. This results in the inclusion of 140 cases.

[2] The ratings are based on the recommended levels from the Division of Educational Research (DERS) of the Univ. of Alberta. The ranges for '*poor*' was <.04; for '*fair*' was 0.40-0.59; for '*good*' was 0.60-0.74; and for '*excellent*' was >0.74. These are more conservative than those of Rating B.

[3] These ratings are recommended by Landis & Koch (1977). The ranges for '*moderate*' was 0.41-0.60; for '*substantial*' was 0.61-0.80.

Table 8

Frequency of Multiple Diagnoses*
Within Each Major Diagnostic Category

Primary Diagnosis / Secondary	MDD	DYS	CD	OPP	ADD	VC	Total B**
MDD	0	0	2	0	1	1	4
DYS	0	0	3	0	1	0	4
CD	8	5	0	0	2	0	15
OPP	7	4	3	0	3	1	18
ADD	0	0	4	1	0	0	5
VC	4	6	4	4	1	0	19
Total A***	19	15	16	5	8	2	

Note:

* cases with multiple diagnoses not from these six categories were excluded from this table.

**Total B refers to the number of cases that each major diagnostic category appeared as a secondary diagnosis. For example, MDD appeared 4 times as a secondary diagnosis.

***Total A refers to the number of cases within each major diagnostic category that have multiple diagnoses. For example there are 19 MDD cases that have multiple diagnoses.

Table 9

Scale Reliability

Scale/ Subscale	Mean	SD	# of Items	Alpha
CDI	13.84	8.62	27	.879
I-E	10.53	3.37	23	.550
TSCS Overall P	301.29	36.57	90	.921
TSCS Identity	108.15	14.43	30	.855
TSCS Self Sat.	97.57	15.73	30	.848
TSCS Behav.	95.56	12.46	30	.781
TSCS Phys.	64.50	10.07	18	.812
TSCS M-E	58.51	8.14	18	.679
TSCS Personal	60.00	9.71	18	.797
TSCS Family	57.63	9.10	18	.731
TSCS Social	60.64	8.88	18	.757

Table 10

Principal Component Analysis
Interpretation of Cross-Scaled Factor Analysis: CDI+TSCS+I-E

Three-Factor Solution:

		TSCS Dimensions[1]				
Factor[2]	#of Items with >.40 Loading	Internal		External		# of Items Showing Crossovers[3]
		Scale	# of Items[4]	Scale	# of Items	
TSCS	17	Self Sat.	8/17	Pers	7/17	0
				Soc	7/17	
CDI	20					1(T72:R3C4)
TSCS	15	Ident	9/15	Fam	7/15	0

Five-Factor Solution:

		TSCS Dimensions				
Factor	#of Items with >.40 Loading	Internal		External		# of Items Showing Crossovers
		Scale	# of Items	Scale	# of Items	
TSCS	20	Ident	11	No	n/a	0
CDI	17					0
TSCS	12	No	n/a	Fam	9/12	0
TSCS	9	Self Sat.	7/9	No	n/a	0
TSCS	2	No	n/a	No	n/a	1(C26:disobed)

Seven-Factor Solution:

		TSCS Dimensions				
Factor	#of Items with >.40 Loading	Internal		External		# of Items Showing Crossovers
		Scale	# of Items	Scale	# of Items	
TSCS	24	Ident	13/24	No	n/a	0
CDI	19					0
TSCS	9	No	n/a	Fam	7/9	0
TSCS	10	Self Sat.	6/10	M-E	5/10	0
TSCS	3	Behav	2/2	Pers	2/2	1(C17:fatigue)
TSCS	2	Self Sat.	2/2	M-E	2/2	0
I-E	3					0

[1] Please refer to Table 9 for explanation of scale abbreviations and loadings.

[2] A factor is designated to a specific scale when more than half of the items loading on the factor belong to that scale.

[3] This refers to the number of items (with loadings >0.4) that show a higher loading on another scale other than its own. For example, within the CDI factor (factor 2), one item from the TSCS (item 72) showed a higher loading on this than on the TSCS factors.

[4] This refers to the number of items from the specific TSCS subcale that has loadings of at least .4.

Table 11

Principal Component Analysis
Interpretation of Cross-Scaled Factor Analysis:
CDI+TSCS

Five-Factor Solution:

		TSCS Dimensions[1]				
		Internal		External		
Factor[2]	#of Items with >.40 Loading	Scale	# of Items[4]	Scale	# of Items	# of Items Showing Crossovers[3]
TSCS	21	Ident	12/21	No	n/a	0
CDI	17					0
TSCS	10	Self Sat.	5/10	Fam	8/10	0
TSCS	9	Self Sat.	7/9	No	n/a	0
TSCS	6	Behav	3/5	Fam	4/5	1(C26:disobed)

Seven-Factor Solution:

		TSCS Dimensions				
		Internal		External		
Factor	#of Items with >.40 Loading	Scale	# of Items	Scale	# of Items	# of Items Showing Crossovers
CDI	18					0
TSCS	16	Behav	8/16	No	n/a	0
TSCS	8	Behav	4/7	Soc	4/7	1(C22:isolate)
TSCS	9	Ident	5/8	Fam	5/8	1(C26:disobed)
TSCS	9	Self Sat.	6/9	M-E	4/9	0
TSCS	5	Self Sat.	5/5	Fam	3/5	0
TSCS	3	Behav	2/2	Pers	2/2	1(C17:fatigue)

[1] Please refer to Table 9 for explanation of scale abbreviations and loadings.

[2] A factor is designated to a specific scale when more than half of the items loading on the factor belong to that scale.

[3] This refers to the number of items (with loadings >0.4) that show a higher loading on another scale other than its own. For example, within the TSCS factor (factor 5), one item from the CDI (item 26) showed a higher loading on this than on the CDI factor.

[4] This refers to the number of items from the specific TSCS subscale that has loadings of at least .4. For example, in the first factor, there were *12 Ident scale items* that showed a loading of at least .4 on this factor.

Table 12

Principal Component Analysis
Interpretation of Cross-Scaled Factor Analysis:
CDI+I-E

Five-Factor Solution:

Factor[1]	# of Items with >0.4 Loadings	Interpretation	# of Items Showing Crossovers[2]
CDI	18	Affective	0
CDI	3	Behavioral	0
I-E	5	Political	0
I-E	4		0
CDI	3	School	1(I23:grades)

[1] A factor is designated to a specific scale when more than half of the items loading on the factor belong to that scale.

[2] This refers to the number of items (with loadings >0.4) that show a higher loading on another scale other than its own. For example, within the CDI factor (factor 2), one item from the I-E scale (item 23) showed a higher loading on this than on the I-E factors.

Table 13

Principal Component Analysis
Interpretation of Cross-Scaled Factor Analysis:
TSCS+I-E

Six-Factor Solution:

Factor[2]	#of Items with >.40 Loading	TSCS Dimensions[1]				# of Items Showing Crossovers[3]
		Internal		External		
		Scale	# of Items[4]	Scale	# of Items	
TSCS	22	Ident	14/22	Phys	9/22	
				Pers	7/22	0
TSCS	12	No	n/a	Fam	9/12	0
TSCS	9	Self Sat.	5/9	No	n/a	0
		Behav	4/9			
TSCS	5	Behav	4/5	Soc	3/5	0
TSCS	3	Self Sat.	3/3	M-E	2/3	0
I-E	3					0

[1] Please refer to Table 9 for explanation of scale abbreviations and loadings.

[2] A factor is designated to a specific scale when more than half of the items loading on the factor belong to that scale.

[3] This refers to the number of items (with loadings >0.4) that show a higher loading on another scale other than its own. For this analysis, there were no items that showed a crossover.

[4] This refers to the number of items from the specific TSCS subscale that has loadings of at least .4. For example, withiun the TSCS factor, there were *14 Ident scale items* that showed a loading of at least .4 on this factor.

Table 14

Pearson Correlation Matrix for CDI, I-E and TSCS Variables

	Tdys	Tmdd	Ttmdd	CDI	IE	Pag	Vic	Nc	Po	Ppag	Pvic
Tdys	1.00										
Tmdd	—	1.00									
Ttmdd	—	.716 (61)* <.0004#	1.00								
CDI	.205 (30) .139	-.023 (61) .430	.023 (61) .430	1.00							
IE	.149 (30) .217	-.114 (61) .191	-.094 (61) .235	.171 (214) .006	1.00						
Pag	.278 (30) .069	-.080 (61) .271	-.042 (61) .375	.209 (214) .001	.834 (214) **	1.00					
Vic	-.035 (30) .428	-.140 (61) .142	-.119 (61) .181	.071 (214) .153	.784 (214) **	.362 (214) **	1.00				
Nc	.130 (30) .248	-.141 (61) .140	-.169 (61) .096	.137 (214) .022	.884 (214) **	.736 (214) **	.752 (214) **	1.00			
Po	.140 (30) .230	-.064 (61) .313	.059 (61) .325	.151 (214) .014	.698 (214) **	.626 (214) **	.544 (214) **	.335 (214) **	1.00		
Ppag	.266 (30) .077	.079 (61) .273	.097 (61) .229	.089 (214) .097	.058 (214) .199	.539 (214) **	-.511 (214) **	-.010 (214) .440	.099 (214) .074	1.00 **	
Pvic	-.266 (30) .077	-.079 (61) .273	-.097 (61) .229	-.089 (214) .097	-.058 (214) .199	-.539 (214) **	.511 (214) **	.010 (214) .440	-.099 (214) .074	-1.00 (214) **	1.00

*sample size, #p value, ** p<.0004

Table 14 (con't)

	Tdsy	Tmdd	Ttmdd	CDI	IE	Pag	Vic	Nc	Po	Ppag	Pvic
Pnc	-.063	-.084	-.213	-.049	-.120	-.160	-.038	.286	-.731	-.181	.181
	(30)*	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.370#	.261	.050	.240	.040	.009	.291	**	**	.004	.004
Ppo	.063	.084	.213	.049	.120	.160	.038	-.286	.731	.181	-.181
	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.370	.261	.050	.240	.040	.009	.291	**	**	.004	.004
Ident	.060	.153	.163	-.482	-.187	-.234	-.059	-.207	-.058	-.154	.154
(T-sc)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.376	.120	.105	**	.003	**	.195	.001	.198	.012	.012
Self Sat	-.204	.031	-.062	-.375	-.107	-.159	-.022	-.105	-.073	-.122	.122
(T-sc)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.139	.407	.318	**	.059	.010	.374	.062	.144	.037	.037
Behav	-.007	.115	-.087	-.446	-.195	-.254	-.053	-.184	-.114	-.217	.217
(T-sc)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.486	.189	.254	**	.002	**	.222	.003	.048	.001	.001
Total P	-.048	.120	-.004	-.486	-.177	-.230	.051	-.178	-.089	-.168	.168
(T-sc)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.401	.179	.488	**	.005	**	.231	.005	.099	.007	.007
Ident	.063	.177	.185	-.514	-.169	-.216	-.042	-.198	-.026	-.156	.156
(Raw)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.371	.086	.076	**	.007	.001	.272	.002	.351	.011	.011
Self Sat	-.292	.017	-.072	-.378	-.105	-.161	-.018	-.[illegible]	-.089	-.128	.128
(Raw)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.059	.447	.290	**	.062	.009	.396	.086	.097	.031	.031
Behav	.001	.102	-.097	-.460	-.189	-.245	-.054	-.182	-.107	-.206	.206
(Raw)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.499	.217	.229	**	.003	**	.215	.004	.060	.001	.001
Total P	-.082	.117	.005	-.526	-.177	-.239	-.043	-.181	-.085	-.188	.188
(Raw)	(30)	(61)	(61)	(214)	(214)	(214)	(214)	(214)	(214)	(214)	(214)
	.333	.185	.485	**	.005	**	.267	.004	.107	.003	.003

*sample size
#p value
** p<.0004

Table 14 (con't)

	Pnc	Ppo	Ident (T-sc)	Self S (T-sc)	Behav (T-sc)	Tot P (T-sc)	Ident (raw)	Self S (raw)	Behav (raw)	Tot P (raw)
Pnc	1.00									
Ppo	-1.00 (214)* <.0004#	1.00								
Ident (T-sc)	-.060 (214) .190	.060 (214) .190	1.00							
Self S (T-sc)	-.029 (214) .337	.029 (214) .337	.543 (214) **	1.00						
Behav (T-sc)	-.001 (214) .443	.001 (214) .443	.666 (214) **	.627 (214) **	1.00					
Total P (T-sc)	-.047 (214) .245	.047 (214) .245	.827 (214) **	.853 (214) **	.875 (214) **	1.00				
Ident (raw)	-.089 (214) .097	.089 (214) .097	.969 (214) **	.544 (214) **	.656 (214) **	.824 (214) **	1.00			
Self S (raw)	-.014 (214) .420	.014 (214) .420	.519 (214) **	.978 (214) **	.611 (214) **	.838 (214) **	.521 (214) **	1.00		
Behav (raw)	-.014 (214) .422	.014 (214) .422	.656 (214) **	.617 (214) **	.988 (214) **	.857 (214) **	.657 (214) **	.608 (214) **	1.00	
Total P (raw)	-.046 (214) .250	.046 (214) .250	.834 (214) **	.851 (214) **	.862 (214) **	.983 (214) **	.848 (214) **	.849 (214) **	.865 (214) **	1.00

*sample size
#p value
** p<.0004

Table 15

Pearson Correlation Matrix
I-E and TSCS variables
Controlling for CDI Level

	Ident (T-sc)	Self S (T-sc)	Behav (T-sc)	Tot P (T-sc)	Ident (raw)	Self S (raw)	Behav (raw)	Tot P (raw)
IE	-.109	-.122	-.048	-.134	-.104	-.096	-.045	-.126
	(211)*	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.056#	.038	.245	.025	.065	.082	.258	.033
Pag	-.150	-.156	-..89	-.184	-.156	-.130	-.090	-.171
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.014	.012	.099	.003	.012	.029	.095	.006
Vic	-.019	.029	.005	-.024	-.007	-.006	.009	-.024
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.393	.339	.472	.366	.462	.464	.446	.362
Nc	-.128	-.162	-.059	-.139	-.130	-.150	-.046	-.135
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.031	.009	.198	.021	.030	.014	.254	.025
Po	-.018	.017	-.018	-.053	-.007	.061	-.035	-.042
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.399	.403	.397	.222	.458	.190	.305	.270
Ppag	-.143	-.127	-.096	-.199	-.166	-.129	-.102	-.187
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.018	.033	.081	.002	.008	.030	.069	.003
Pvic	.143	.127	.096	.199	.166	.129	.102	.187
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.018	.033	.081	.002	.008	.030	.069	.003
Pnc	.081	-.096	-.051	-.035	-.085	-.133	-.035	-.040
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.119	.082	.230	.304	.110	.026	.306	.279
Ppo	.081	.096	.051	.035	.085	.133	.035	.040
	(211)	(211)	(211)	(211)	(211)	(211)	(211)	(211)
	.119	.082	.230	.304	.110	.026	.306	.279

*sample size
#p value

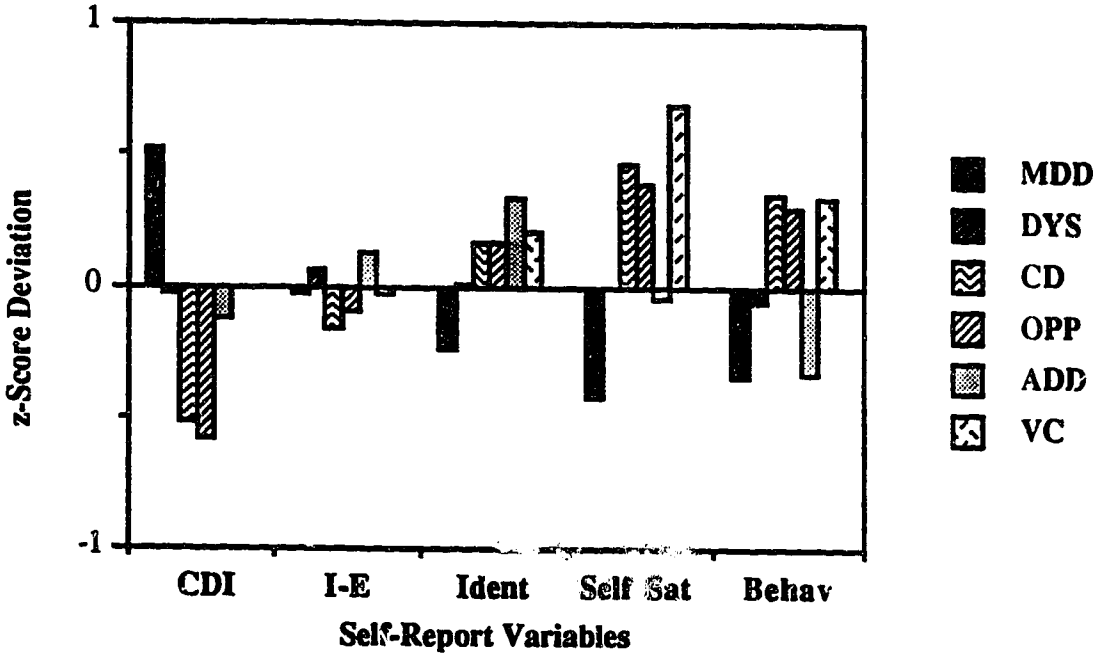

Figure 1 Z-Score Transformation for the Major Diagnostic Groups

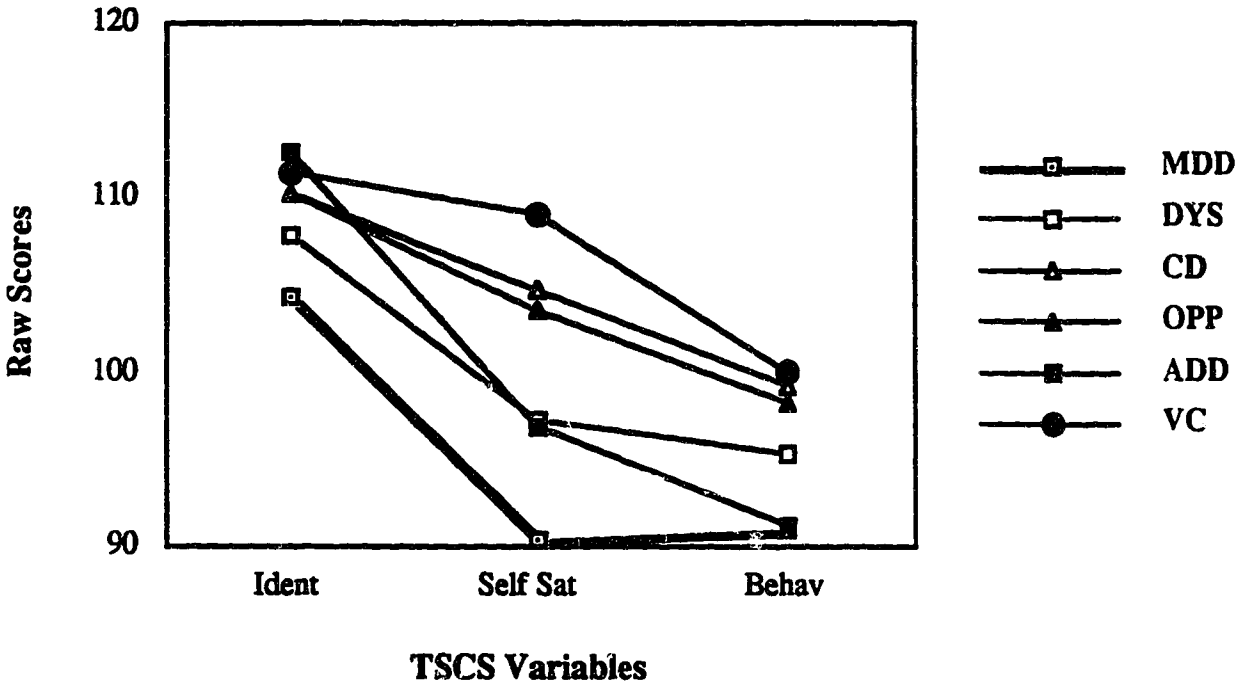

Figure 2 **Non-Transformed Scores on the TSCS for the Major Diagnostic Groups**

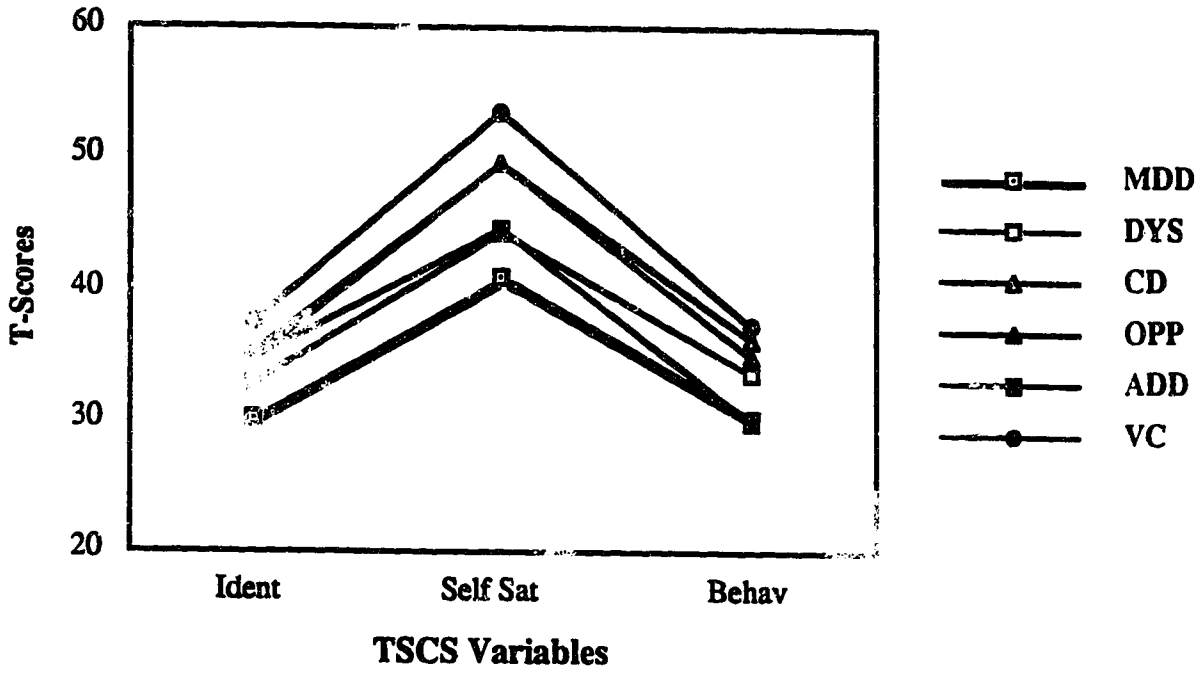

Figure 3 **T-scores on the TSCS for the Major Diagnostic Groups**

References

Abramson, L. Y., Seligman, M. E. P., & Teasdale, J. D. (1978). Learned helplessness in humans: critique and reformulation. *Journal of Abnormal Psychology, 87*, 49-74.

Achenbach, T. M., & Edelbrock, C. (1983). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile*. Burlington, VT: Queen City Printers.

Ainsworth, M. D. S., Blehar, M., Waters, E., & Wall, S. (1978). *Patterns of attachment: a psychological study of the starng situation*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Alloy, L. B., Abramson, L. Y., & Viscusi, D. (1981). Induced mood and the illusion of control. *Journal of Personality and Social Psychology, 41*, 1129-1140.

American Psychiatric Association. (1980). *Diagnostic and statistical manual of mental disorders* (third ed.). Washington, DC: Author.

American Psychiatric Association (1987). *Diagnostic and statistical manual of mental disorders - Revised* (3rd ed. revised). Washington, DC: Author.

American Psychological Association (1985). *Standards for educational and psychological testing*. Washington, DC: Author.

Apter, A., Bleich, A., Plutchick, R., Mendelsohn, S., & Tyano, S. (1988). Suicidal behavior, depression, and conduct disorder in hospitalized adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry, 27*, 696-699.

Ashkanasy, N. M. (1985). Rotter's Internal-External Scale: confirmatory factor analysis and correlation with social desirability for alternative scale formats. *Journal of Personality and Social Psychology, 48*, 1328-1341.

Basgall, J. A., & Snyder, C. R. (1988). Excuses in waiting: external locus of control and reactions to success-failure feedback. *Journal of Personality and Social Psychology, 54*, 656-662.

Battle, J. (1987). Relationship between self-esteem and depression among children. *Psychological Reports, 60*, 1187-1190.

Beck, A. T. (1967). *Depression: clinical, experimental, and theoretical aspects*. New York: Hoeber.

Beck, A. T., Rush, A. J., Shaw, B. F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.

Beck, A. T., Weissman, A., Lester, D., & Trexler, L. (1974). The measurement of pessimism: the Hopelessness Scale. *Journal of Consulting and Clinical Psychology, 42*, 861-865.

Benassi, V. A., Sweeney, P. D., & Dufour, C. L. (1988). Is there a relation between locus of control orientation and depression? *Journal of Abnormal Psychology, 97*, 357-367.

Berndt, D. J. (1983). Readability of self-report depression inventories. *Journal of Consulting and Clinical Psychology, 51*, 627-628.

Biederman, J., Munir, K., & Knee, D. (1987). Conduct and oppositional disorder in clinically referred children with attention deficit disorder: a controlled family study. *Journal of the American Academy of Child and Adolescent Psychiatry, 26*, 724-727.

Blechman, E. A., McEnroe, M. J., Carella, E. T., & Audette, D. P. (1986). Childhood competence and depression. *Journal of Abnormal Psychology, 95*, 223-227.

Bodiford, C. A., Eisenstadt, T. H., Johnson, J. H., & Bradlyn, A. S. (1988). Comparison of learned helplessness cognitions and behavior in children with high and low scores on the Children's Depression Inventory. *Journal of Clinical Child Psychology, 17*, 152-158.

Bohrnstedt, G. W., & Fisher, G. A. (1986). The effects of recalled childhood and adolescent relationships compared to current role performances on young adults' affective functioning. *Social Psychology Quarterly, 49*, 19-32.

Bolton, B. (1976). Factorial validity of the Tennessee Self-Concept Scale. *Psychological Reports, 39*, 947-954.

Boyle, E. S., & Larson, P. C. (1981). Factor structure of the Tennessee Self-Concept Scale for an institutionalized disabled population. *Perceptual and Motor Skills, 52*, 575-582.

Breier, A., Charney, D. S., & Heninger, G. H. (1985). The diagnostic validity of anxiety disorders and their relationship to depressive illness. *American Journal of Psychiatry, 142*, 787-797.

Brown, J. D., & Siegel, J. M. (1988). Attributions for negative life events and depression: the role of perceived control. *Journal of Personality and Social Psychology, 54*, 316-322.

Cantor, N., & Genero, N. (1986). Psychiatric diagnosis and natural categorization: a close analogy. In T. Millon & G.L. Klerman (Eds.), *Contemporary directions in psychopathology: towards the DSM-IV* (pp. 233-256). New York: Guilford Press.

Cantor, N., Smith, E. E., French, R. S., & Mezzich, J. (1980). Psychiatric diagnosis as prototype categorization. *Journal of Abnormal Psychology, 89*, 181-193.

Carey, M. P., Faulstick, M. E., Gresham, F. M., Ruggiero, L., & Enyart, P. (1987). Children's depression inventory: construct and discriminant validity across clinical and nonreferred (control) populations. *Journal of Consulting and Clinical Psychology, 55*, 755-761.

Carlson, G. A., & Cantwell, D. P. (1982). Diagnostics of childhood depression: a comparison of the Weinberg and DSM-III criteria. *Journal of American Academy of Child Psychiatry, 21*, 247-250.

Carlson, G. A., & Garber, J. (1986). Developmental issues in the classification of depression in children. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: developmental and clinical perspectives* (pp. 399-434). New York: Guilford Press.

Carroll, B. J., Curtis, G. C., & Mendels, J. (1976a). Neuroendocrine regulation in depression. I. Limbic system-adrenocortical dysfunction. *Archives of General Psychiatry, 33*, 1039-1044.

Carroll, B. J., Curtis, G. C., & Mendels, J. (1976b). Neuroendocrine regulation in depression. II. Discrimination of depressed from non-depressed patients. *Archives of General Psychiatry, 33*, 1051-1058.

Carroll, B. J., Feinberg, M., Greden, J. F., Tarika, J., Albala, A. A., Haskett, R. F., James, N. McI., Kronfol, Z., Lohr, N., Steiner, M., deVigne, J. P., & Young, E. (1981). A specific laboratory test for the diagnosis of melancholia. *Archives of General Psychiatry, 38*, 15-22.

Casat, C. D., Arana, G. W., & Powell, K. (1989). The DST in children and adolescents with major depressive disorder. *American Journal of Psychiatry, 146*, 503-507.

Chiles, J. A., Miller, M. L., & Cox, G. B. (1980). Depression in an adolescent delinquent population. *Archives of General Psychiatry, 37*, 1179-1184.

Christ, A. E., Adler, A. G., Isacoff, M., & Gershansky, I. S. (1981). Depression: symptoms versus diagnosis in 10,412 hospitalized children and adolescents (1957-1977). *American Journal of Psychotherapy, 35*, 400-412.

Chwast, J. (1967). Depressive reactions as manifested among adolescent delinquents. *American Journal of Psychotherapy, 21*, 575-584.

Cicchetti, D. (1984). The emergence of developmental psychopathology. *Child Development, 55*, 1-7.

Cicchetti, D., & Schneider-Rosen, K. (1986). An organizational approach to childhood depression. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: developmental and clinical perspectives* (pp. 71-134). New York: Guilford Press.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*, 37-46.

Cohen, J. (1968). Weighted kappa: nominal scale agreement with provision for scaled disagreement or partial credit. *Psychological Bulletin, 70*, 213-220.

Cohen, L. S., & Biederman, J. (1988). Further evidence for an association between affective disorders and anxiety disorders: review and case reports. *Journal of Clinical Psychiatry, 49*, 313-316.

Cole, D. A. (1987). Utility of confirmatory factor analysis in test validation research. *Journal of Consulting and Clinical Psychoology, 55*, 584-594.

Collins, B. E. (1974). Four components of the Rotter Internal-External Scale: belief in a difficult world, a just world, a predictable world, and a politically responsive world. *Journal of Personality and Social Psychology, 29*, 381-391.

Comrey, A. L. (1988). Factor-analytic methods of scale development in personality and clinical psychology. *Journal of Consulting and Clinical Psychology, 56*, 754-761.

Crowne, D. P., & Marlowe, D. (1960). A scale of social desirability independent of psychopathology. *Journal of Counseling Psychology, 24*, 349-354.

Cytryn, L., & McKnew, D. H. (1972). Proposed classification of childhood depression. *American Journal of Psychiatry, 129*, 149-155.

Cytryn, L., McKnew, D. H., & Bunney, W. E. (1980). Diagnosis of depression in children: a reassessment. *American Journal of Psychiatry, 137*, 22-25.

Cytryn, L., McKnew, D. H., Bartko, J. J., Lamour, M., & Hamovitt, J. (1982). Offspring of patients with affective disorders: II. *Journal of American Academy of Child Psychiatry, 21*, 389-391.

Damon, W., & Hart, D. (1982). The development of self-understanding from infancy through adolescence. *Child Development, 53*, 841-864.

Damon, W., & Hart, D. (1988). *Self-understanding in childhood and adolescence*. New York: Cambridge University Press.

deCharms, R. (1976). *Enhancing motivation: change in the classroom*. New York: Irvington.

DeCharms, R. (1981). Personal causation and locus of control: two different traditions and two uncorrelated measures. In H. M. Lefcourt (Ed.), *Research with the locus of control construct: Vol. 1. Assessment methods* (pp. 337-358). Toronto: Academic Press.

Doerfler, L. A., Felner, R. D., Rowlison, R. T., Raley, P. A., & Evans, E. (1988). Depression in children and adolescents: a comparative analysis of the utility and construct validity of two assessment measures. *Journal of Consulting and Clinical Psychology, 56*, 769-772.

Duttweiler, P. C. (1984). The Internal Control Index: a newly developed measure of locus of control. *Educational and Psychological Measurement, 44*, 209-221.

Eysenck, H. J. (1986). A critique of contemporary classification and diagnosis. In T. Millon & G.L. Klerman (Eds.), *Contemporary directions in psychopathology: towards the DSM-IV* (pp. 73-98). New York: Guilford Press.

Eysenck, H. J., Wakefield, J. A., & Friedman, A. F. (1983). Diagnosis and clinical assessment: the DSM-III. *Annual Review of Psychology, 34*, 167-193.

Fawcett, J., & Kravitz, H. M. (1985). New medical diagnostic procedures for depression. In E. E. Beckham & W. R. Leber (Eds.), *Handbook of depression: treatment, assessment, and research* (pp. 445-516). Homewood, IL: The Dorsey Press.

Finch, A. J. Jr., Saylor, C. F., & Edwards, G. L. (1985). Children's Depression Inventory. *Journal of Consulting and Clinical Psychology, 53*, 424-425.

Fiske, S. T., & Taylor, S. E. (1984). *Social cognition*. New York: Random House.

Fitts, W. H. (1965). *Manual for the Tennessee Self-Concept Scale*. Nashvill, TN: Counselor Recordings and Tests.

Fitts, W. H. (1970). *Interpersonal competence: the wheel model*. Nashville, TN: The Dede Wallace Center Monograph No. II.

Fitts, W. H. (1972a). *The self concept and psychopathology*. Nashville, TN: The Dede Wallace Center Monography No. IV.

Fitts, W. H. (1972b). *The self concept and performance*. Nashville, TN: The Dede Wallace Center Monograph No. V.

Fitts, W. H. (1972c). *The self concept and behavior: overview and supplement*. Nashville, TN: The Dede Wallace Center Monograph No. VII.

Fitts, W. H., Adams, J. L., Radford, G., Richards, W. C., Thomas, B. K., Thomas, M. M., & Thompson, W. (1971). *The self concept and self-actualization*. Nashville, TN: The Dede Wallace Center Monograph No. III.

Fitts, W. H., & Hamner, W. T. (1969). *The self concept and delinquency*. Nashville, TN: The Dede Wallace Center Monograph No. I.

Fleming, J. S., & Spooner, P. S. (1985). Five factor scales for internal-external control and their relations to measures of adjustment. *Journal of Clinical Psychology, 41*, 512-517.

Frances, A., & Cooper, A. M. (1981). Descriptive and dynamic psychiatry: a perspective on DSM-III. *American Journal of Psychiatry, 138*, 1198-1202.

Garber, J., Kriss, M. R., Koch, M., & Lindholm, L. (1988). Recurrent depression in adolescents: a follow-up study. *Journal of the American Academy of Child and Adolescent Psychiatry, 27*, 49-54.

Garfield, S. L. (1986). Problems in diagnostic classification. In T. Millon & G.L. Klerman (Eds.), *Contemporary directions in psychopathology: towards the DSM-IV* (pp. 99-114). New York: Guilford Press.

Garmezy, N. (1978). DSM-III. Never mind the psychologists; is it good for the children? *Clinical Psychologist, 31*, 1-6.

Gellen, M. I., & Hoffman, R. A. (1984). Analysis of the subscales of the Tennessee Self-Concept Scale. *Measurement and Evaluation in Counseling and Development, 17*, 51-55.

Glaser, K. (1967). Masked depression in children and adolescents. *American Journal of Psychotherapy, 21*, 565-574.

Goodman, S. H., & Waters, L. K. (1987). Convergent validity of five locus of control scales. *Educational and Psychological Measurement, 47*, 743-747.

Gould, M. S., Shaffer, D., Rutter, M., & Sturge, C. (1988). UK/WHO study of ICD-9. In M. Rutter, A. H. Tuma, & I. S. Lann. (Eds.), *Assessment and diagnosis in child psychopathology* (pp. 37-65). New York: Guildford Press.

Graham, J. R. (1987). *The MMPI: a practical guide* (2nd. ed.). New York: Oxford University Press.

Greden, J. F., Gardner, R., King, D., Grunhaus, L., Carroll, B. J., & Kronfol, Z. (1983). Dexamethosone Suppression Test in antidepressant treatment of melancholia. *Archives of General Psychiatry, 40*, 483-500.

Greenwald, A. G. (1980). The totalitarian ego. *American Psychologist, 35*, 603-618.

Grove, W. M., Andreasen, N. C., McDonald-Scott, P., Keller, M. B., & Shapiro, R. W. (1981). Reliability studies of psychiatric diagnosis: theory and practice. *Archives of General Psychiatry, 38*, 408-413.

Guidano, V. F., & Liotti, G. (1983). *Cognitive processes and emotional disorders*. New York: Guilford Press.

Haley, G. M. T., Fine, S., Marriage, K., Moretti, M. M., & Freeman, R. J. (1985). Cognitive bias and depression in psychiatrically disturbed children and adolescents. *Journal of Consulting and Clinical Psychology, 53*, 535-537.

Harter, S. (1982). The perceived competence scale for children. *Child Development, 53*, 87-97.

Harter, S. (1984). *The Self-Perception Profile for Children: revision of the Perceived Competency Scale for Children*. Unpublished manuscript, University of Denver, CO.

Harter, S. (1985). Competence as a dimension of self-evaluation: toward a comprehensive model of self-worth. In R. Leahy (Ed.), *The development of the self* (pp. 55-121). Toronto: Academic Press.

Harter, S. (1986a). Cognitive-developmental processes in the integration of concepts about emotions and the self. *Social Cognition, 4*, 119-151.

Harter, S. (1986b). Processes underlying the construction, maintenance, and enhancement of the self-concept in children. In J. Suls & A. G. Greenwald (Eds.), *Psychological perspectives on the self* (Volume 3, pp. 136-182). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers.

Harter, S., & Hogan, A. (1985). *A causal model of the determinants of self-worth and the affective and motivational systems which it mediates*. Paper presented at the meeting of the Society for Research in Child Development, Toronto.

Helsel, W. J., & Matson, J. L. (1984). The assessment of depression in children: the internal structure of the Child Depression Inventory (CDI). *Behavior Research and Therapy, 22*, 289-298.

Higgins, E. T. (1987). Self-discrepancy: a theory relating self and affect. *Psychological*

Review, *94*, 319-340.

Higgins, E. T. (1989a). Continuities and discontinuities in self-regulatory and self-evaluative processes: a developmental theory relating self and affect. *Journal of Personality*, *57*, 407-444.

Higgins, E. T. (1989b). Self-discrepancy theory: what patterns of self-beliefs cause people to suffer? In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 22) (pp. 93-136). Toronto: Academic Press.

Higgins, E. T., Bond, R. N., Klein, R., & Struman, T. (1986). Self-discrepancies and emotional vulnerabilities: how magnitude, accessibility, and type of discrepancy influence affect. *Journal of Personality and Social Psychology*, *51*, 5-15.

Higgins, E. T., Klein, R., & Strauman, T. (1985). Self-concept discrepancy theory: a psychological model for distinguishing among different aspects of depression and anxiety. *Social Cognition*, *3*, 51-76.

Higgins, E. T., Klein, R., & Strauman, R. (1987). Self-discrepancies: distinguishing among self-states, self-state conflicts, and emotional vulnerabilities. In K. M. Yardley & T. M. Hon[illegible] (Eds.), *Self and identity: psychological perspectives* (pp. 173-186). New Yor[illegible]

Higgin[illegible] [illegible]., & Dorfman, D. (1988). Do self attributes form a cognitive [illegible]*ition*, *6*, 177-207.

H[illegible] control and learned helplessness. *Journal of Experimental* [illegible]3.

Hod[illegible] [illegible]el, L. J., Mullins, L., & Griffin, N. (1983). Factor analysis of the [illegible]s Depression Inventory, *53*, 759-763.

Hoffman, R. A., & Gallen, M. I. (1983). The Tennessee Self-Concept Scale: a revisit. *Psychological Reports*, *53*, 1199-1204.

Huesmann, L. R. (1978). Cognitive processes and models of depression. *Journal of Abnormal Psychology*, *87*, 194-198.

Jablensky, A. (1988). An overview of the propects for the ICD-10. In J. E. Mezzich & M. von Cranach (Eds.), *International classification in psychiatry: unity and diversity* (pp. 343-364). New York: Cambridge University Press.

Janoff-Bulman, R. (1979). Characterological versus behavioral self-blame: inquires into depression and rape. *Journal of Personality and Social Psychology*, *37*, 1798-1809.

Janoff-Bulman, R. (1982). Esteem and control bases of blame: "adaptive" strategies for victims versus observers. *Journal of Personality, 50*, 180-191.

Jensen, J. B., Burke, N., & Garfinkel, B. D. (1988). Depression and symptoms of attention deficit disorder with hyperactivity. *Journal of the American Academy of Child and Adolescent Psychiatry, 27*, 742-747.

Joe, V. C. (1971). Review of the internal-external control construct as a personality variable. *Psychological Reports, 28*, 619-640.

Kaplan, H. B. (1980). *Deviant behavior in defense of self.* Toronto: Academic Press.

Kazdin, A. E. (1990). Children depression. *Journal of Child Psychology and Psychiatry, 31*, 121-160.

Kazdin, A. E., Colbus, D., & Rogers, A. (1986). Assessment of depression and diagnosis of depressive disorder among psychiatrically disturbed children. *Journal of Abnormal Child Psychology, 14*, 499-515.

Kazdin, A. E., French, N. H., Unis, A. S., Esveldt-Dawson, K., & Sherick, R. B. (1983). Hopelessness, depression, and suicidal intent among psychiatrically disturbed inpatient children. *Journal of Consulting and Clinical Psychology, 51*, 504-510.

Kazdin, A. E., & Petti, T. A. (1982). Self-report and interview measures of childhood and adolescent depression. *Journal of Child Psychology and Psychiatry, 23*, 437-457.

Kazdin, A. E., Rodgers, A., & Colbus, D. (1986). The Hopelessness Scale for children: psychometric characteristics and concurrent validity. *Journal of Consulting and Clinical Psychology, 54*, 241-245.

Kendler, K. S., Heath, A. C., Martin, N. G., & Eaves, L. J. (1987). Symptoms of anxiety and symptoms of depression: same genes, different environments? *Archives of General Psychiatry, 44*, 451-457.

Kennedy, E., Spence, S. H., & Hensley, R. (1989). An examination of the relationship between childhood depression and social competence amongst primary school children. *Journal of Child Psychology and Psychiatry, 30*, 561-573.

Klee, S. H., & Garfinkel, B. D. (1984). Identification of depression in children and adolescents: the role of the dexamethasone suppression test. *Journal of the American Academy of Child Psychiatry, 23*, 410-415.

Knight, D., Hensley, V. R., & Waters, B. (1988). Validation of the children's depression scale and the children's depression inventory in a prepubertal sample. *Journal of Child*

Psychology and Psychiatry, 29, 853-863.

Kocsis, J. H., & Frances, A. J. (1987). A critical discussion of DSM-III dysthymic disorder. *American Journal of Psychiatry, 144*, 1534-1542.

Kovacs, M. (1983). *The Children's Depression Inventory: a self-rated depression scale for school-aged youngsters*. Unpublished manuscript, University of Pittsburgh School of Medicine, Dept. of Psychiatry and Western Psychiatric Institute and Clinic, Pittsburgh.

Kovacs, M. (1986). A developmental perspective on methods and measures in the assessment of depressive disorders: the clinical interview. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: developmental and clinical perspectives* (pp. 435-468). New York: Guilford Press.

Kovacs, M., & Beck, A. T.(1977). An empirical-clinical approach toward a definition of childhood depression. In J. G. Schulterbrandt & A. Raskin (Eds.), *Depression in childhood*, (pp.1-25). New York: Raven Press.

Kovacs, M., Feinberg, T. L., Crouse-Kovak, M. A., Paulauskas, S. L., & Finkelstein, R. (1984). Depressive disorders in childhood. I. A longitudinal perspective study of characteristics and recovery. *Archives of General Psychiatry, 41*, 229-237.

Kovacs, M., Feinberg, T. L., Crouse-Kovak, M., Paulauskas, S. L., Pollack, M., & Finkelstein, R. (1984). Depressive disorders in childhood. II. A longitudinal study of the risk for a subsequent major depression. *Archives of General Psychiatry, 41*, 643-649.

Krantz, S., & Hammen, C. (1979). The assessment of cognitive bias in depression. *Journal of Abnormal Psychology, 88*, 611-619.

Lakey, B. (1988). Self-esteem, control beliefs, and cognitive problem-solving skill as risk factors in the development of subsequent dysphoria. *Cognitive Therapy and Reserach, 12*, 409-420.

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics, 33*, 159-174.

Lawton, J. M., Fergusson, D. M., & Horwood, L. J. (1989). Self-esteem and defensiveness: an analysis of the self-esteem inventory. *Psychological Reports, 64*, 1307-1320.

Leahy, R. L. (1983). Development self and the problems of social cognition. In L. Wheeler & P. Shaver (Eds.), *Review of personality and social psychology*. Beverly Hills, CA: Sage.

Leahy, R. L. (1985). The development of the self: conclusions. In R. Leahy (Ed.), *The development of the self* (pp. 295-304). Toronto: Academic Press.

Leahy, R. L., & Shirk, S. R. (1985). Social cognition and the development of the self. In R. Leahy (Ed.), *The development of the self* (pp. 123-150). Toronto: Academic Press.

Lefcourt, H. M. (1981). The construction and development of the Multidimensional-multiattributional Causality Scales. In H. M. Lefcourt (Ed.), *Research with the locus of control construct: Vol. 1. Assessment methods* (pp. 245-277). Toronto: Academic Press.

Lefcourt, H. M. (1982). *Locus of control: current trends in theory and research* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates, Publishers.

Lefcourt, H. M., Miller, R. S., Ware, E. E., & Sherk, D. (1981). Locus of control as a modifier of the relationship between stressors and moods. *Journal of Personality and Social Psychology, 41*, 357-369.

Lefcourt, H. M., von Baeyer, C. L., Ware, E. E., & Cox, D. J. (1979). The Multidimensional-Multiattributional Causality Scale: the development of a goal specific locus of control scale. *Canadian Journal of Behavioral Science, 11*, 286-304.

Leitenberg, H., Yost, L. W., & Carroll-Wilson, M. (1986). Negative cognitive errors in children: questionnarie development, normative data, and comparisons between children with and without self-reported symptoms of depression, low self-esteem, and evaluation anxiety. *Journal of Consulting and Clinical Psychology, 54*, 528-536.

Lesse, S. (1979). Behavioral problems masking depression - cultural and clinical survey. *American Journal of Psychotherapy, 33*, 41-53.

Lesse, S. (1983). The masked depression syndrome - results of a seventeen-year clinical study. *American Journal of Psychotherapy, 37*, 465-475.

Levenson, H. (1974). Activism and powerful others: distinctions within the concept of internal-external control. *Journal of Personality Assessment, 38*, 377-383.

Ling, W., Oftedol, G., & Weinberg, W. (1970). Depressive illness in childhood presenting as a severe headache. *American Journal of Diseases of Children, 120*, 122-124.

Lobovits, D. A., & Handal, P. J. (1985). Childhood depression: prevalence using DSM-III criteria and validity of parent and child depression scales. *Journal of Pediatric Psychology, 10*, 45-54.

Lorr, M. (1986). Classifying psychotics: dimensional and categorical approaches. In T. Millon

& G. L. Klerman (Eds.), *Contemporary directions in psychopathology: towards the DSM-IV* (pp. 331-346). New York: Guilford Press.

MacDougall, M. A., & Brown, R. S. (1984). The temporal order of depression and anxiety. In R. Schwarzer (Ed.), *The self in anxiety, stress and depression* (pp. 341-351). North-Holland: Elsevier Science Publishers.

Marriage, K., Fine, S., Moretti, M., & Haley, G. (1986). Relationship between depression and conduct disorder in children and adolescents. *Journal of the American Academy of Child Psychiatry, 25*, 687-691.

Marsh, H. W., & Richards, G. E. (1986). The Rotter Locus of Control Scale: the comparison of alternative response formats and implications for reliability, validity, and dimensionality. *Journal of Research in Personality, 20*, 509-528.

Marsh, H. W., & Richards, G. E. (1987). The multidimensionality of the Rotter I-E Scale and its higher-order structure: an application of confirmatory factor analysis. *Multivariate Behavioral Research, 22*, 39-69.

Marsh, H. W., & Richards, G. E. (1988). Tennessee self concept scale: reliability, internal structure, and construct validity. *Journal of Personality and Social Psychology, 55*, 612-624.

Mendelson, M. (1974). *Psychoanalytic concepts of depression* (2nd ed.). New York: Spectrum Publications, Inc.

Mezzich, J. E., Kraemer, H. C., Worthington, D. R. L., & Coffman, G. A. (1981). Assessment of agreement among several raters formulating multiple diagnoses. *Journal of Psychiatric Research, 16*, 29-39.

Mezzich, A. C., & Mezzich, J. E. (1985). Perceived suitability and usefulness of DSM-III vs DSM-II in child psychopathology. *Journal of the American Academy of Child Psychiatry, 24*, 281-285.

Mezzich, A. C., Mezzich, J. E., & Coffman, G. A. (1985). Reliability of DSM-III vs. DSM-II in child psychopathology. *Journal of the American Academy of Child Psychiatry, 24*, 273-280.

McInish, T. H., & Lee, M. Y. (1987). Multidimensionality of Rotter's Locus of Control Scale. *Psychological Reports, 61*, 273-274.

Mirels, H. I. (1970). Dimensions of internal versus external control. *Journal of Consulting and Clinical Psychology, 34*, 226-228.

Monsour, A. (1985). *The structure and dynamics of the adolescent self-concept*. Unpublished doctoral dissertation, University of Denver, CO.

Moretti, M., & Higgins, E. T. (1987, June). *Attribute valence vs. guide discrepancy as predictors of depression and self-esteem*. Paper presented at the annual meeting of the Canadian Psychological Association, Vancouver, BC.

Munir, K., Biederman, J., & Knee, D. (1987). Psychiatric comorbidity in patients with attention deficit disorder: a controlled study. *Journal of the American Academy of Child and Adolescent Psychiatry, 26*, 844-848.

Nelson, W. M., III, Politano, P. M., Finch, A. J., Jr, Wendel, N., & Mayhall, C. (1987). Chilldren's Depression Inventory: normative data and utility with emotionally disturbed children. *Journal of the American Academy of Child and Adolescent Psychology, 26*, 43-48.

Nolen-Hoeksema, S., Girgus, J., & Seligman, M. E. P. (1986). Learned helplessness in children: a longitudinal study of depression, achievement, and explanatory style. *Journal of Personality and Social Psychology, 51*, 435-442.

Nowicki, S., & Duke, M. P. (1974). A locus of control scale for noncollege as well as college adults. *Journal of Personality Assessment, 38*, 136-137.

Nurcombe, B., Seifer, R., Scioli, A., Tramontana, M. G., Grapentine, W. L., & Beauchesne, H. C. (1989). Is major depressive disorder in adolescence a distinct diagnostic entity? *Journal of the American Academy of Child and Adolescent Psychiatry, 28*, 333-342.

Orvaschel, H., Puig-Antich, J., Chambers, W., Tabrizi, M. A., & Johnson, R. (1982). Retrospective assessment of prepubertal major depression with the Kiddie-SADS-E. *Journal of American Academy of Child Psychiatry, 21*, 392-397.

Overmier, J. B., & Seligman, M. E. P. (1967). Effects of inescapable shock upon subsequent escape and avoidance learning. *Journal of Comparative and Physiological Psychology, 63*, 23-33.

Parkes, K. R. (1985). Dimensionality of Rotter's Locus of control scale: an application of the 'Very Simple Structure' technique. *Personality and Individual Differences, 6*, 115-119.

Paulhus, D., & Christie, R. (1981). Spheres of control: an interactionist approach to assessment of perceived control. In H. M. Lefcourt (Ed.), *Research with the locus of control construct: Vol. 1. Assessment methods* (pp. 161-188). Toronto: Academic Press.

Peterson, C., Semmel, A., vonBaeyer, C., Abramson, L. Y., Metalsky, G. I., & Seligman, M.

E. P. (1982). The attributional style questionnaire. *Cognitive Therapy and Research, 6*, 287-300.

Phares, E. J. (1957). Expectancy changes in skill and chance situations. *Journal of Abnormal and Social Psychology, 54*, 339-342.

Phares, E. J., Wilson, K. G., & Klyver, N. W. (1971). Internal-external control and attribution of blame under neutral and distractive conditions. *Journal of Social and Personality, 18*, 285-288.

Piers, E. V. (1984). *Piers-Harris Children's Self Concept Scale-Revised Manual*. Los Angeles: Western Psychological Services.

Politano, P. M., Edinger, D. L., & Nelson, W. M. III. (1989). Comparisons of conduct and affective disordered youth: a psychometric investigation of responses to the Children's Depression Inventory. *Journal of Child Psychology and Psychiatry, 30*, 431-438.

Politano, P. M., Nelson, W. M. III, Evans, H. E., Sorenson, S. B., & Zeman, D. J. (1986). Factor analytic evaluation of differences between black and caucasian emotionally disturbed children on the Children's Depression Inventory. *Journal of Psychopathology and Behavioral Assessment, 8*, 1-7.

Poznanski, E. O., Carroll, B. J., Banegas, M. C., Cook, S. C., & Grossman, J. A. (1982). The dexamethasone suppression test in prepubertal depressed children. *American Journal of Psychiatry, 139*, 321-324.

Prociuk, T. J. (1977). Concerning the evidence for a general factor in the Internal-External control Scale: a reanalysis of Franklin's data. *Journal of Consulting and Clinical Psychology, 45*, 1199.

Puig-Antich, J. (1982). Major depression and conduct disorder in prepuberty. *Journal of American Academy of Child Psychiatry, 21*, 118-128.

Puig-Antich, J., Goetz, D., Davies, M., Kaplan, T., Davies, S., Ostrow, L., Asnis, L., Twomey, J., Iyengar, S., & Ryan, N. D. (1989). A controlled family history study of prepubertal major depressive disorder. *Archives of General Psychiatry, 46*, 406-418.

Quay, H. C. (1986). A critical analysis of DSM-III as a taxonomy of psychopathology in childhood and adolescence. In T. Millon & G.L. Klerman (Eds.), *Contemporary directions in psychopathology: towards the DSM-IV* (pp. 151-166). New York: Guilford Press.

Reeves, J. C., Werry, J. S., Elkind, G. S., & Zametkin, A. (1987). Attention deficit, conduct, oppositional, and anxiety disorders in children: I. A review of research on differentiating characteristics. *Journal of the American Academy of Child and*

Adolescent Psychiatry, 26, 144-155.

Reich, J. (1985). The relationship between antisocial behavior and affective illness. *Comprehensive Psychiatry, 26*, 296-303.

Reid, D. W., & Ware, E. E. (1973). Multidimensionality of internal-external control: implications for past and future research. *Canadian Journal of Behavioral Science, 5*, 264-271.

Reid, D. W., & Ware, E. E. (1974). Multidimensionality of internal versus external control: addition of a third dimension and non-distinction of self versus others. *Canadian Journal of Behavioral Science, 6*, 131-142.

Remschmidt, H. (1988). German study of ICD-9. In M. Rutter, A. H. Tuma, & I. S. Lann. (Eds.), *Assessment and diagnosis in child psychopathology* (pp. 66-86). New York: Guilford Press.

Revelle, W., & Rocklin, T. (1979). Very simple structure: an alternative procedure for estimating the optimal number of interpretable factors. *Multivariate Behavior Research, 14*, 403-414.

Rey, J. M., Bashir, M. R., Schwarz, M., Richards, I. N., Plapp, J, M., & Stewart, G. W. (1988). Oppositional disorder: fact or fiction? *Journal of the American Academy of Child and Adolescent Psychiatry, 27*, 157-162.

Rie, H. E. (1966). Depression in childhood: a survey of some pertinent contributions. *Journal of American Academy of Child Psychiatry, 5*, 653-685.

Rosenberg, M. (1979). *Conceiving the self.* New York: Basic Books.

Roth, M. (1982). The achievements and limitations of DSM-III. In R. L. Spitzer, J. B. W. Williams, & A. E. Skodol (Eds.), *International perspectives on DSM-III* (pp. 91-108). Washington, DC: American Psychiatric Press, Inc.

Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: a two-process model of perceived control. *Journal of Personality and Social Psychology, 42*, 5-37.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs, 80*, (Whole No. 609).

Rotter, J. B. (1975). Some problems and misconceptions related to the construct of internal versus external control of reinforcement. *Journal of Consulting and Clinical Psychology, 43*, 56-67.

Russell, A. T., Mattison, R., & Cantwell, D. P. (1983). DSM-III in the clinical practice of child psychiatry. *Journal of Clinical Psychiatry, 44*, 86-90.

Rutter, M. (1977). Classification. In M. Rutter & L. Hersov (Eds.), *Child Psychiatry: modern approaches*. Oxford: Blackwell Scientific Publications.

Rutter, M. (1986). The developmental psychopathology of depression: issues and perspectives. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: developmental and clinical perspectives* (pp. 1-32). New York: Guilford Press.

Rutter, M. (1989). Isle of Wright revisited: twenty-five years of child psychiatric epidemiology. *Journal of the American Academy of Child and Adolescent Psychiatry, 28*, 633-653.

Rutter, M., & Shaffer, D. (1980). DSM-III. A step forward or back in terms of the classification of child psychiatric disorder? *Journal of American Academy of Child Psychiatry, 19*, 371-394.

Saylor, C. F., Finch, A. J., Jr, & McIntosh, J. A. (1988). Self-reported depression in psychiatric, pediatric, and normal populations. *Child Psychiatry and Human Development, 18*, 250-254.

Saylor, C. F., Finch, A. J., Jr, Spirito, A., & Bennett, B. (1984). The Children's Depression Inventory: a systematic evaluation of psychometric properties. *Journal of Consulting and Clinical Psychology, 52*, 955-967.

Seligman, M. E. P. (1975). *Helplessness: on depression, development, and death*. San Francisco: W. H. Freedman.

Seligman, M. E. P., & Maier, S. F. (1967). Failure to escape traumatic shock. *Journal of Experimental Psychology, 74*, 1-9.

Seligman, M. E. P., & Peterson, C. (1986). A learned helplessness perspective on childhood depression: theory and research. In M. Rutter, C. E. Izard, & P. B. Read (Eds.), *Depression in young people: developmental and clinical perspectives* (pp. 223-250). New York: Guilford Press.

Seligman, M. E. P., Peterson, C., Kaslow, N. J., Tanenbaum, R. L., Alloy, L. B., & Abramson, L. Y. (1984). Attributional style and depressive symptoms among children. *Journal of Abnormal Psychology, 93*, 235-238.

Shapiro, S., & Garfinkel, B. . (1986). The occurrence of behavior disorders in children: the interdependence of attention deficit and conduct disorder. *Journal of the American Academy of Child Psychiatry, 25*, 809-819.

Shavelson, R. J., Hubner, J. J., & Stanton, G. C. (1976). Self-concept: validation if construct interpretations. *Review of Educational Research, 46*, 407-441.

Skinner, H. A. (1981). Toward the integration of classification theory and methods. *Journal of Abnormal Psychology, 90*, 68-87.

Skinner, H. A. (1986). Construct validation approach to psychiatric classification. In T. Millon & G. L. Klerman (Eds.), *Contemporary directions in psychopathology: towards the DSM-IV* (pp. 307-330). New York: Guilford Press.

Smucker, M. R., Craighead, W. E., Craighead, L. W., & Green, B. J. (1986). Normative and reliability data for the Children's Depression Inventory. *Journal of Abnormal Child Psychology, 14*, 25-39.

Snyder, C. R., & Higgins, R. L. (1988). Excuses: their effective role in the negotiation of reality. *Psychological Bulletin, 104*, 23-35.

Snyder, C. R., Higgins, R. L., & Stucky, R. J. (1983). *Excuses: masquerades in search of grace*. Toronto: John Wiley & Sons.

Spiegal, R. (1967). Anger and acting out: masks of depression. *American Journal of Psychotherapy, 21*, 597-606.

Spitzer, R. L., & Cantwell, D. P. (1980). The DSM-III classification of the psychiatric disorders of infancy, childhood, and adolescence. *Journal of American Academy of Child Psychiatry, 19*, 356-370.

Spitzer, R. L., & Forman, J. B.W. (1979). DSM-III field trials. II. Initial experience with the multiaxial system. *American Journal of Psychiatry, 136*, 818-820.

Spitzer, R. L., Endicott, J., & Robins, E. (1978). Research diagnostic criteria: rationale and reliability. *Archives of General Psychiatry, 35*, 773-782.

Spitzer, R. L., Forman, J. B. W., & Nee, J. (1979). DSM-III field trials. I. Initial interrater diagnostic reliability. *American Journal of Psychiatry, 136*, 815-817.

Spitzer, R. L., Williams, J. B. W., & Skodol, A. E. (1980). DSM-III: The major achievements and an overview. *American Journal of Psychiatry, 137*, 151-164.

Stavrakaki, C., Vargo, B., Boodoosingh, L., & Roberts, N. (1987). The relationship between anxiety and depression in children: rating scales and clinical variables. *Canadian Journal of Psychiatry, 32*, 433-439.

Strauss, C. C., Foreland, R., Frame, C., & Smith, K. (1984). Characteristics of children with extreme scores on the Children's Depression Inventory. *Journal of Clinical Child Psychology, 13*, 227-231.

Stromgren, E. (1982). The strengths and weaknesses of DSM-III. In R. L. Spitzer, J. B. W. Williams & A. E. Skodol (Eds.), *International perspectives on DSM-III* (pp. 69-78). Washington, DC: American Psychiatric Press, Inc.

Szatmari, P., [illegible]i, D. R., & Boyle, M. H. (1989). Correlates, associated impairments and pat[illegible]service utilization of children with attention deficit disorder: findings from th[illegible], Child Health Study. *Journal of Child Psychology and Psychiatry, 30*, 205

Taylor, S. E., & Brown, J. D. (1988). Illusion and well-being: a social psychological perspective on mental health. *Psychological Bulletin, 103*, 193-210.

Tennen, H., & Herzberger, S. (1987). Depression, self-esteem, and the absence of self-protective attributional biases. *Journal of Personality and Social Psychology, 52*, 72-80.

Thompson, W. (1972). *Correlates of the self concept*. Nashville, TN: The Dede Wallace Center Monograph No. VI.

Toolan, J. M. (1962). Depression in children and adolescents. *American Journal of Orthopsychaitry, 32*, 404-415.

Tyler, F. B., Gatz, M., & Keenan, K. (1979). A constructivist analysis of the Rotter I-E Scale. *Journal of Personality, 47*, 11-35.

Velamoor, V. R., Waring, E. M., Fisman, S., Cernovsky, Z., & Brownstone, D. (1989). DSM-III in residency training: results of a Canadian survey. *Canadian Journal of Psychiatry, 34*, 103-106.

Waters, E., & Sroufe, L. A. (1983). Competency as a developmental construct. *Developmental Review, 3*, 79-97.

Watson, J. F. (1981). A note on the dimensionality of the Rotter locus of control scale. *Australian Journal of Psychology, 33*, 319-330.

Weinberg, W. A., Rutman, J., Sullivan, L., Pencik, E. C., & Dietz, S. G. (1973). Depression in children referred to an education diagnostic center. *Journal of Pediatrics, 83*, 1065-1072.

Weiss, B., & Weisz, J. R. (1988). Factor structure of self-reported depression: clinic-referred

children versus adolescents. *Journal of Abnormal Psychology, 97*, 492-495.

Werry, J. S., Reeves, J. C., & Elkind, G. S. (1987). Attention deficit, conduct, oppositional, and anxiety disorders in children: I. A review of research on differentiating characteristics. *Journal of the American Academy of Child and Adolescent Psychiatry, 26*, 133-143.

Widiger, T. A., Hurt, S. W., Frances, A., Clarkin, J. F., & Gilmore, M. (1984). Diagnostic efficiency and DSM-III. *Archives of General Psychiatry, 41*, 1005-1012.

Williams, J. B. W. (1985a). The multiaxial system of DSM-III: where did it come from and where should it go? I. Its origins and critiques. *Archives of General Psychiatry, 42*, 175-180.

Williams, J. B. W. (1985b). The multiaxial system of DSM-III: where did it come from and where should it go? II. Empirical studies, innovations, and recommendations. *Archives of General Psychiatry, 42*, 181-186.

Williams, B. W., Spitzer, R. L., & Skodol, A. E. (1985). DSM-III in residency training: results from a national survey. *American Journal of Psychiatry, 142*, 755-758.

Wong, P. T. P., & Sproule, C. F. (1984). An attributional analysis of the locus of control construct and the Trent Attribution Profile. In H. M. Lefcourt (Ed.), *Research with the locus of control construct. Volume 3: Extensions and limitations* (pp. 309-360). Toronto: Academic Press.

Woodside, D. B., Brownstone, D., & Fisman, S. (1987). The dexamethasone suppression test and the children's depression inventory in psychiatric disorders in children. *Canadian Journal of Psychiatry, 32*, 2-4.

Worchel, F., Nolan, B., & Willson, V. (1987). New perspectives on child and adolescent depression. *Journal of School Psychology, 25*, 411-414.

World Health Organization. (1978). *International classification of diseases* (9th ed.). Geneva: Author.

World Health Organization. (1986, June). *Draft of the International Classification of Diseases*, 10th rev. unpublished manuscript.

Wylie, R. C. (1979). *The self concept, volume 2* (rev. ed.). Nebraska: University of Nebraska Press.

Yanish, D. L. & Battle, J. (1985). Relationship between self-esteem, depression and alcohol comsumption among adolescents. *Psychological Reports, 57*, 331-334.

Zimet, S. G., & Farley, G. K. (1987). How do emotionally disturbed children report their competencies and self-worth? *Journal of the American Academy of Child and Adolescent Psychiatry, 26*, 33-38.

Zuckerman, M., & Gerbasi, K. C. (1977). Dimensions of the I-E Scale and their relationship to other personality measures. *Educational and Psychological Measurements, 37*, 159-175.

Appendix A

DSM-III Diagnosis

Table A1

Coding Scheme for DSM-III Diagnosis

Affective and Related Disorders:

Code	Disorder	DSM-III Code
01	MDD, single episode	296.2x
02	MDD, psychotic features	296.24
03	MDD, recurrent	296.3x
04	MDD, in remission	296.26
05	Dysthymia	300.40
06	Cyclothymia	301.13
07	Bipolar, depressed	296.5x
08	Anorexia Nervosa	307.10
09	Bulimia	307.51

Conduct and Behavioral Disorders:

Code	Disorder	DSM-III Code
10	CD: Socialized, Non-aggressive	312.21
11	CD: Socialized, Aggressive	312.23
12	CD: Undersocialized, Non-aggressive	312.10
13	CD: Undersocialized, Aggressive	312.00
14	Oppositional	313.81

Attention Deficit Disorders:

Code	Disorder	DSM-III Code
17	ADD, not specified	--------
18	ADD, with hyperactivity	314.01
19	ADD, without hyperactivity	314.00
20	ADD, residual type	314.80

Anxiety Related Disorders:

Code	Disorder	DSM-III Code
21	Separation Anxiety	309.21
22	Avoidant Disorder	313.21
23	Overanxious Disorder	313.00
24	Panic Disorder	300.01
25	Generalized Anxiety Disorder	300.02
26	Obsessive Compulsive Disorder	300.03
27	Social Phobia	300.23
28	Simple Phobia	300.29
29	Post-Traumatic Stress Disorder	308.30,309.81
30	Agoraphobia	300.21,300.22

Adjustment Disorders:

Code	Disorder	DSM-III Code
31	With Depressed Mood	309.00
32	With Anxious Mood	309.24
33	With Mixed emotional features	309.28
34	With disturbance of Conduct	309.30
35	With Mixed Disturbance of Emotions and Conduct	309.40
36	With Work Or Academic Inhibition	309.23

Table A1 (con't)

Psychotic Disorders:

Code	Disorder	DSM-III Code
41	All subtypes of Schizophrenic Disorders	295's
42	Schizoid Disorder of Childhood or Adolescence	313.22
43	Schizoid Personality Disorder	301.20
44	Schizotypal Personality Disorder	301.22

Substance Abuse Disorders:

Code	Disorder	DSM-III Code
50	Mixed Abuse	305.9x
51	Alcohol Abuse	305.0x
52	Cocaine Abuse	305.6x
53	Cannabis Abuse	305.2x

Organic Brain Syndromes:

Code	Disorder	DSM-III Code
60	Organic Affective Syndrome	293.83
61	Organic Personality Syndrome	310.10

V-Codes:

Code	Disorder	DSM-III Code
70	Parent-child Problem	V61.20
71	Other specified family circumstances	V61.80
72	Borderline Intellectual Functioning	V62.88
73	Phase of life problems	V62.89
74	Other V-Codes	--------

Other Disorders:

Code	Disorder	DSM-III Code
78	Mental Retardation, all levels	317-319
79	Pervasive Developmental Disorder	299.0-299.8

Developmental disorders:

Code	Disorder	DSM-III Code
80	Mixed Specific Developmental	315.50
81	Developmental Reading Disorder	315.00
82	Developmental Arithmetic	315.10
83	Developmental Language	315.31
84	Developmental Disorder, not specified	--------

Personality Disorders:

Code	Disorder	DSM-III Code
85	Borderline Personality Disorder	301.83
86	All other categories	-------

Other Disorders/Problems:

Code	Disorder	DSM-III Code
97	Other diagnosis not included above	-------
98	diagnosis deferred	799.90
99	no diagnosis	V71.09

Table A2

Frequency Distribution
For Primary Diagnostic Categories

Data Code[1]	Psychiatrist	Intake
01	48	29
02	2	2
03	8	12
04	3	3
Total MDD (01 to 04):	***61***	***56***
05	30	32
Total DYS (05):	***30***	***32***
06	0	0
07	1	1
08	0	0
09	1	1
10	23	28
11	4	4
12	4	2
13	4	3
Total CD (10 to 13):	***35***	***36***
14	16	21
Total OPP (14):	***16***	***21***
17	0	0
18	4	6
19	5	8
20	4	6
Total ADD (17 to 20):	***13***	***20***
21	5	8
22	1	0
23	2	4
24	0	1
25	1	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
Total ANX (21 to 30):	***9***	***13***
31	2	2
32	0	0
33	1	0
34	0	0
35	2	4
36	1	0
Total ADJ (31 to 36):	***6***	***6***

[1] Please refer to Table A1 for cross-reference to DSM-III diagnostic categories.

Table A2 (con't)

Data Code	Psychiatrist	Intake
41	6	5
42	2	2
43	0	0
44	0	0
Total PSY (41 to 44):	***8***	***7***
50	2	2
51	0	0
52	0	0
53	2	2
Total SUB (50 to 53):	***4***	***4***
60	1	2
61	1	1
Total OBS (60, 61):	***2***	***3***
70	10	5
71	1	3
72[1]	4	2
73	0	1
74	0	2
Total VC (70,71,73,74):	***11***	***13***
78	1	1
79	2	0
Total MR (78, 79):	***3***	***1***
80	4	3
81	0	0
82	0	0
83	0	0
84	0	0
Total DEV (80 to 84):	***4***	***3***
85	1	1
86	0	0
Total PERS (85, 86):	***1***	***1***
97	0	1
98	3	3
99	2	1
Total Other (97 to 99):	***5***	***5***

[1] This diagnostic category, Borderline Intellectual Functioning, was not included in the V-Codes group because of the adolescents' possible difficulties in understanding the questionnaires.

Table A3

Frequency Distribution For Secondary Diagnostic Categories

Data Code[1]	Psychiatrist	Intake
01	5	8
03	0	2
04	1	0
Total MDD (01 to 04):	***6***	***10***
05	8	20
Total DYS (05):	***8***	***20***
08	1	1
10	17	16
11	2	2
12	0	2
13	0	2
Total CD (10 to 13):	***19***	***22***
14	22	16
Total OPP (14):	***22***	***16***
18	1	0
19	1	2
20	6	5
Total ADD (17 to 20):	***8***	***7***
21	5	3
22	1	2
23	2	2
24	2	0
25	1	0
26	0	1
29	1	1
Total ANX (20 to 30):	***12***	***9***
31	0	2
35	1	1
Total ADJ (31 to 36):	***1***	***3***
41	1	1
42	0	1
Total PSY (41 to 44):	***1***	***2***
50	2	0
53	0	1
Total SUB (50 to 53):	***2***	***1***
61	1	1
Total OBS (60,61):	***1***	***1***
70	13	16
71	7	7
73	0	1
Total VC (70,71,73,74):	***20***	***24***

[1] Please refer to Table A1 for cross-reference to DSM-III diagnostic categories.

Table A3 (con't)

Data Code	Psychiatrist	Intake
79	1	1
Total MR (78,79)	***1***	***1***
80	0	2
Total DEV (80 to 84):	***0***	***2***
97	0	2
Total OTHER (97 to 99):	***0***	***2***

Table A4

Frequency Distribution Of Tertiary Diagnostic Categories

Data Code[1]	Psychiatrist	Intake
01	1	1
Total MDD (01 to 04):	***1***	***1***
05	0	3
Total DYS (05):	***0***	***3***
10	3	1
11	0	1
Total CD (10 to 13):	***3***	***2***
14	1	3
Total OPP (14):	***1***	***3***
20	1	1
Total ADD (17 to 20):	***1***	***1***
50	3	0
53	0	1
Total SUB (50 to 53):	***3***	***1***
70	1	2
71	6	10
72	1	2
74	0	2
Total VC (70,71,73,74):	***7***	***14***
79	1	0
Total MR (78,79):	***1***	***0***

[1] Please refer to Table A1 for cross-reference to DSM-III diagnostic categories.

Appendix B

I-E Scale Items

Table B1

Rotter's Internal-External Scale

External Alternatives

2a. Many of the unhappy things in people's lives are partly due to bad luck.
3b. There will always be wars, no matter how hard people try to prevent them.
4b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5b. Most students don't realize the extend to which their grades are influenced by accidental happenings.
6a. Without the right breaks one cannot be an effective leader.
7a. No matter how hard you try some people just don't like you.
9a. I have often found that what is going to happen will happen.
10b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11b. Getting a good job depends mainly on being in the right place at the right time.
12b. This world is run by the few people in power, and there is not much the little guy can do about it.
13b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyways.
15b. Many times we might just as well decide what to do by flipping a coin.
16a. Who gets to be the boss often depends on who was lucky to be in the right place first.
17a. As far as world affairs are concerned, most of us are the victim of forces we can neither understand, nor control.
18a. Most people don't realize the extend to which their lives are controlled by accidental happenings.
20a. It is hard to know whether or not a person really likes you.
21a. In the long run the bad things that happen to us are balanced by the good ones.
22b. It is difficult for people to have much control over the things politicians do in office.
23a. sometimes I can't understand how teachers arrive at the grades they give.
25a. Many times I feel that I have little influence over the things that happen to me.
26b. There's not much use in trying too hard to please people, if they like you, they like you.
28b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29a. Most of the time I can't understand why politicians behave the way they do.

Internal Alternatives

2b. People's misfortunes results from the mistakes they make.
3a. One of the major reasons why we have wars is because people don't take enough interest in politics.
4a. In the long run people get the respect they deserve in this world.
5a. The idea that teachers are unfair to students is nonsense.
6b. Capable people who fail to become leaders have not taken advantage of their opportunities.
7b. People who can't get others to like them don't understand how to get along with others.
9b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.
10a. In the case of the well prepared student there is rarely if ever such a thing as unfair test.
11a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
12a. The average citizen can have an influence in government decisions.
13a. When I make plans, I am almost certain that I can make them work.
15a. In my case getting what I want has little or nothing to do with luck.
16b. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.
17b. By taking an active part in political and social affairs the people can control world events.
18b. There is really no such thing as "luck".
20b. How many friends you have depends upon how nice a person you are.
21b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.
22a. With enough effort we can wipe out political corruption.
23b. There is a direct connection between how hard I study and the grades I get.
25b. It is impossible for me to believe that chance or luck plays an important role in my life.
26a. People are lonely because they don't try to be friendly.
28a. What happens to me is my own doing.
29b. In the long run the people are responsible for bad government on a national as well as on a local level.

Table B2

World and Self Attribution Perspectives of the I-E Scale

World Attribution: Non-Controllable Items (16 items):

2a. Many of the unhappy things in people's lives are partly due to bad luck.
3b. There will always be wars, no matter how hard people try to prevent them.
4b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
5b. Most students don't realize the extend to which their grades are influenced by accidental happenings.
6a. Without the right breaks one cannot be an effective leader.
9a. I have often found that what is going to happen will happen.
11b. Getting a good job depends mainly on being in the right place at the right time.
13b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyways.
15b. Many times we might just as well decide what to do by flipping a coin.
16a. Who gets to be the boss often depends on who was lucky to be in the right place first.
18a. Most people don't realize the extend to which their lives are controlled by accidental happenings.
21a. In the long run the bad things that happen to us are balanced by the good ones.
25a. Many times I feel that I have little influence over the things that happen to me.
26b. There's not much use in trying too hard to please people, if they like you, they like you.
28b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29a. Most of the time I can't understand why politicians behave the way they do.

World Perspective: Powerful Others Items (6 items):

7a. No matter how hard you try some people just don't like you.
10b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
12b. This world is run by the few people in power, and there is not much the little guy can do about it.
17a. As far as world affairs are concerned, most of us are the victim of forces we can neither understand, nor control.
22b. It is difficult for people to have much control over the things politicians do in office.
23a. sometimes I can't understand how teachers arrive at the grades they give.

Self Perspective: Passive Agent Items (12 items):

3b. There will always be wars, no matter how hard people try to prevent them.
4b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.
6a. Without the right breaks one cannot be an effective leader.
7a. No matter how hard you try some people just don't like you.
10b. Many times exam questions tend to be so unrelated to course work that studying is really useless.
11b. Getting a good job depends mainly on being in the right place at the right time.
12b. This world is run by the few people in power, and there is not much the little guy can do about it.
13b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyways.
15b. Many times we might just as well decide what to do by flipping a coin.
16a. Who gets to be the boss often depends on who was lucky to be in the right place first.
22b. It is difficult for people to have much control over the things politicians do in office.
26b. There's not much use in trying too hard to please people, if they like you, they like you.

Self Perspective: Victim Items (10 items):

2a. Many of the unhappy things in people's lives are partly due to bad luck.
5b. Most students don't realize the extend to which their grades are influenced by accidental happenings.
9a. I have often found that what is going to happen will happen.
17a. As far as world affairs are concerned, most of us are the victim of forces we can neither understand, nor control.
18a. Most people don't realize the extend to which their lives are controlled by accidental happenings.
21a. In the long run the bad things that happen to us are balanced by the good ones.
23a. sometimes I can't understand how teachers arrive at the grades they give.
25a. Many times I feel that I have little influence over the things that happen to me.
28b. Sometimes I feel that I don't have enough control over the direction my life is taking.
29a. Most of the time I can't understand why politicians behave the way they do.

Appendix C

Analysis of Multiple Diagnosis

Table C1

Analysis of Variance Tables
Number of Diagnoses As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	5.787	2	2.893	0.039	.962
Error	15542.667	211	73.662		

Variable: IE

Source	SS	DF	MS	F	P
Gr	71.146	2	35.573	3.204	.043
Error	2342.349	211	11.101		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	22.034	2	11.019	2.924	.056
Error	795.257	211	3.769		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	8.939	2	4.470	1.335	.265
Error	706.183	211	3.347		

Variable: NC

Source	SS	DF	MS	F	P
Gr	47.871	2	23.936	4.528	.012
Error	1115.274	211	5.286		

Variable: PO

Source	SS	DF	MS	F	P
Gr	1.641	2	0.821	0.393	.675
Error	440.340	211	2.087		

Table C1 (con't)
Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	45.435	2	22.717	0.150	.861
Error	31874.244	211	151.063		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	45.435	2	22.717	0.150	.861
Error	31874.244	211	151.063		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	297.844	2	148.922	0.965	.383
Error	32563.977	211	154.332		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	297.844	2	148.922	0.965	.383
Error	32563.977	211	154.332		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	88.061	2	44.030	0.489	.614
Error	19006.650	211	90.079		

Variable: R1 (T-score)

e	SS	DF	MS	F	P
	68.801	2	34.401	0.274	.761
rror	26498.064	211	125.583		

Table C1 (con't)
Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	387.633	2	193.816	1.729	.180
Error	23653.694	211	112.103		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	51.616	2	25.808	0.298	.743
Error	18329.313	211	86.624		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	844.858	2	422.429	0.326	.722
Error	273603.093	211	1296.697		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	129.310	2	64.655	0.314	.731
Error	43483.793	211	206.084		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	618.314	2	309.157	1.272	.283
Error	51290.920	211	243.085		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	30.919	2	15.459	0.104	.902
Error	31476.357	211	149.177		

Table C2

Two Sample T-Test Tables
Multiple Versus Single Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	13.554	212	-0.27	.786
Single	13.873			

Variable: IE

Group	Mean	DF	T	P
Multiple	11.000	212	2.32	.021
Single	9.941			

Variable: PAG

Group	Mean	DF	T	P
Multiple	5.634	212	2.16	.032
Single	5.059			

Variable: VIC

Group	Mean	DF	T	P
Multiple	4.625	212	1.40	.163
Single	4.275			

Variable: NC

Group	Mean	DF	T	P
Multiple	7.232	212	2.82	.005
Single	6.343			

Variable: PO

Group	Mean	DF	T	P
Multiple	3.027	212	0.19	.853
Single	2.990			

*Number in Multiple group: 102; Number in Single group: 112

Table C2 (con't)

Variable: Prop PAG

Group	Mean	DF	T	P
Multiple	54.866	212	0.53	.600
Single	53.985			

Variable: Prop VIC

Group	Mean	DF	T	P
Multiple	45.134	212	-0.53	.600
Single	46.015			

Variable: Prop PO

Group	Mean	DF	T	P
Multiple	29.049	212	-1.39	.167
Single	31.399			

Variable: Prop NC

Group	Mean	DF	T	P
Multiple	70.951	212	1.39	.167
Single	68.601			

Variable: TOTP (T-score)

Group	Mean	DF	T	P
Multiple	37.152	212	0.96	.340
Single	35.912			

Variable: R1 (T-score)

Group	Mean	DF	T	P
Multiple	32.981	212	0.33	.744
Single	32.480			

Table C2 (cont')

Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	46.321	212	1.84	.068
Single	43.667			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	33.402	212	0.52	.606
Single	32.745			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	301.759	212	0.72	.472
Single	298.216			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	107.563	212	-0.12	.906
Single	107.794			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	98.795	212	1.55	.123
Single	95.500			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	95.393	212	0.29	.773
Single	94.912			

Table C3

Analysis of Variance Tables: MDD Groups Different Secondary Diagnosis* As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	86.085	3	28.695	0.318	.812
Error	4509.786	50	90.196		

Variable: IE

Source	SS	DF	MS	F	P
Gr	44.376	3	14.792	1.114	.352
Error	663.939	50	13.279		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	7.786	3	2.595	0.688	.563
Error	188.529	50	3.771		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	24.600	3	8.200	2.036	.121
Error	201.400	50	4.028		

Variable: NC

Source	SS	DF	MS	F	P
Gr	24.890	3	8.297	1.344	.271
Error	308.589	50	6.172		

Variable: PO

Source	SS	DF	MS	F	P
Gr	7.454	3	2.485	1.089	.362
Error	114.046	50	2.281		

* Categories are CD, OPP, VC, and none

Table C3 (con't)

Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	797.950	3	265.983	1.346	.270
Error	9881.052	50	197.621		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	797.950	3	265.983	1.346	.270
Error	9881.052	50	197.621		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	934.045	3	311.348	1.720	.175
Error	9052.295	50	181.046		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	934.045	3	311.348	1.720	.175
Error	9052.295	50	181.046		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	62.626	3	20.875	0.389	.761
Error	2680.707	50	53.614		

Variable: R1 (T-score)

Source	SS	DF	MS	F	P
Gr	171.482	3	57.161	0.568	.639
Error	5036.000	50	100.720		

Table C3 (con't)
Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	52.073	3	17.358	0.189	.903
Error	4582.761	50	91.655		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	49.991	3	16.664	0.221	.881
Error	3762.768	50	75.255		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	1776.894	3	592.298	0.525	.667
Error	56451.939	50	1129.039		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	401.915	3	133.972	0.712	.550
Error	9410.400	50	188.208		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	241.832	3	71.611	0.212	.810
Error	11131.168	50	222.623		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	149.018	3	49.673	0.319	.812
Error	7792.686	50	155.854		

Table C4

Two Sample T-Test Tables: MDD groups Multiple Versus Single Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	17.632	50	-0.35	.724
Single	18.546			

Variable: IE

Group	Mean	DF	T	P
Multiple	9.790	50	-1.09	.282
Single	10.909			

Variable: PAG

Group	Mean	DF	T	P
Multiple	4.842	50	-1.74	.088
Single	5.758			

Variable: VIC

Group	Mean	DF	T	P
Multiple	4.368	50	-0.04	.966
Single	4.394			

Variable: NC

Group	Mean	DF	T	P
Multiple	5.895	50	-1.51	.138
Single	6.970			

Variable: PO

Group	Mean	DF	T	P
Multiple	3.316	50	0.31	.756
Single	3.182			

*Number in Multiple group: 19; Number in Single group: 33

Table C4 (con't)

Group	Mean	DF	T	P
Variable: Prop PAG				
Multiple	51.193	50	-1.75	.086
Single	58.177			
Variable: Prop VIC				
Group	Mean	DF	T	P
Multiple	48.807	50	1.75	.086
Single	41.823			
Variable: Prop PO				
Group	Mean	DF	T	P
Multiple	34.916	50	0.89	.380
Single	31.530			
Variable: Prop NC				
Group	Mean	DF	T	P
Multiple	65.084	50	-0.89	.380
Single	68.470			
Variable: TOTP (T-score)				
Group	Mean	DF	T	P
Multiple	34.526	50	0.95	.347
Single	32.546			
Variable: R1 (T-score)				
Group	Mean	DF	T	P
Multiple	32.158	50	1.03	.310
Single	29.273			

Table C4 (con't)

Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	42.526	50	0.50	.617
Single	41.152			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	31.105	50	0.62	.541
Single	29.576			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	293.895	50	1.10	.276
Single	283.364			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	107.737	50	1.32	.193
Single	102.636			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	93.579	50	0.68	.498
Single	90.667			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	92.579	50	0.70	.485
Single	90.061			

Table C5

Analysis of Variance Tables: DYS Groups Different Secondary Diagnosis* As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	122.263	3	40.754	0.889	.462
Error	1054.700	23	45.857		

Variable: IE

Source	SS	DF	MS	F	P
Gr	44.246	3	14.749	1.301	.298
Error	260.717	23	11.336		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	13.000	3	4.333	1.021	.402
Error	97.667	23	4.246		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	4.950	3	1.650	0.622	.608
Error	61.050	23	2.654		

Variable: NC

Source	SS	DF	MS	F	P
Gr	18.383	3	6.128	1.099	.370
Error	128.283	23	5.578		

Variable: PO

Source	SS	DF	MS	F	P
Gr	0.700	3	0.233	0.107	.955
Error	49.967	23	2.173		

* Categories are CD, OPP, VC, and none

Table C5 (con't)
Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	510.431	3	170.144	1.505	.240
Error	2600.824	23	113.079		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	510.431	3	170.144	1.505	.240
Error	2600.824	23	113.079		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	130.837	3	43.512	0.275	.843
Error	3646.758	23	158.555		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	130.837	3	43.512	0.275	.843
Error	3646.758	23	158.555		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	139.117	3	46.370	0.730	.545
Error	1461.550	23	63.546		

Variable: RI (T-score)

Source	SS	DF	MS	F	P
Gr	98.491	3	32.830	0.161	.853
Error	2890.917	23	125.692		

Table C5 (con't)
Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	161.663	3	53.888	0.857	.477
Error	1446.633	23	62.897		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	345.324	3	115.108	1.700	.195
Error	1557.417	23	67.714		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	1739.130	3	579.710	0.630	.603
Error	21167.167	23	920.312		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	183.783	3	61.261	0.316	.814
Error	4458.883	23	193.865		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	325.357	3	108.423	0.791	.511
Error	3154.050	23	137.133		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	588.333	3	196.000	1.743	.186
Error	2588.333	23	112.536		

Table C6

Two Sample T-Test Tables: DYS Groups Single Versus Multiple Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	12.800	25	-0.14	.891
Single	13.167			

Variable: IE

Group	Mean	DF	T	P
Multiple	10.200	25	-1.31	.201
Single	11.917			

Variable: PAG

Group	Mean	DF	T	P
Multiple	5.267	25	-1.47	.154
Single	6.417			

Variable: VIC

Group	Mean	DF	T	P
Multiple	4.667	25	0.00	1.00
Single	4.667			

Variable: NC

Group	Mean	DF	T	P
Multiple	6.400	25	-1.21	.239
Single	7.500			

Variable: PO

Group	Mean	DF	T	P
Multiple	3.533	25	-0.09	.923
Single	3.583			

*Number in Multiple group: 15; Number in Single group: 12

Table C6 (con't)
Variable: Prop PAG

Group	Mean	DF	T	P
Multiple	52.225	25	-1.34	.192
Single	57.823			

Variable: Prop VIC

Group	Mean	DF	T	P
Multiple	47.775	25	1.34	.192
Single	33.918			

Variable: Prop PO

Group	Mean	DF	T	P
Multiple	34.426	25	0.11	.916
Single	33.918			

Variable: Prop NC

Group	Mean	DF	T	P
Multiple	65.572	25	-0.11	.916
Single	66.082			

Variable: TOTP (T-score)

Group	Mean	DF	T	P
Multiple	35.733	25	0.13	.893
Single	35.333			

Variable: R1 (T-score)

Group	Mean	DF	T	P
Multiple	32.800	25	0.35	.731
Single	31.333			

Table C6 (con't)
Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	43.867	25	0.36	.722
Single	42.750			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	32.400	25	-0.08	.938
Single	32.667			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	298.133	25	0.15	.885
Single	296.417			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	108.200	25	0.47	.645
Single	105.750			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	95.933	25	-0.11	.917
Single	96.417			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	94.000	25	-0.06	.955
Single	94.250			

Table C7

Analysis of Variance Tables: CD Groups Different Secondary Diagnosis* As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	429.864	5	85.973	1.708	.166
Error	1409.694	28	50.346		

Variable: IE

Source	SS	DF	MS	F	P
Gr	40.487	5	8.097	1.032	.418
Error	219.778	28	7.849		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	16.987	5	3.397	1.264	.307
Error	75.278	28	2.689		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	16.997	5	3.399	1.351	.272
Error	70.444	28	2.516		

Variable: NC

Source	SS	DF	MS	F	P
Gr	24.776	5	4.955	1.154	.356
Error	120.194	28	4.293		

Variable: PO

Source	SS	DF	MS	F	P
Gr	4.417	5	0.883	0.771	.579
Error	32.083	28	1.146		

* Categories are MDD, DYS, OPP, ADD, VC, and none

Table C7 (con't)
Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	941.729	5	188.346	1.722	.162
Error	3063.288	28	109.403		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	941.729	5	188.346	1.722	.162
Error	3063.288	28	109.403		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	492.945	5	98.589	1.019	.425
Error	2708.480	28	96.731		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	492.945	5	98.589	1.019	.425
Error	2708.480	28	96.731		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	991.987	5	198.397	2.108	.094
Error	2635.778	28	94.135		

Variable: R1 (T-score)

Source	SS	DF	MS	F	P
Gr	1372.806	5	274.561	1.793	.147
Error	4287.194	28	153.114		

Table C7 (con't)
Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	1136.637	5	227.328	2.886	.032
Error	2205.833	28	78.780		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	617.507	5	123.501	1.300	.292
Error	2659.111	28	94.968		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	12803.368	5	2560.674	2.571	.049
Error	27884.750	28	995.884		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	2258.438	5	451.688	2.003	.109
Error	6315.444	28	225.552		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	1679.363	5	335.873	2.077	.098
Error	4528.667	28	161.738		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	1003.139	5	200.628	1.588	.196
Error	3537.361	28	126.334		

Table C8

Two Sample T-Test Tables: CD groups Multiple Versus Single Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	10.563	32	0.56	.579
Single	9.111			

Variable: IE

Group	Mean	DF	T	P
Multiple	9.250	32	-1.82	.079
Single	10.944			

Variable: PAG

Group	Mean	DF	T	P
Multiple	4.688	32	-1.54	.133
Single	5.556			

Variable: VIC

Group	Mean	DF	T	P
Multiple	3.875	32	-1.55	.132
Single	4.722			

Variable: NC

Group	Mean	DF	T	P
Multiple	6.250	32	-1.97	.057
Single	7.611			

Variable: PO

Group	Mean	DF	T	P
Multiple	2.313	32	-0.98	.335
Single	2.667			

*Number of cases in Multiple group: 16; Number of cases in Single group: 18

Table C8 (con't)
Variable: Prop PAG

Group	Mean	DF	T	P
Multiple	54.408	32	-0.01	.995
Single	54.434			

Variable: Prop VIC

Group	Mean	DF	T	P
Multiple	45.592	32	0.01	.995
Single	45.566			

Variable: Prop PO

Group	Mean	DF	T	P
Multiple	26.296	32	0.06	.952
Single	26.087			

Variable: Prop NC

Group	Mean	DF	T	P
Multiple	73.704	32	-0.06	.952
Single	73.913			

Variable: TOTP (T-score)

Group	Mean	DF	T	P
Multiple	36.563	32	-2.09	.045
Single	43.722			

Variable: R1 (T-score)

Group	Mean	DF	T	P
Multiple	31.750	32	-1.38	.176
Single	37.889			

Table C8 (con't)

Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	44.313	32	-3.23	.003
Single	54.167			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	33.625	32	-1.48	.148
Single	38.611			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	299.875	32	-2.41	.022
Single	327.000			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	105.188	32	-1.71	.097
Single	114.389			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	98.563	32	-2.64	.013
Single	110.000			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	96.063	32	-1.65	.108
Single	102.556			

Table C9

Two Sample T-Test Tables: OPP groups Multiple Versus Single Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	7.400	14	-0.72	.484
Single	9.636			

Variable: IE

Group	Mean	DF	T	P
Multiple	9.600	14	-0.37	0.718
Single	10.455			

Variable: PAG

Group	Mean	DF	T	P
Multiple	5.000	14	-0.51	.615
Single	5.727			

Variable: VIC

Group	Mean	DF	T	P
Multiple	4.000	14	-0.16	.879
Single	4.182			

Variable: NC

Group	Mean	DF	T	P
Multiple	5.600	14	-0.90	.384
Single	6.909			

Variable: PO

Group	Mean	DF	T	P
Multiple	3.400	14	0.50	.627
Single	3.000			

*Number of cases in Multiple group: 5; Number of cases in Single group: 11

Table C9 (con't)
Variable: Prop PAG

Group	Mean	DF	T	P
Multiple	55.838	14	-0.15	.881
Single	57.118			

Variable: Prop VIC

Group	Mean	DF	T	P
Multiple	44.162	14	0.15	.881
Single	42.882			

Variable: Prop PO

Group	Mean	DF	T	P
Multiple	37.971	14	1.35	.199
Single	30.868			

Variable: Prop NC

Group	Mean	DF	T	P
Multiple	62.029	14	-1.35	.199
Single	69.132			

Variable: TOTP (T-score)

Group	Mean	DF	T	P
Multiple	43.000	14	1.09	.293
Single	37.909			

Variable: R1 (T-score)

Group	Mean	DF	T	P
Multiple	41.200	14	1.51	.153
Single	31.818			

Table C9 (con't)
Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	49.400	14	-0.03	.979
Single	49.546			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	38.800	14	1.57	.139
Single	33.273			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	324.200	14	1.07	.301
Single	306.364			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	118.000	14	1.58	.138
Single	106.636			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	103.200	14	-0.05	.963
Single	103.546			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	103.000	14	1.57	.140
Single	96.182			

Table C10

Analysis of Variance Tables: ADD groups
Different Secondary Diagnosis* As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	40.389	2	20.194	.395	.690
Error	307.167	6	51.194		

Variable: IE

Source	SS	DF	MS	F	P
Gr	18.722	2	9.361	3.092	.119
Error	18.167	6	3.028		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	11.639	2	5.819	3.521	.097
Error	9.917	6	1.653		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	5.556	2	2.778	1.136	.382
Error	14.667	6	2.444		

Variable: NC

Source	SS	DF	MS	F	P
Gr	8.556	2	4.278	1.878	.233
Error	13.667	6	2.278		

Variable: PO

Source	SS	DF	MS	F	P
Gr	2.306	2	1.153	0.522	.618
Error	13.250	6	2.208		

* Categories are CD, OPP, and none

Table C10 (con't)
Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	302.603	2	151.302	1.143	.380
Error	794.448	6	132.408		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	302.603	2	151.302	1.143	.380
Error	794.448	6	132.408		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	55.467	2	27.734	0.155	.860
Error	1075.157	6	179.193		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	55.467	2	27.734	0.155	.860
Error	1075.157	6	179.193		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	9.472	2	4.736	0.213	.814
Error	133.417	6	22.236		

Variable: R1 (T-score)

Source	SS	DF	MS	F	P
Gr	53.722	2	26.861	0.190	.832
Error	848.500	6	141.417		

Table C10 (con't)
Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	107.000	2	53.500	1.717	.257
Error	187.000	6	31.167		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	56.806	2	28.403	1.146	.379
Error	148.750	6	24.792		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	135.333	2	67.667	0.119	.890
Error	3418.667	6	569.778		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	100.139	2	50.069	0.196	.827
Error	1533.417	6	255.569		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	224.583	2	112.292	1.599	.278
Error	421.417	6	70.236		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	165.889	2	82.944	1.097	.393
Error	453.667	6	75.611		

Table C11

Two Sample T-Test Tables: ADD groups Multiple Versus Single Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	12.625	10	-0.32	.759
Single	14.000			

Variable: IE

Group	Mean	DF	T	P
Multiple	11.500	10	1.57	.146
Single	9.500			

Variable: PAG

Group	Mean	DF	T	P
Multiple	5.875	10	1.20	.260
Single	4.750			

Variable: VIC

Group	Mean	DF	T	P
Multiple	4.750	10	0.71	.492
Single	4.000			

Variable: NC

Group	Mean	DF	T	P
Multiple	7.375	10	0.81	.435
Single	6.500			

Variable: PO

Group	Mean	DF	T	P
Multiple	3.250	10	1.05	.319
Single	2.250			

*Number of cases in Multiple group: 8; Number of cases in Single group: 4

Table C11 (con't)
Variable: Prop PAG

Group	Mean	DF	T	P
Multiple	55.566	10	0.01	.996
Single	55.530			

Variable: Prop VIC

Group	Mean	DF	T	P
Multiple	44.434	10	-0.01	.996
Single	44.470			

Variable: Prop PO

Group	Mean	DF	T	P
Multiple	30.147	10	0.80	.442
Single	24.337			

Variable: Prop NC

Group	Mean	DF	T	P
Multiple	69.853	10	-0.80	.442
Single	75.663			

Variable: TOTP (T-score)

Group	Mean	DF	T	P
Multiple	35.125	10	0.48	.639
Single	33.250			

Variable: R1 (T-score)

Group	Mean	DF	T	P
Multiple	35.250	10	0.32	.755
Single	33.000			

Table C11 (con't)
Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	42.625	10	-0.61	.558
Single	45.500			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	31.250	10	2.29	.045
Single	24.250			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	297.625	10	0.47	.652
Single	290.000			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	110.250	10	0.11	.915
Single	109.250			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	93.750	10	-0.65	.529
Single	98.250			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	93.625	10	2.25	.048
Single	82.500			

Table C12

Two Sample T-Test Tables: VC groups Multiple Versus Single Diagnoses

Variable: CDI

Group*	Mean	DF	T	P
Multiple	11.000	9	-0.37	.723
Single	14.222			

Variable: IE

Group	Mean	DF	T	P
Multiple	10.500	9	0.02	.988
Single	10.444			

Variable: PAG

Group	Mean	DF	T	P
Multiple	5.000	9	0.50	.629
Single	4.222			

Variable: VIC

Group	Mean	DF	T	P
Multiple	5.000	9	-0.34	.744
Single	5.556			

Variable: NC

Group	Mean	DF	T	P
Multiple	7.500	9	0.19	.855
Single	7.111			

Variable: PO

Group	Mean	DF	T	P
Multiple	2.500	9	-0.14	.891
Single	2.667			

*Number of cases in Multiple group: 2; Number of cases in Single group: 9

Table C12 (con't)
Variable: Prop PAG

Group	Mean	DF	T	P
Multiple	50.000	9	0.94	.369
Single	42.315			

Variable: Prop VIC

Group	Mean	DF	T	P
Multiple	50.000	9	-0.94	.369
Single	57.685			

Variable: Prop PO

Group	Mean	DF	T	P
Multiple	22.619	9	-0.35	.731
Single	25.958			

Variable: Prop NC

Group	Mean	DF	T	P
Multiple	77.381	9	0.35	.731
Single	74.042			

Variable: TOTP (T-score)

Group	Mean	DF	T	P
Multiple	39.500	9	-0.32	.753
Single	42.889			

Variable: RI (T-score)

Group	Mean	DF	T	P
Multiple	37.000	9	-0.06	.952
Single	37.778			

Table C12 (con't)
Variable: R2 (T-score)

Group	Mean	DF	T	P
Multiple	51.000	9	-0.32	.759
Single	54.111			

Variable: R3 (T-score)

Group	Mean	DF	T	P
Multiple	31.000	9	-0.67	.519
Single	38.556			

Variable: TOTP (Raw score)

Group	Mean	DF	T	P
Multiple	316.000	9	-0.14	.890
Single	321.222			

Variable: R1 (Raw score)

Group	Mean	DF	T	P
Multiple	114.500	9	0.28	.783
Single	110.667			

Variable: R2 (Raw score)

Group	Mean	DF	T	P
Multiple	107.000	9	-0.18	.860
Single	109.444			

Variable: R3 (Raw score)

Group	Mean	DF	T	P
Multiple	94.500	9	-0.47	.652
Single	101.111			

Table C13

Analysis of Variance Tables: ADD-CD Groups Different Secondary Diagnosis* As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	91.401	3	30.467	0.694	.565
Error	1053.028	24	43.876		

Variable: IE

Source	SS	DF	MS	F	P
Gr	45.484	3	15.161	2.008	.140
Error	181.194	24	7.550		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	11.663	3	3.888	1.544	.229
Error	60.444	24	2.519		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	10.353	3	3.451	1.243	.316
Error	66.611	24	2.776		

Variable: NC

Source	SS	DF	MS	F	P
Gr	21.401	3	7.134	1.712	.193
Error	100.028	24	4.168		

Variable: PO

Source	SS	DF	MS	F	P
Gr	3.607	3	1.202	0.735	.541
Error	39.250	24	1.635		

* Gr 1: CD+ADD; Gr 2: ADD+CD; Gr 3: CDsingle; Gr 4: ADDsingle

Table C13 (con't)
Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	129.849	3	43.283	0.423	.739
Error	2458.910	24	102.455		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	129.849	3	43.283	0.423	.739
Error	2458.910	24	102.455		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	87.440	3	29.147	0.229	.876
Error	3058.055	24	127.419		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	87.440	3	29.147	0.229	.876
Error	3058.055	24	127.419		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	680.353	3	226.784	2.319	.101
Error	2347.361	24	97.807		

Variable: R1 (T-score)

Source	SS	DF	MS	F	P
Gr	336.401	3	112.134	0.717	.552
Error	3754.278	24	156.428		

Table C13 (con't)
Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	636.179	3	212.060	2.360	.097
Error	2156.500	24	89.854		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	968.329	3	322.777	3.269	.039
Error	3338.107	24	98.741		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	8118.214	3	2706.071	2.609	[illegible]
Error	24896.750	24	1037.365		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	334.829	3	111.610	0.528	.667
Error	5075.028	24	211.460		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	1180.929	3	393.643	2.429	.090
Error	3889.750	24	162.073		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	1814.484	3	604.828	4.553	.012
Error	3188.194	24	132.841		

Table C14

Analysis of Variance Tables: CD-MDD Groups Different Secondary Diagnosis* As Between Group Factor

Variable: CDI

Source	SS	DF	MS	F	P
Gr	1177.365	3	392.455	5.392	.002
Error	4294.355	59	72.786		

Variable: IE

Source	SS	DF	MS	F	P
Gr	36.723	3	12.241	1.013	.393
Error	712.705	59	12.080		

Variable: PAG

Source	SS	DF	MS	F	P
Gr	9.440	3	3.147	0.901	.446
Error	206.116	59	3.494		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	8.346	3	2.782	0.703	.554
Error	233.654	59	3.960		

Variable: NC

Source	SS	DF	MS	F	P
Gr	26.046	3	8.682	1.468	.233
Error	348.939	59	5.914		

Variable: PO

Source	SS	DF	MS	F	P
Gr	2.817	3	0.937	0.500	.684
Error	110.618	59	1.875		

* Gr 1: MDD+CD; Gr 2: CD+MDD; Gr 3: MDDsingle; Gr 4: CDsingle

Table C14 (con't)
Variable: Prop PAG

Source	SS	DF	MS	F	P
Gr	306.770	3	102.257	0.529	.664
Error	11407.586	59	193.349		

Variable: Prop VIC

Source	SS	DF	MS	F	P
Gr	306.770	3	102.257	0.529	.664
Error	11407.586	59	193.349		

Variable: Prop NC

Source	SS	DF	MS	F	P
Gr	318.639	3	106.213	0.725	.541
Error	8641.899	59	146.473		

Variable: Prop PO

Source	SS	DF	MS	F	P
Gr	318.639	3	106.213	0.725	.541
Error	8641.899	59	146.473		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	1543.392	3	514.464	7.501	.0002
Error	4044.354	59	68.548		

Variable: RI (T-score)

Source	SS	DF	MS	F	P
Gr	828.064	3	276.021	2.553	.064
Error	6378.349	59	108.108		

Table C14 (con't)

Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	2229.169	3	743.056	7.217	.0003
Error	6074.546	59	102.958		

Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	999.355	3	333.118	3.638	.018
Error	5402.296	59	91.564		

Variable: TOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	23195.223	3	7731.741	50673	.0006
Error	68361.761	59	1158.674		

Variable: R1 (Raw score)

Source	SS	DF	MS	F	P
Gr	1554.854	3	518.285	2.695	.054
Error	11341.749	59	192.233		

Variable: R2 (Raw score)

Source	SS	DF	MS	F	P
Gr	4875.012	3	1625.004	7.170	.0003
Error	13372.418	59	226.651		

Variable: R3 (Raw score)

Source	SS	DF	MS	F	P
Gr	1928.084	3	642.695	3.928	.013
Error	9653.630	59	163.621		

Appendix D

Individual and Cross-Scale Factor Analysis

Suitability of Self-Report Scales for an Adolescent Population - Factor Analysis

Several criteria were used to determine the final number of factors: the scree test, results from the literature, and above all the interpretability of the factors. Two different rotations were used on the final number of factors extracted: varimax and oblique. The factors from the varimax rotation are orthogonal to each other, that is, there is minimal correlation among the factors. However, for oblique rotations, the factors can be correlated.

The cut-off for inclusion of an item for a particular factor was a loading of at least 0.3 on only one factor and minor loadings on others. An item with two loadings of at least 0.3 might still be used provided that one of the loadings is considerably larger than the other (such as 0.65 and 0.35). The item would then be counted with the larger loading factor. For factor interpretation, it was often clearer when only items with at least 0.4 loadings were considered.

Factor analysis was performed on the entire sample as well as for males and females. Generally, the factor solutions for the male and female subsamples were not as stable and interpretable as those for the entire sample. As well, for some of the analyses, the relatively small female sample (85) made factor analytic techniques inappropriate (such as for the *TSCS* test). Thus, only the results from the entire sample would be presented.

CDI Results

From the principal component method, the initial factor analysis revealed 8 factors accounting for 61% of the variance. The first factor accounted for 26% of the variance while three others have at least 5%. The scree plot of the eigenvalues suggested a 2-factor solution which would have only accounted for 33% of the variance. However, the 4-factor solution was more interpretable as well as accounting for a higher percentage of the variance (total 44.4%) (see Appendix D, Table D1). The results from the varimax rotation would be presented first. *Factor I* reflects sadness and general anhedonia (high loadings from items 10,1,11, and 9). *Factor II* reflects isolation and loneliness (high loadings from items 22,12,4,and 21). *Factor III* reflects oppositional and self-blaming behaviors (high loadings from items 5,8, and 26).

Factor IV reflects problems in schoo' (high loadings from items 15 and 23).

Results from the oblique rotation is quite similar. The interpretation of the factors in the 4-factor solutions are the same although the order of the factors and the loadings were slightly different. *Factor I* still reflects sadness and general anhedonia (high loadings from items 10,1,9,11, and 7). *Factor II* reflects oppositional and self-blaming behaviors (high loadings from items 5,8,26, and 3). Although the items were the same as from the varimax rotation, all the loadings were negative. *Factor III* reflects problems in school (high loadings from items 15 and 23). *Factor IV* reflects isolation and loneliness (high loadings from items 22,12,4, and 21).

Results from the principal axis extraction was quite different. Only two factors were extracted with eigenvalues greater than 1; accounting for 28% of the variance. Both rotations yielded very similar factors and loadings. *Factor I* reflects general anhedonia and social isolation (high loadings from items 4,11,20,10,24,17,21,9,12, and 22). *Factor II* still reflects oppositional and self-blaming behaviors (high loadings from items 5,8,26, and 27).

I-E Results

Initial principal component factoring yielded 10 factors accounting for 61% of the variance. The first factor accounted for 10.7% of the variance while 7 more accounted for at least 5% of the variance. The scree plot suggests the extraction of four factors which would account for 30% of the variance. However, the literature would suggest a 2-factor solution (see Appendix D, Table D2). When the 2-factor solution was compared to that of the 4-factor solution, the pattern of loadings was similar for both factors. The *2-factor* solution was chosen over the other. Both the varimax and the oblique rotations resulted in the *same* loadings. *Factor I* received high loadings from items 17,12,18,26,28,22,25. *Factor II* received high loadings from items 11,16,15,10. The variance accounted for by these two factors was 18%. Although Factor I contains items dealing with issues of control about the world as well as the self, it seems to deal more with feelings of externality about *world* or *political affairs*. *Factor II* seems to contain items dealing with feelings of *passivity* about the self.

Principal axis analysis resulted in only *one* general factor using the eigenvalue criterion. The high loadings were from items 18,12,15,16,17,and 25. When a two-factor solution was imposed on the data, the pattern of loadings was essentially the same for both kinds of rotations. These patterns matched those from the principal component analysis.

TSCS Results

Initial principal component analysis extracted 27 factors accounting for 69% of the variance. The first factor accounted for 15% of the variance with only one other factor accounting for at least 5% of the variance. The scree plot suggested two breaks at either 6 or 8 factors. According to Fitts and other research on the *TSCS*, there are several sets of factors that are of interest. Based on these considerations, four different sets of solutions were performed: three, five, eight, and fifteen factors (see Appendix D, Table D3 for the 5-factor solution). Both the varimax and oblique rotations were attempted on each of these solutions. The oblique rotation was not stable for any of the four solutions. Only the results of the varimax rotations would be presented.

According to Fitts, each item has both an internal and external frame of reference (for example, item 1 belongs both to Row 1 and Column A or *Identity* and *Physical Self*). Interpretation would be based on these two frames of reference.

Table D4 summarized the different factor solutions with their accompanying interpretations. Overall, the three scales within the *internal* dimension were reasonably reproduced. The strongest and most consistently expressed scale was the *Ident Scale*. For the external dimension, only four out of the five scales were reasonably reproduced. The strongest and most consistently expressed was the *Family Self* Scale. The weakest scale seemed to be the *Personal Self* Scale. It was only expressed in the fifteen factor solution.

In terms of the choice of the factor solutions, the five-factor solution seems to be the best. It reproduced the *most* number of scales in both dimensions without extracting *trivial* factors. Both the eight and fifteen factor solutions tended to fragment the scales resulting in many factors that contain no specific interpretable patterns. The three factor solution was too

overinclusive, which also created factors that contain no specific interpretable patterns.

Very similar results were obtained from the principal axis analysis of the *TSCS*. The initial analysis produced 18 factors. However, this solution was unstable under the iterative procedure. This procedure eventually resulted in a stable 14-factor solution. As with the principal component analysis, the oblique rotation was not stable for any of the factor solutions. Thus, only the varimax rotation results would be presented. As with the principal component analysis, all three scales for the internal dimension were reasonably reproduced. All scales for the external dimension with the exception of the *Personal Self* Scale were reasonably reproduced. Finally, the 5-factor solution was the best in terms of maximizing the number of scales reproduced and minimizing the number of trivial factors extracted.

Table D1

Principal Component Analysis CDI Scale
Varimax Rotation
Four Factor Solution Factor Loadings

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4
C10	673	**813**	035	-026	097
C01	591	**706**	101	258	123
C11	601	**659**	280	240	169
C09	433	**620**	178	131	-003
C07	565	**580**	213	426	-033
C20	388	(418)	(417)	033	197
C14	317	361	325	286	-012
C13	202	311	040	099	307
C19	163	211	192	-209	193
			Fact 2		
C22	544	-037	**730**	-026	090
C12	544	153	**698**	040	-180
C04	526	387	**590**	129	107
C21	396	131	**510**	123	321
C24	309	(336)	(398)	105	162
C18	154	130	336	036	150
				Fact 3	
C05	574	122	088	**742**	-027
C08	538	218	-176	**668**	116
C26	396	-019	-040	**585**	227
C03	513	343	282	**536**	166
C27	452	-036	407	**520**	117
C06	476	312	(386)	(454)	-153
C02	432	277	(384)	(408)	203
C25	435	240	(402)	(436)	-160
C16	245	164	302	303	189
					Fact 4
C15	550	044	041	083	**735**
C23	541	050	117	199	**697**
C17	405	(393)	213	-121	(437)
Eigenvalues		7.03	1.88	1.58	1.47
%Variance		13.63	12.17	11.56	6.95

Notes:

1. All commonalities and factor loadings are shown without decimals. For example, for item C10, the commonality is 0.673 and the loading on Fact 1 is 0.813.
2. Loadings in **boldface** are considered to be part of the specified factor; items with loadings in parenthesis reflect loadings in more than one factor and are not considered in any factor.

Table D2

Principal Component Analysis I-E Scale
Two Factor Solution Varimax Rotation
Factor Loadings

Item	Comm	Fact 1	Fact 2
I17	386	**620**	-040
I12	344	**586**	031
I18	269	**484**	187
I26	230	**475**	-070
I28	188	**431**	051
I22	193	**430**	091
I25	197	**419**	146
I29	171	371	-181
I04	055	188	140
			Fact 2
I11	338	-027	**581**
I16	350	156	**571**
I15	352	170	**569**
I10	271	-194	**483**
I06	136	097	355
I20	089	-005	298
I09	117	-197	279
I05	099	173	262
I02	100	185	258
I07	070	065	256
I23	120	244	247
I13	044	052	202
I03	024	015	155
I21	004	024	-057
Eigenvalues		2.46	1.69
%variance		9.47	8.57

Notes:

1. All commonalities and factor loadings are shown without decimals. For example, for item I17, the commonality is 0.386 and the loading on Fact 1 is 0.620.

2. Loadings in **boldface** are considered to be part of the specified factor.

Table D3

Principal Component Analysis TSCS Scale
Varimax Rotation
Five Factor Solution Factor Loadings

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5
T41	492	**680**	108	070	-063	095
T14	539	**627**	189	126	-019	307
T22	460	**624**	163	097	183	-041
T42	398	**551**	187	143	176	-087
T03	396	**542**	163	185	-092	181
T09	532	**517**	150	352	-080	334
T04	293	**511**	-027	042	170	-022
T37	393	**507**	320	110	008	148
T06	273	**487**	026	104	124	-094
T10	269	**486**	038	108	141	002
T46	379	**479**	009	129	271	243
T76	293	**472**	211	089	123	-051
T24	277	**472**	129	044	188	-011
T01	382	**439**	266	291	-150	108
T47	365	**425**	319	-078	149	233
T43	428	(419)	293	118	072	(385)
T74	219	**412**	128	-176	-018	042
T07	263	**403**	210	101	-124	173
T48	339	**401**	035	-170	295	248
T16	239	(377)	144	039	037	(272)
T19	269	(361)	(315)	182	031	-074
T83	337	345	259	-161	253	246
T59	224	342	2234	-116	207	-029
T08	264	(340)	205	127	-104	(283)
T39	284	(339)	(330)	040	201	133
T40	201	305	219	226	095	-021
T88	153	297	173	-067	121	126
T50	179	267	056	194	137	218
T12	107	238	025	175	095	102
T86	097	211	182	030	123	055
T49	128	205	067	-085	204	181
T18	097	199	-107	113	119	137
T51	065	191	-004	006	128	-112
			Fact 2			
T15	388	156	**594**	-041	053	077
T33	430	137	**588**	223	014	-124
T87	430	196	**572**	-114	077	212
T85	382	024	**560**	203	152	053
T73	369	246	**548**	036	081	-007
T13	547	(422)	(494)	211	-088	270
T36	431	140	(475)	099	(415)	059
T78	351	285	**461**	-159	178	006
T56	375	(352)	(460)	158	-115	033
T02	261	240	**419**	165	007	-024
T71	177	066	-330	-227	102	046
T05	155	215	312	094	-035	031
T80	288	257	288	-057	260	261
T75	137	085	255	-202	-062	139
T68	108	077	241	124	-098	138

Table D3 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5
				Fact 3		
T57	449	142	110	**615**	-135	143
T55	466	149	170	**607**	-216	011
T69	398	180	104	**585**	111	-011
T72	509	191	-270	**570**	246	-120
T61	535	146	-052	(526)	071	(478)
T60	461	275	069	**517**	285	-180
T23	363	147	259	**482**	174	-110
T70	311	067	007	**471**	279	081
T32	328	196	313	**417**	081	108
T11	355	299	-212	**411**	172	150
T31	176	-034	126	390	-066	050
T21	279	049	286	367	204	-138
T20	205	-102	008	356	012	-261
T67	276	017	332	343	163	146
T58	200	195	223	324	-088	006
T90	168	146	183	-265	160	133
					Fact 4	
T30	377	110	067	041	**598**	-034
T28	418	212	166	107	**577**	040
T66	432	051	-023	-060	**554**	345
T35	331	-118	034	219	**496**	-145
T34	346	-135	279	115	**481**	-077
T53	303	-002	120	210	**472**	-147
T52	293	277	035	-037	**460**	050
T82	292	151	109	-163	**406**	257
T54	247	264	030	115	**400**	058
T65	269	-031	-084	-195	367	297
T84	297	229	146	-212	365	212
T64	203	128	-202	153	343	065
T38	213	147	297	-055	314	-033
T17	148	141	-061	060	306	165
T89	099	006	175	047	227	122
						Fact 5
T26	348	-087	135	-107	172	**530**
T29	283	-107	-006	-158	075	**491**
T45	394	287	111	237	130	**476**
T79	291	208	020	-147	-018	**474**
T27	347	-106	231	255	023	**466**
T63	465	223	-178	(418)	056	(454)
T62	396	-029	021	(407)	210	(431)
T44	193	176	-047	-031	-115	381
T81	317	304	281	108	000	367
T25	230	122	172	218	136	345
T77	080	138	154	-044	-034	-184
Eigenvalues		13.45	4.40	3.83	3.24	2.64
%variance		14.90	4.90	4.30	3.60	2.90

Notes:
1. All commonalities and factor loadings are shown without decimals. For example, for item T41, the commonality is 0.492 and the loading on Fact 1 is 0.680.
2. Loadings in boldface are considered to be part of the specified factor; items with loadings in parenthesis reflect loadings in more than one factor and are not considered in any factor.

Table D4

Interpretation of the TSCS Factor Analysis Principal Component Varimax Rotation

Three-Factor Solution:

Factor	#of Items with >.40 Loading	Internal[1]		External	
		Scale	# of Items[2]	Scale	# of Items
1	24	Identity	13/24	None	n/a
2	9	None	n/a	Family	7/9
3	7	Self Sat.	6/7	None	n/a

Five-Factor Solution:

Factor	#of Items with >.40 Loading	Internal		External	
		Scale	# of Items	Scale	# of Items
1	17	Identity	11/17	Phys	8/17
2	7	Behav	4/7	Social	4/7
3	8	None	n/a	Family 6/8	
4	8	Self Sat.	4/8		
		Behav	4/8	M-E	4/8
5	5	Self Sat.	5/5	M-E	3/5

Eight-Factor Solution:

Factor	#of Items with >.40 Loading	Internal		External	
		Scale	# of Items	Scale	# of Items
1	6	None	n/a	Phys	5/6
2	7	Behav	3/7	Family	7/7
3	6	Identity	5/6	None	n/a
4	5	Behav	3/5	None	n/a
5	7	Self Sat.	6/7	None	n/a
6	5	Self Sat.	5/5	M-E	3/5
7	3	None	n/a	None	n/a
8	1	None	n/a	None	n/a

[1] Internal and External refers to the frames of reference for the TSCS. The *three* scales within the Internal frame are: Identity, Self Satisfaction and Behavioral. Each scale has 30 items. The *eight* scales within the External frame are: Physical, Moral-Ethical, Personal, Family and Social. Each scale has 18 items. A factor is only labeled with a specific scale (eg. Identity) when more than half of its items (over 0.4 loading) belongs in one scale. Otherwise, "None" is entered.

[2] This refers to the number of items over 0.4 loading that belongs to the specific scale. For example, for Factor 1, there are 13 items from the Identity Scale that has a loading of over 0.4

Table D4 (con't)

Fifteen-Factor Solution:

Factor	#of Items with >.40 Loading	Internal		External	
		Scale	# of Items	Scale	# of Items
1	8	None	n/a	Phys	7/8
2	6	Identity	6/6	None	n/a
3	7	Behav	4/7		
		Identity	3/7	Family	7/7
4	4	Identity	3/4	None	n/a
5	4	Self Sat.	4/4	None	n/a
6	6	Self Sat.	6/6	M-E	4/5
7	5	Behav	3/5	M-E	4/5
8	2	Self Sat.	2/3	None	n/a
9	2	Behav	2/2	Personal	2/2
10	3	Behav	3/3	Social	3/3
11	3	Behav	3/3	Personal	2/3
12	3	None	n/a	M-E	3/3
13	2	Identity	2/2	None	n/a
14	2	None	n/a	Family	2/2
15	1	None	n/a	None	n/a

Table D5

Principal Component Analysis
TSCS + CDI + I-E Scales
Seven Factor Solution Varimax Rotation
Factor Loadings

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6	Fact 7
T13	536	689	-072	160	-011	168	040	002
T87	425	576	-050	-200	191	-036	-044	-105
T56	460	573	-023	128	-028	052	-222	-250
T15	386	554	103	-050	129	015	-121	184
T01	364	538	-120	207	-088	037	056	-075
T41	406	535	-181	044	-008	207	198	-053
T47	475	529	-191	-075	268	-006	163	-234
T43	435	521	-155	123	151	170	212	-168
T09	582	511	-255	304	-029	099	293	-258
T73	327	498	-085	-018	149	050	-216	009
T14	563	(490)	-174	107	065	(433)	119	-274
T33	427	488	102	221	054	-028	-354	-004
T37	410	482	-322	033	052	244	008	-100
T81	316	468	-071	110	087	052	178	-193
T07	282	466	-102	066	-048	-026	161	-145
T03	413	455	-217	124	-042	272	129	-226
T22	369	450	-223	083	214	229	040	100
T19	315	446	-215	150	006	082	-145	139
T02	260	440	-030	121	043	103	-156	116
T78	340	431	-037	-165	256	160	-171	071
T39	332	419	-265	-006	249	048	048	140
T32	359	(417)	-066	(404)	095	-058	040	051
T80	323	415	032	-002	345	137	090	056
T42	309	408	-268	120	172	147	-050	045
T08	252	403	-171	066	-079	144	167	-027
T58	239	400	-032	257	-064	-075	023	041
T85	294	397	-048	161	170	013	-248	134
T05	208	389	-140	045	004	-014	-018	185
T83	379	383	-118	-168	362	116	080	-199
T76	273	366	-285	017	128	189	-075	-009
T45	352	340	-033	241	174	217	310	-058
T40	185	347	-151	166	110	-027	-035	029
T16	253	344	-079	-010	129	208	133	-226
T24	251	335	-214	028	189	224	-017	079
T25	281	315	032	250	205	013	276	007
T46	390	308	-162	206	303	270	183	-169
T59	267	299	-186	-128	219	206	-080	174
T68	100	268	-013	091	-097	005	-014	099
T75	190	267	-013	-233	038	-041	-062	-239
T88	203	247	-181	-116	139	273	002	-035
T12	157	222	-093	184	147	-071	144	-132
			Fact 2					
C11	568	-061	708	001	-023	-174	-054	170
C03	488	-063	662	-180	-059	-051	089	002
C07	521	-269	639	-052	-015	-104	-084	151
C02	414	-180	614	-014	011	005	059	040
C04	473	-169	609	055	-099	-246	020	-006
C01	440	011	607	-148	-040	-193	027	101
C06	440	-132	596	027	-210	095	038	107
C25	439	-200	580	-006	099	188	119	063

Table D5 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6	Fact 7
C09	320	-034	531	003	-164	-100	009	003
C27	448	-016	519	-060	-185	026	289	-236
C05	463	-009	515	-242	-100	297	178	-100
C21	284	-134	501	057	090	-054	-012	027
C16	262	-009	497	-043	-026	052	-074	064
C20	316	-114	485	-045	-036	-202	-125	090
C14	460	-343	468	-178	082	-074	-182	216
C10	454	-050	456	-198	043	-384	-216	092
C24	258	-140	449	-038	-063	-173	-010	-043
C08	301	-067	434	-148	-002	266	-080	-093
C12	304	-173	428	092	-076	-170	110	189
C18	149	-045	322	-204	-020	-037	006	009
C22	266	-252	317	164	-067	-247	091	-029
T64	307	-116	-305	171	278	-103	206	-202
C23	178	-070	295	-195	001	-203	048	-071
T18	160	029	-284	122	159	-040	118	-149
C13	202	-077	273	-141	-180	-132	025	-121
T89	152	042	-245	016	217	-069	-071	-183
C15	114	-157	197	-185	009	-015	-111	-065
				Fact 3				
T72	520	-169	-254	587	075	239	-084	-114
T57	449	227	-118	579	-181	109	051	-026
T69	410	123	-121	549	046	226	-158	-033
T55	477	337	005	535	-232	-101	-009	-112
T60	401	145	-175	522	209	032	-122	-133
T70	313	-015	-170	490	194	066	030	033
T61	470	168	-119	(471)	050	160	(421)	026
T11	359	037	-128	447	151	096	258	-207
T23	372	280	-230	429	130	-113	-116	116
T62	330	102	021	422	132	164	299	082
T21	281	194	-079	372	145	-037	-251	118
T63	430	083	-191	368	005	347	358	-043
T31	185	139	-030	349	-063	-131	-085	-121
T67	252	323	033	339	141	-006	-098	043
T20	327	-101	-037	337	-090	-081	-333	-274
C26	351	-096	285	-332	-018	091	262	-270
I04	145	-069	126	-297	-150	-008	008	117
T90	227	121	-098	-285	217	156	-089	-205
I03	024	-053	-025	-128	057	-019	-025	018
					Fact 4			
T30	402	030	035	186	590	090	-093	-029
T66	439	047	-008	019	589	-010	279	-103
T28	449	-078	030	238	564	254	051	-024
T82	307	131	047	-099	508	050	124	-053
T52	341	085	-081	026	490	291	-039	-022
T84	338	185	-048	-204	480	125	047	-111
T36	442	401	-095	094	474	-120	-152	030
T34	370	090	-078	180	445	-226	-185	200
T35	385	-087	-115	247	420	-339	-107	006
T48	343	197	-055	-135	404	278	194	-064
T53	272	-028	-071	246	391	-029	-194	118
T65	236	-083	-102	-148	377	043	229	011
T54	318	035	-310	158	352	247	-015	103
T38	206	212	-117	-068	347	022	-098	109

Table D5 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6	Fact 7
T17	173	059	-111	107	324	066	191	-009
I13	081	-122	075	-022	-229	-026	085	-014
						Fact 5		
T49	332	097	063	-037	176	**512**	-017	153
T50	372	141	-031	263	120	**510**	049	078
C17	368	008	319	-070	034	**-489**	-060	130
T44	225	138	-048	-028	-076	**36**[illegible]	226	-018
C19	195	063	176	021	058	-377	-029	-114
T74	272	297	-091	-189	030	355	-100	-053
I05	204	-074	-013	-132	-102	-324	166	193
T04	224	183	-217	056	200	317	-015	-001
T06	253	228	-234	084	094	314	-062	165
T86	208	206	102	117	206	288	-127	019
I20	081	-036	-038	-043	000	-230	082	131
I21	090	033	-151	045	061	225	081	005
T51	082	-020	-082	016	114	203	-142	-008
							Fact 6	
T29	271	070	071	-153	139	033	**427**	186
T26	302	150	130	-113	275	-034	**416**	012
I16	210	-139	011	077	-039	054	369	210
I15	[illegible]14	-103	052	037	-115	-041	366	226
T79	[illegible]38	237	-012	-156	059	124	335	-163
I11	[illegible]86	-111	-092	062	-054	-253	303	047
T77	[illegible]20	107	-010	-031	-018	108	-303	-059
T27	[illegible]24	269	-004	202	059	-139	294	-046
T71	[illegible]86	-161	-087	-207	105	-117	291	-015
I10	[illegible]90	024	020	039	-062	016	284	-051
I02	[illegible]1	-087	043	-081	012	-005	246	186
I09	1[illegible]	089	028	-027	078	179	220	-088
								Fact 7
I17	231	-012	057	-038	-002	-013	009	**476**
I18	239	109	066	-096	-048	020	097	**448**
I22	200	-013	023	030	-036	-013	-064	**439**
I12	203	-060	161	-119	-021	037	151	367
I26	238	-128	240	107	138	046	076	355
I25	159	092	187	-011	048	031	144	302
I06	198	042	-180	001	-079	-038	259	298
T10	246	235	-221	113	204	103	-013	-276
I28	100	-164	013	019	019	013	001	269
I23	135	048	-101	-234	008	021	019	258
I07	108	148	103	-090	-021	-112	-090	217
I29	078	126	-070	029	057	-077	-038	213
Eigenvalues		16.65	5.66	4.78	4.29	4.17	3.04	3.01
%variance		7.11	6.05	4.13	3.83	3.27	2.90	2.43

Notes:

1. Individual items from the three scales are identified as follows: those from the I-E scale are labeled as Ixx (eg, I02 is the second item from the I-E scale), those from the CDI are labeled as Cxx and those from the TSCS are labeled as Txx.
2. All commonalities and factor loadings are shown without decimals. For example, for item T13, the commonality is 0.536 and the factor loading on Fact 1 is 0.689.
3. Loadings in boldface are considered to be part of the specified factor; items with loadings in parenthesis reflect loadings in more than one factor and are not considered in any factor.

Table D6

Principal Component Analysis
TSCS + CDI Scales
Seven Factor Solution Varimax Rotation
Factor Loadings

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6	Fact 7
C11	564	**717**	-167	013	048	-018	-030	-138
C03	485	**649**	-060	-032	-223	-029	-010	-092
C07	522	**636**	-308	-097	-008	-007	-099	-056
C02	418	**618**	-102	-147	-064	012	001	016
C01	456	**615**	-151	111	-111	-026	-010	-172
C04	472	**602**	-136	-176	023	-077	007	-230
C06	443	**583**	-200	-051	-044	-205	095	085
C25	420	**559**	-147	-151	-093	109	072	194
C21	329	**517**	031	-208	020	080	-099	-022
C20	340	**511**	-144	-010	029	-039	-155	-179
C09	346	**506**	-179	074	-010	-175	101	-106
C05	481	**503**	064	-045	-398	-076	036	238
C16	266	**500**	-046	030	-004	-047	-084	065
C27	416	**473**	101	-179	-287	-150	208	-038
C14	433	**467**	-364	-112	-009	092	-245	-021
C10	460	**450**	-281	180	017	026	-206	-320
C24	271	**448**	-091	-115	-079	-049	-027	-198
C12	342	**444**	019	-332	020	-022	-053	-176
C08	296	398	-172	093	-140	-031	004	281
T18	194	-322	-014	030	039	145	252	-057
T64	268	-321	046	-176	050	287	166	-137
C23	165	308	-081	-022	-172	024	-065	-170
C18	130	276	-107	037	-179	-029	-070	-058
T89	226	-275	-182	251	097	170	126	-021
C15	099	197	-135	-032	-126	007	-157	-001
			Fact 2					
T41	501	-122	**657**	138	-071	-006	068	160
T22	541	-146	**643**	081	064	211	-111	197
T09	579	-259	**547**	145	029	-037	434	-030
T42	403	-197	**525**	139	137	152	-091	137
T01	370	-102	**494**	227	113	-122	189	-017
T10	321	-211	**490**	-050	002	181	-009	032
T47	466	-189	**477**	316	-144	249	125	-070
T14	541	-174	**469**	275	-068	015	283	361
T03	400	-219	**467**	190	-029	-089	214	209
T46	398	-148	**443**	042	022	283	223	220
T07	284	-095	**441**	190	-046	-047	185	-083
T24	319	-133	**434**	120	046	180	-101	233
T43	438	-159	**429**	300	-037	135	335	081
T58	264	014	**422**	082	242	-064	094	-083
T32	364	-041	**420**	106	335	081	212	-108
T19	318	-148	**402**	255	243	-019	-063	080
T12	245	-088	397	-067	013	165	133	-173
T06	285	-174	375	028	097	073	-113	293
T76	297	-269	366	210	079	092	-069	166
T40	198	-109	336	174	193	062	027	-029
T04	258	-192	326	010	014	179	-041	285
T08	246	-158	289	238	-025	-083	244	117
T05	154	-096	262	250	114	-008	017	012

Table D6 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6	Fact 7
T87	481	-061	170	**636**	-089	148	093	-075
T73	378	-084	185	**557**	145	066	-020	026
T78	359	-024	177	**501**	008	189	-121	160
T13	539	-058	429	**490**	125	-052	277	127
T15	370	157	309	**477**	091	093	-069	038
T85	348	-037	089	**469**	327	094	041	039
T56	398	-038	348	**468**	180	-117	102	012
T33	405	107	282	**417**	368	-034	-056	-030
C22	371	351	089	**-415**	069	-039	-087	-232
T39	314	-235	210	385	066	234	085	030
T37	420	-308	(360)	(370)	020	003	132	202
T75	166	-046	011	360	-170	006	051	-050
T02	257	-001	266	358	202	-029	003	130
T59	236	-156	148	327	-016	209	-080	179
T90	238	-161	-116	323	-202	177	-007	151
T16	241	-124	206	270	-102	084	253	171
T68	105	003	078	236	112	-101	141	-012
					Fact 4			
T69	436	-124	107	045	**528**	-045	250	251
T60	420	-156	305	-072	**514**	146	075	079
C26	312	240	001	-088	**-492**	014	065	024
T21	278	-023	166	098	**477**	103	-029	037
T23	387	-175	329	062	**475**	097	026	-092
T72	491	-266	063	-296	**474**	029	183	264
T70	360	-173	-023	-068	**446**	148	283	154
T57	495	-118	148	064	(439)	-241	(437)	116
T55	478	004	347	011	**428**	-269	303	-103
T20	215	-083	-088	-034	**410**	-172	-023	-036
T53	271	-064	044	029	(370)	(351)	-065	021
T67	281	036	125	261	368	092	227	014
T31	213	-063	020	101	323	-123	248	-131
T71	216	-062	066	-258	-300	176	-076	-121
						Fact 5		
T66	453	-039	006	029	-058	**611**	269	-030
T30	417	063	161	-031	236	**556**	-052	135
T28	461	056	116	-168	180	**515**	097	023
T84	321	-083	059	234	-183	**458**	056	094
T52	367	-061	061	144	096	**440**	008	369
T36	434	-071	238	337	243	**438**	-021	-092
T35	397	-109	006	-123	335	**412**	-063	-290
T65	247	-128	-116	-013	-173	**412**	122	047
T34	365	-040	-062	200	360	**409**	-046	-145
T48	341	-048	241	106	-205	390	067	268
T80	334	072	(349)	256	-023	(350)	102	089
T83	356	-117	305	287	-182	348	060	095
T54	324	-270	081	013	182	(331)	021	(319)
T17	170	-119	140	-068	019	326	151	049
T38	209	-105	116	238	080	314	-142	051
							Fact 6	
T61	496	-115	201	-106	185	074	**614**	119
T63	483	-205	124	-109	106	012	**550**	316
T62	362	021	038	-012	226	152	**518**	133
T27	330	-029	012	209	067	061	**502**	-158
T45	386	-041	276	142	024	167	**485**	155

Table D6 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6	Fact 7
T26	358	101	-081	194	-229	(326)	(378)	-050
T81	330	-074	297	(332)	-025	061	(347)	-032
T11	345	-125	299	-257	180	152	342	042
T79	275	-062	126	169	(-329)	089	(332)	008
T25	275	048	323	034	081	225	331	-020
T29	252	081	-053	056	-299	227	313	-031
T77	088	019	130	112	070	-053	-208	085
								Fact 7
T49	348	084	033	137	-004	163	020	**542**
T50	381	-022	092	083	176	084	262	**509**
C17	356	335	-159	100	062	046	-092	**-441**
C19	175	152	-054	113	074	039	016	-359
T74	270	-089	147	(323)	-116	-021	-040	(347)
T44	262	-073	016	138	-180	-066	312	321
T86	217	105	087	244	158	137	066	302
C13	203	250	-070	-056	-164	-161	-018	-282
T51	107	-082	-064	086	101	065	-066	265
T88	202	-199	112	251	-102	103	052	252
Eigenvalues		16.10	5.[illegible]	[illegible]	3.97	3.82	2.82	2.72
% variance		6.76	6.50	[illegible]	4.36	4.10	3.85	3.30

Notes:

1. Individual items from the two scales are identified as follows: those from the CDI scale are labeled as Cxx (eg, C02 is the second item from the CDI scale) and those from the TSCS are labeled as Txx.

2. All commonalities and factor loadings are shown without decimals. For example, for item C11, the commonality is 0.564 and the factor loading on Fact 1 is 0.717.

3. Loadings in **boldface** are considered to be part of the specified factor; items with loadings in parenthesis reflect loadings in more than one factor and are not considered in any factor.

Table D7

Principal Component Analysis
CDI + I-E Scales
Five Factor Solution Varimax Rotation
Factor Loadings

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5
C04	508	**693**	027	-067	122	087
C11	578	**664**	231	248	-054	140
C20	389	**596**	-054	-026	-001	173
C01	450	**590**	215	136	-051	184
C07	509	**577**	343	238	-006	046
C02	418	**557**	281	018	100	137
C09	337	**554**	098	125	-059	-032
C21	330	**544**	-041	-020	127	126
C24	316	**541**	025	-072	025	132
C12	406	**541**	-080	104	243	-133
C06	465	**532**	336	061	096	-237
C10	476	**528**	071	205	-281	267
C22	512	**523**	-262	-205	358	010
C03	552	**522**	469	004	101	223
C14	355	**499**	206	250	-032	018
C25	486	**493**	279	122	262	-284
C17	331	**429**	-102	171	-113	308
C27	398	**428**	318	-153	280	-111
C18	178	**408**	-045	046	-024	-085
C16	235	380	279	086	067	-028
C13	173	316	123	-065	-095	210
C19	155	306	-240	-002	-054	-023
I21	078	-247	-030	-008	029	123
I04	085	152	138	129	129	096
			Fact 2			
C08	511	150	**695**	033	-035	048
C05	539	260	**661**	-044	167	-065
C26	368	111	**529**	-151	135	186
I06	228	-085	283	093	279	234
				Fact 3		
I17	343	033	-033	**536**	-027	230
I12	310	088	115	**533**	024	068
I18	317	-005	039	**528**	176	-078
I22	254	024	-100	**473**	002	141
I26	265	212	090	**436**	026	-146
I25	279	106	040	395	274	-189
I29	195	-056	-133	387	-111	-110
I28	223	134	-247	341	158	-054

Table D7 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5
I16	421	-092	126	159	**591**	149
I15	331	-010	101	207	**505**	149
I11	355	-003	-220	-027	**499**	240
I10	224	-050	073	-118	**448**	-041
I02	120	105	-065	110	303	033
I09	167	-054	088	-076	280	-270
I13	064	073	097	028	220	-012
						Fact 5
C23	410	267	155	-156	044	**537**
C15	333	219	062	-097	-123	**506**
I23	276	-168	079	251	104	**409**
I20	227	064	-248	-011	119	387
I07	128	-008	161	132	102	273
I03	074	-017	025	-024	091	254
I05	144	126	-166	201	139	203
Eigenvalues		7.42	2.45	2.19	1.93	1.83
%variance		12.81	5.55	4.80	4.31	4.19

Notes:

1. Individual items from the two scales are identified as follows: those from the I-E scale are labeled as Ixx (eg, I02 is the second item from the I-E scale) and those from the CDI are labeled as Cxx.

2. All commonalities and factor loadings are shown without decimals. For example, for item C04, the commonality is 0.508 and the factor loading on Fact 1 is 0.693.

3. Loadings in **boldface** are considered to be part of the specified factor; items with loadings in parenthesis reflect loadings in more than one factor and are not considered in any factor.

Table D8

Principal Component Analysis
TSCS + I-E Scales
Six Factor Solution Varimax Rotation
Factor Loadings

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6
T41	553	733	082	-005	-083	027	031
T22	528	662	041	242	040	-105	126
T14	556	633	165	059	-000	226	-272
T03	397	559	182	-021	011	122	-192
T42	396	558	085	209	109	-145	006
T13	541	548	245	-066	347	232	-040
T09	549	535	433	-041	002	189	-194
T37	385	534	108	069	163	146	-190
T76	299	508	003	157	088	-067	-062
T01	367	494	261	-122	181	039	-076
T19	335	488	117	017	239	-144	071
T24	300	487	022	228	068	-057	052
T06	302	463	050	190	-008	-179	132
T43	442	455	237	108	160	344	-152
T47	424	448	029	181	195	318	-222
T56	436	443	111	-100	348	025	-307
T07	260	442	128	-113	075	133	-111
T46	391	433	235	314	-049	151	-155
T74	237	431	-187	043	036	072	-090
T04	259	420	030	263	-057	-081	-054
T08	256	407	159	-096	060	224	-039
T39	281	403	066	241	188	131	056
T10	260	375	093	207	014	-071	-250
T40	207	371	168	106	126	-108	046
T80	312	363	028	282	204	215	111
T59	216	360	-103	270	155	021	094
T58	241	356	257	-193	150	-087	083
T83	346	342	-080	291	170	295	-152
T16	272	341	087	089	032	292	-233
T88	179	327	-065	167	056	153	-115
T05	192	296	069	-010	288	035	124
T50	193	284	250	202	-035	083	036
I09	156	264	-040	071	-260	108	-021
T49	139	234	-059	220	-019	142	108
T86	115	229	063	193	141	024	-007
I21	076	193	069	121	-131	044	009
T68	090	169	118	-119	162	082	011
			Fact 2				
T57	463	174	**636**	-130	083	-024	-059
T61	510	190	**617**	074	-137	246	093
T55	464	216	**544**	-255	172	-132	-092
T62	375	046	**523**	158	-032	226	149
T69	370	191	**514**	116	081	-213	-065
T72	522	091	**511**	231	-212	-356	-167
T63	434	243	**500**	070	-265	220	032
T70	301	018	**478**	254	000	-057	-067
T11	369	192	**461**	205	-241	-044	-134
T60	450	266	**428**	257	021	-324	-155
T23	383	220	**424**	148	274	-227	078
T32	334	307	**409**	063	252	-021	068

Table D8 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6
T31	245	-056	381	-086	231	-018	-187
T45	368	291	(371)	157	040	(344)	006
T67	269	120	(354)	090	(343)	058	026
I04	186	016	-335	-169	-111	-058	171
T25	252	201	313	140	111	277	074
T12	115	210	222	107	043	048	-078
I03	031	021	-147	053	-053	-061	008
				Fact 3			
T28	452	120	154	**617**	-164	-075	030
T30	367	067	075	**584**	103	-071	-016
T66	408	023	078	**530**	-074	336	-037
T52	334	232	-018	**521**	-003	039	-080
T82	288	136	-107	**441**	007	252	-008
T54	251	189	168	**432**	014	-013	-014
T53	295	-074	169	**431**	205	-181	-004
T84	314	205	-162	**425**	058	234	-082
T34	383	-124	151	(427)	(398)	-038	045
T35	309	-179	191	**413**	164	-203	-038
T48	343	309	-094	386	-066	288	-047
T65	258	-082	-059	(361)	-077	(330)	048
T38	218	152	[illegible]	342	256	053	047
T17	166	102	[illegible]	[illegible]3	-026	136	054
T64	249	003	722	[illegible]31	-214	001	-210
I13	092	-101	-007	246	-139	000	045
T51	062	094	-028	165	-021	-078	-138
					Fact 4		
T33	441	220	159	-018	**593**	-092	-084
T85	389	119	197	115	**560**	098	008
T15	416	317	-040	034	**510**	150	174
T36	409	213	081	(392)	(442)	075	-054
T73	328	332	011	094	**441**	076	-094
T87	430	330	-097	077	**423**	326	-145
T02	272	311	133	029	390	-004	066
T78	335	(340)	-151	216	(362)	136	009
T71	167	001	-170	110	-338	056	092
T21	282	129	288	157	296	-261	040
I10	092	110	076	-084	-230	104	057
I11	096	-131	158	-068	-185	087	088
I29	058	064	024	049	160	-022	157
						Fact 5	
T26	393	-048	051	167	023	**593**	090
T79	268	193	-001	-003	-075	**468**	-077
T29	304	-016	008	087	-074	**461**	280
T27	333	003	(375)	-028	161	(406)	-032
T44	182	217	067	-041	-139	329	-032
T77	117	157	-123	004	147	-224	-076
							Fact 6
I17	242	-047	-022	006	106	-040	**476**
I12	231	-086	-075	-009	-060	095	**453**
I18	236	029	-056	-049	127	094	**453**
T20	333	-151	229	-065	115	-292	-394
I22	157	-035	013	-012	089	-087	375
I25	160	-034	007	002	127	201	320
T89	191	-049	086	216	129	140	-314

Table D8 (con't)

Item	Com	Fact 1	Fact 2	Fact 3	Fact 4	Fact 5	Fact 6
I16	209	-025	143	007	-292	085	309
I15	205	-053	112	-113	-255	131	307
I06	141	133	094	-051	-156	071	288
I23	146	161	-210	019	-064	-033	266
I02	116	-009	-056	023	-194	089	259
T90	221	125	-231	182	079	217	-257
T75	190	148	-182	-051	166	204	-251
I07	130	073	-126	-074	183	-093	248
T18	146	076	202	179	-076	095	-229
I05	099	-145	-080	-136	-065	034	219
I28	067	-153	-006	048	-004	-023	203
I20	038	-034	-034	-033	-055	-050	172
Eigenvalues		13.58	4.66	4.10	3.70	3.07	2.74
%variance		8.25	5.06	4.53	3.92	3.52	2.91

Notes:

1. Individual items from the two scales are identified as follows: those from the I-E scale are labeled as Ixx (eg, I02 is the second item from the I-E scale) and those from the TSCS are labeled as Txx.

2. All commonalities and factor loadings are shown without decimals. For example, for item T41, the commonality is 0.553 and the factor loading on Fact 1 is 0.733.

3. Loadings in **boldface** are considered to be part of the specified factor; items with loadings in parenthesis reflect loadings in more than one factor and are not considered in any factor.

Appendix E

Profile Analysis

Table E1

Means (and SD) For Pofile Analysis

Using Z Scores:

				TSCS Subscales		
Gr	N	CDI	I-E	Ident	Self Sat.	Behav
MDD	61	0.520 (0.962)	-0.031 (1.031)	-0.230 (0.908)	-0.420 (0.980)	-0.335 (0.966)
DYS	30	-0.031 (0.713)	0.062 (0.987)	0.015 (0.940)	0.002 (0.790)	-0.053 (1.033)
CD	35	-0.511 (0.961)	-0.158 (0.883)	0.174 (1.110)	0.472 (0.847)	0.349 (0.928)
OPP	16	-0.572 (0.845)	-0.089 (1.197)	0.171 (0.954)	0.396 (0.787)	0.297 (0.696)
ADD	13	-0.117 (0.860)	0.125 (0.650)	0.338 (1.145)	-0.039 (0.811)	-0.329 (0.841)
VC	11	-0.002 (1.202)	-0.028 (1.247)	0.215 (1.073)	0.697 (0.971)	0.344 (1.307)

Using Non-Transformed Raw Scores:

				TSCS Subscales		
Gr	N	CDI	I-E	Ident	Self Sat.	Behav
MDD	61	18.46 (9.00)	10.41 (3.55)	104.26 (13.13)	90.30 (15.06)	91.03 (11.59)
DYS	30	12.70 (6.38)	10.73 (3.36)	107.90 (13.20)	97.23 (11.74)	95.27 (12.00)
CD	35	9.66 (7.29)	9.94 (2.98)	110.29 (15.71)	104.66 (13.32)	99.26 (11.48)
OPP	16	8.94 (5.49)	10.19 (4.03)	110.19 (13.57)	103.44 (12.75)	98.31 (8.18)
ADD	13	12.46 (6.64)	10.77 (2.04)	112.54 (15.94)	96.85 (11.51)	91.15 (9.69)
VC	11	13.64 (10.28)	10.46 (4.08)	111.36 (15.71)	109.00 (15.61)	99.91 (16.58)

Table E1 (con't)

Using T-Scores for TSCS Variables:

		TSCS Subscales		
Gr	N	Ident	Self Sat.	Behav
MDD	61	30.13 (9.59)	40.79 (9.50)	30.07 (8.01)
DYS	30	32.77 (10.70)	44.20 (8.11)	33.50 (9.55)
CD	35	35.14 (12.74)	49.60 (9.78)	36.09 (9.73)
OPP	16	34.75 (11.61)	49.50 (9.23)	35.00 (6.62)
ADD	13	34.62 (10.13)	44.69 (7.91)	29.85 (6.29)
VC	11	37.64 (14.62)	53.55 (11.43)	37.18 (13.35)

Table E2

Summary Statistics From Profile Analysis Using Z-Scores

Groups: MDD, DYS, CD, OPP. **Variables:** CDI, I-E, Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(15.0,370.3)=3.29 p<.0004
2. Parallelism of line segments (interaction effect)
   F(12.0,357.5)=4.04 p<.0004
3. Equal mean profile effect (levels difference)
   F(3.0,138.0)=1.21 p=.307
4. Equal variable effect
   F(4,135)=0.14 p=.968

Groups: MDD, DYS, CD, OPP, ADD. **Variables:** CDI, I-E, Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(20.0,485.2)=2.86 p<.0001
2. Parallelism of line segments (interaction effect)
   F(16.0,449.7)=3.54 p<.0001
3. Equal mean profile effect (levels difference)
   F(4.0,150.0)=0.93 p=.451
4. Equal variable effect
   F(4,147)=0.26 p=.902

Groups: MDD, DYS, CD, OPP, ADD, VC. **Variables:** CDI, I-E, Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(25.0,581.0)=2.57 p<.0004
2. Parallelism of line segments (interaction effect)
   F(20.0,521.7)=3.03 p<.0004
3. Equal mean profile effect (levels difference)
   F(5.0,160.0)=1.48 p=.199
4. Equal variable effect
   F(4,157)=0.293 p=.882

Table E2 (con't)
Using Z-Scores for TSCS Variables:

Groups: MDD, DYS, CD, OPP. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(9.0,331.1)=2.90 p=.003
2. Parallelism of line segments (interaction effect)
   F(6.0,274.0)=1.05 p=.392
3. Equal mean profile effect (levels difference)
   F(3.0,138.0)=6.29 p<.0004
4. Equal variable effect
   F(2,137)=0.03 p=.974

Groups: MDD, DYS, CD, OPP, ADD. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(12.0,391.9)=2.78 p=.001
2. Parallelism of line segments (interaction effect)
   F(8.0,298.0)=1.58 p=.128
3. Equal mean profile effect (levels difference)
   F(4.0,150.0)=4.73 p=.001
4. Equal variable effect
   F(2,149)=0.37 p=.694

Groups: MDD, DYS, CD, OPP, ADD, VC. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(15.0,436.6)=2.48 p=.002
2. Parallelism of line segments (interaction effect)
   F(10.0,318.0)=2.560 p=.005
3. Equal mean profile effect (levels difference)
   F(5.0,160.0)=1.94 p=.090
4. Equal variable effect
   F(2,159)=0.144 p=0.866

Table E3

Summary Statistics From Profile Analysis Using T-Scores

Using T- Scores for TSCS Variables:

Groups: MDD, DYS, CD, OPP. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(9.0,331.1)=2.73 p=.004
2. Parallelism of line segments (interaction effect)
   F(6.0,274.0)=0.89 p=.504
3. Equal mean profile effect (levels difference)
   F(3.0,138.0)=5.77 p=.001
4. Equal variable effect
   F(2,137)=144.41 p<.0004

Groups: MDD, DYS, CD, OPP, ADD. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(12.0,391.9)=2.52 p=.003
2. Parallelism of line segments (interaction effect)
   F(8.0,298.0)=1.26 p=.263
3. Equal mean profile effect (levels difference)
   F(4.0,150.0)=4.47 p=.002
4. Equal variable effect
   F(2,149)=164.51 p<.0004

Groups: MDD, DYS, CD, OPP, ADD, VC. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(15.0,436.6)=2.47 p=.002
2. Parallelism of line segments (interaction effect)
   F(10.0,318.0)=1.25 p=0.259
3. Equal mean profile effect (levels difference)
   F(5.0,160.0)=4.42 p=.001
4. Equal variable effect
   F(2,159)=179.13 p<.0004

Table E4

Summary Statistics From Profile Analysis Using Non-Transformed Raw Scores

Groups: MDD, DYS, CD, OPP. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(9.0,331.1)=2.73 p=.004
2. Parallelism of line segments (interaction effect)
   F(6.0,274.0)=0.89 p=.504
3. Equal means effect (levels difference)
   F(3.0,138.0)=5.77 p=.001
4. Equal variable effect
   F(2,137)=144.41 p<.0004

Groups: MDD, DYS, CD, OPP, ADD. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(12.0,391.9)=3.00 p<.0004
2. Parallelism of line segments (interaction effect)
   F(8.0,298.0)=2.12 p=.044
3. Equal mean profile effect (levels difference)
   F(4.0,150.0)=5.15 p=.001
4. Equal variable effect
   F(2,149)=98.71 p<.0004

Groups: MDD, DYS, CD, OPP, ADD, VC. **Variables:** Ident, Self Sat., Behav

1. Overall multivariate analysis of variance
   F(15.0,436.6)=2.83 p<.0004
2. Parallelism of line segments (interaction effect)
   F(10.0,318.0)=1.99 p=.034
3. Equal mean profile effect (levels difference)
   F(5.0,160.0)=4.75 p<.0004
4. Equal variable effect
   F(2,159)=107.00 p<.0004

Table E5

Discrepancy Score Analysis*

Analysis of Variance Table:

Source	SS	DF	MS	F	P
Gr	2639.223	5	527.845	2.339	.044
Error	35663.899	158	225.721		

Descriptive Statistics:

Group	N	Mean	SD
MDD	59	-13.509	15.432
DYS	30	-10.667	12.477
CD	35	-5.629	16.168
OPP	16	-6.750	13.404
ADD	13	-15.692	15.494
VC	11	-2.364	16.949

*Score=Self Sat-Ident (both in non-transformed form). Since both scales have the same number of items, the difference is a valid measure. The sign (+ or -) denotes the direction of that difference. In all groups, the level of Self Satisfaction is *lower* than the current view of the self (Identity). Post hoc analysis with the Duncan procedure (p=.05) showed that the MDD group had a significantly *larger* difference than both the CD and VC groups.

Appendix F

Discriminant Analysis

Table F1

Summary of Discriminant Analysis
Classification Tables: Z-Scores

Groups: Six; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3	4	5	6
MDD	61	32	2	4	7	9	7
		52.5	3.3	6.6	11.5	14.8	11.5
DYS	30	8	2	3	5	7	5
		26.7	6.7	10.0	16.7	23.3	16.7
CD	35	1	3	8	10	4	9
		2.9	8.6	22.9	28.6	11.4	25.7
OPP	16	22	4	4	2	2	
		12.5	12.5	25.0	25.0	12.5	12.5
ADD	13	2	1	0	3	5	2
		15.4	7.7	0.0	23.1	38.5	15.4
VC	11	1	1	2	0	2	5
		9.1	9.1	18.2	0.0	18.2	45.5

Overall percent correctly classified 33.73%

Groups: Five; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3+4	5	6
MDD	61	32	2	11	9	7
		52.5	3.3	18.0	14.8	11.5
DYS	30	8	2	7	8	5
		26.7	6.7	23.3	26.7	16.7
CD+OPP	51	3	6	24	7	11
		5.9	11.8	47.1	13.7	21.6
ADD	13	2	2	2	5	2
		15.4	15.4	15.4	38.5	15.4
VC	11	1	1	1	2	6
		9.1	9.1	9.1	18.2	54.5

Overall percent correctly classified 41.57%

Table F1 (con't)

Groups: Three; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1+2	3+4	6
MDD+DYS	91	56 61.5	21 23.1	14 15.4
CD+OPP	51	10 19.6	28 54.9	13 25.5
VC	11	2 18.2	2 18.2	7 63.6

Overall percent correctly classified 59.48%

Groups: Three; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	3+4	6
MDD	61	41 67.2	11 18.0	9 14.8
CD+OPP	51	9 17.6	30 58.8	12 23.5
VC	11	1 9.1	3 27.3	7 63.6

Overall percent correctly classified 63.41%

Table F2

Summary of Discriminant Analysis
Classification Tables: Raw Scores

Groups: Six; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership					
		1	2	3	4	5	6
MDD	61	32	4	5	4	12	4
		52.5	6.6	8.2	6.6	19.7	6.6
DYS	30	5	8	4	5	4	4
		16.7	26.7	13.3	16.7	13.3	13.3
CD	35	0	5	8	8	5	9
		0.0	14.3	22.9	22.9	14.3	25.7
OPP	16	1	4	2	4	2	3
		6.3	25.0	12.5	25.0	12.5	18.8
ADD	13	2	2	0	2	6	1
		15.4	15.4	0.0	15.4	46.2	7.7
VC	11	1	1	1	0	2	6
		9.1	9.1	9.1	0.0	18.2	54.5

Overall percent correctly classified **38.55%**

Groups: Five; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership				
		1	2	3+4	5	6
MDD	61	32	5	8	12	4
		52.5	8.2	13.1	19.7	6.6
DYS	30	5	8	9	4	4
		16.7	26.7	30.0	13.3	13.3
CD+OPP	51	1	10	21	7	12
		2.0	19.6	41.2	13.7	23.5
ADD	13	2	2	2	6	1
		15.4	15.4	15.4	46.2	7.7
VC	11	1	1	1	2	6
		9.1	9.1	9.1	18.2	54.5

Overall percent correctly classified **43.98%**

Table F2 (con't)

Groups: Three; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1+2	3+4	6
MDD+DYS	91	57 62.6	22 24.2	12 13.2
CD+OPP	51	9 17.6	30 58.8	12 23.5
VC	11	1 9.1	4 36.4	6 54.5

Overall percent correctly classified **60.78%**

Groups: Three; Variables: CDI, I-E, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	3+4	6
MDD	61	41 67.2	14 23.0	6 9.8
CD+OPP	51	9 17.6	31 60.8	11 21.6
VC	11	1 9.1	4 36.4	6 54.5

Overall percent correctly classified **63.41%**

Table F3

Summary of Discriminant Analysis
Classification Tables: T-Scores

Using T-Scores for TSCS Variables:

Groups: Six; Variables: CDI (raw score), I-E (raw score), Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3	4	5	6
MDD	61	30 49.2	8 13.1	5 8.2	2 3.3	11 18.0	5 8.2
DYS	30	5 16.7	7 23.3	5 16.7	3 10.0	6 20.0	4 13.3
CD	35	1 2.9	4 11.4	8 22.9	10 28.6	5 14.3	7 20.0
OPP	16	1 6.3	5 31.3	2 12.5	4 25.0	2 12.5	2 12.5
ADD	13	1 7.7	1 7.7	0 0.0	4 30.8	6 46.2	1 7.7
VC	11	1 9.1	1 9.1	0 0.0	0 0.0	3 27.3	6 54.5

Overall percent correctly classified **36.75%**

Groups: Five; Variables: CDI (raw score), I-E (raw score), Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3+4	5	6
MDD	61	32 52.5	8 13.1	7 11.5	11 18.0	5 8.2
DYS	30	5 16.7	7 23.3	7 23.3	7 23.3	4 13.3
CD+OPP	51	2 3.9	11 21.6	17 33.3	9 17.6	12 23.5
ADD	13	1 7.7	1 7.7	3 23.1	7 53.8	1 7.7
VC	11	1 9.1	1 9.1	0 0.0	3 27.3	6 54.5

Overall percent correctly classified **40.36%**

Table F3 (con't)

Groups: Three; Variables: CDI (raw score), I-E (raw score), Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1+2	3+4	6
MDD+DYS	91	57 62.6	23 25.3	11 12.1
CD+OPP	51	8 15.7	29 56.9	14 27.5
VC	11	1 9.1	3 27.3	7 63.6

Overall percent correctly classified 60.78%

Groups: Three; Variables: CDI (raw score), I-E (raw score), Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	3+4	6
MDD	61	39 63.9	15 24.6	7 11.5
CD+OPP	51	8 15.7	30 58.8	13 25.5
VC	11	1 9.1	3 27.3	7 63.6

Overall percent correctly classified 61.79%

Table F4

Summary of Discriminant Analysis
Classification Tables: I-E Prop Vic

Using Raw Scores

Groups: Six; Variables: CDI, Prop Vic, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3	4	5	6
MDD	61	30	2	2	7	13	7
		49.2	3.3	3.3	11.5	21.3	11.5
DYS	30	8	6	5	5	4	2
		26.7	20.0	16.7	16.7	13.3	6.7
CD	35	1	1	10	10	4	9
		2.9	2.9	28.6	28.6	11.4	25.7
OPP	16	2	3	2	6	1	2
		12.5	18.8	12.5	37.5	6.3	12.5
ADD	13	2	2	0	0	7	2
		15.4	15.4	0.0	0.0	53.8	15.4
VC	11	1	1	1	0	2	6
		9.1	9.1	9.1	0.0	18.2	54.5

Overall percent correctly classified **39.16%**

Groups: Five; Variables: CDI , Prop Vic, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3+4	5	6
MDD	61	30	2	9	13	7
		49.2	3.3	14.8	21.3	11.5
DYS	30	8	7	9	4	2
		26.7	23.3	30.0	13.3	6.7
CD+OPP	51	3	6	25	6	11
		5.9	11.8	49.0	11.8	21.6
ADD	13	2	2	0	7	2
		15.4	15.4	0.0	53.8	15.4
VC	11	1	1	1	2	6
		9.1	9.1	9.1	18.2	54.5

Overall percent correctly classified **45.18%**

Table F4 (con't)

Groups: Three; Variables: CDI, Prop Vic, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1+2	3+4	6
MDD+DYS	91	57 62.6	21 23.1	13 14.3
CD+OPP	51	9 17.6	30 58.8	12 23.5
VC	11	1 9.1	3 27.3	7 63.6

Overall percent correctly classified 61.44%

Groups: Three; Variables: CDI, Prop Vic, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	3+4	6
MDD	61	40 65.6	12 19.7	9 14.8
CD+OPP	51	9 17.6	30 58.8	12 23.5
VC	11	1 9.1	3 27.3	7 63.6

Overall percent correctly classified 62.60%

Table F5

Summary of Discriminant Analysis
Classification Tables: I-E Prop Nc

Using Raw Scores:

Groups: Six; Variables: CDI, Prop Nc, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3	4	5	6
MDD	61	30	4	4	8	11	4
		49.2	6.6	6.6	13.1	18.0	6.6
DYS	30	6	5	4	6	6	3
		20.0	16.7	13.4	20.0	20.0	10.0
CD	35	0	3	13	6	5	8
		0.0	8.6	37.1	17.1	14.3	22.9
OPP	16	1	3	0	8	2	2
		6.3	18.8	0.0	50.0	12.5	12.5
ADD	13	1	1	0	3	7	1
		15.4	7.7	0.0	23.1	53.8	7.7
VC	11	1	1	1	1	2	5
		9.1	9.1	9.1	9.1	18.2	45.5

Overall percent correctly classified **40.96%**

Groups: Five; Variables: CDI, Prop Nc, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	2	3+4	5	6
MDD	61	30	7	9	11	4
		49.2	11.5	14.8	18.0	6.6
DYS	30	6	9	5	6	4
		20.0	30.0	16.7	20.0	13.3
CD+OPP	51	1	10	22	7	11
		2.0	19.6	43.1	13.7	21.6
ADD	13	1	4	0	7	1
		7.7	30.8	0.0	53.8	7.7
VC	11	1	1	1	2	6
		9.1	9.1	9.1	18.2	54.5

Overall percent correctly classified **44.58%**

Table F5 (con't)

Groups: Three; Variables: CDI, Prop Nc, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1+2	3+4	6
MDD+DYS	91	55 60.4	23 25.3	13 14.3
CD+OPP	51	8 15.7	29 56.9	14 27.5
VC	11	1 9.1	4 36.4	6 54.5

Overall percent correctly classified 58.82%

Groups: Three; Variables: CDI, Prop Nc, Ident, Self Sat., Behav

Actual group	Cases	Predicted Group Membership 1	3+4	6
MDD	61	39 63.9	15 24.6	7 11.5
CD+OPP	51	7 13.7	29 56.9	15 29.4
VC	11	1 9.1	4 36.4	6 54.5

Overall percent correctly classified 60.16%

Appendix G

Two-Way ANOVA Tables

Table G1

Two-Way Anova Tables for Major Variables
Diagnostic Group By Gender

Variable: CDI

Source	SS	DF	MS	F	P
Gr	1656.101	5	331.220	5.309	<.0004
Gender	344.315	1	344.315	5.519	0.020
Gr X Gender	294.042	5	58.808	0.943	0.455
Error	9607.690	154	62.388		

Variable: IE

Source	SS	DF	MS	F	P
Gr	9.238	5	1.848	0.163	0.976
Gender	46.560	1	46.560	4.111	0.044
Gr X Gender	123.252	5	24.650	2.176	0.060
Error	1744.167	154	11.326		

Variable: TOTP (T-score)

Source	SS	DF	MS	F	P
Gr	1481.721	5	296.344	3.846	0.003
Gender	62.910	1	62.910	0.816	0.368
Gr X Gender	488.611	5	97.722	1.268	0.280
Error	11865.545	154	77.049		

Variable: R1 (T-score)

Source	SS	DF	MS	F	P
Gr	569.446	5	113.889	0.911	0.476
Gender	471.760	1	471.760	3.774	0.054
Gr X Gender	843.980	5	168.796	1.350	0.246
Error	19249.486	154	124.997		

Variable: R2 (T-score)

Source	SS	DF	MS	F	P
Gr	2656.895	5	531.379	5.858	<.0004
Gender	1.416	1	1.416	0.016	0.901
Gr X Gender	470.432	5	94.086	1.037	0.398
Error	13969.078	154	90.708		

Table G1 (con't)
Variable: R3 (T-score)

Source	SS	DF	MS	F	P
Gr	1136.906	5	227.381	2.773	0.020
Gender	4.588	1	4.588	0.056	0.813
Gr X Gender	512.578	5	102.516	1.250	0.288
Error	12626.143	154	81.988		

Variable: RTOTP (Raw score)

Source	SS	DF	MS	F	P
Gr	20603.544	5	4120.709	3.724	0.003
Gender	1602.087	1	1602.087	1.448	0.231
Gr X Gender	6593.040	5	1318.608	1.192	0.316
Error	170415.863	154	1106.597		

Variable: RR1 (Raw score)

Source	SS	DF	MS	F	P
Gr	827.646	5	165.529	0.821	0.537
Gender	809.363	1	809.363	4.013	0.047
Gr X Gender	1473.588	5	294.718	1.461	0.206
Error	31060.908	154	201.694		

Variable: RR2 (Raw score)

Source	SS	DF	MS	F	P
Gr	6050.439	5	1210.088	6.122	<.0004
Gender	46.051	1	46.051	0.233	0.630
Gr X Gender	690.441	5	138.088	0.699	0.625
Error	30439.079	154	197.656		

Table G1 (con't)

Variable: RR3 (Raw score)

Source	SS	DF	MS	F	P
Gr	1948.566	5	389.713	2.789	0.019
Gender	25.380	1	25.380	0.182	0.671
Gr X Gender	898.164	5	179.633	1.286	0.273
Error	21516.981	154	139.721		

Table G1 (con't)
Variable: PAG

Source	SS	DF	MS	F	P
Gr	15.890	5	3.178	0.827	0.532
Gender	2.589	1	2.589	0.674	0.413
Gr X Gender	18.556	5	3.711	0.966	0.440
Error	591.488	154	3.841		

Variable: VIC

Source	SS	DF	MS	F	P
Gr	17.335	5	3.467	1.105	0.360
Gender	25.316	1	25.316	8.070	0.005
Gr X Gender	48.124	5	9.625	3.068	0.011
Error	483.082	154	3.137		

Variable: NC

Source	SS	DF	MS	F	P
Gr	14.006	5	2.801	0.540	0.746
Gender	19.675	1	19.675	3.794	0.053
Gr X Gender	71.787	5	14.357	2.768	0.020
Error	798.681	154	5.186		

Variable: PO

Source	SS	DF	MS	F	P
Gr	17.052	5	3.410	1.718	0.134
Gender	4.861	1	4.861	2.448	0.120
Gr X Gender	3.985	5	0.797	0.402	0.847
Error	305.722	154	1.985		

Variable: PPAG (Prop score)

Source	SS	DF	MS	F	P
Gr	1578.089	5	315.618	2.074	0.072
Gender	300.946	1	300.946	1.977	0.162
Gr X Gender	730.154	5	146.031	0.959	0.445
Error	23441.102	154	152.215		

Table G1 (con't)
Variable: PVIC (Prop score)

Source	SS	DF	MS	F	P
Gr	1578.089	5	315.618	2.074	0.072
Gender	300.946	1	300.946	1.977	0.162
Gr X Gender	730.154	5	146.031	0.959	0.445
Error	23441.102	154	152.215		

Variable: PNC (Prop score)

Source	SS	DF	MS	F	P
Gr	1816.631	5	363.326	2.505	0.033
Gender	12.338	1	12.338	0.085	0.771
Gr X Gender	533.191	5	106.638	0.735	0.598
Error	22339.917	154	145.064		

Variable: PPO (Prop score)

Source	SS	DF	MS	F	P
Gr	1816.631	5	363.326	2.505	0.033
Gender	12.338	1	12.338	0.085	0.771
Gr X Gender	533.191	5	106.638	0.735	0.598
Error	22339.917	154	145.064		

Table G2

Means (and SD) of Major Variables by Gender: All Cases

Variable	Gender		
	Male (n=128)	Female (n=86)	Overall (n=214)
CDI	12.05 (7.70)	16.17 (9.17)	13.71 (8.54)
I-E	10.14 (3.35)	11.02 (3.35)	10.50 (3.37)
TOTP (T-score)	37.40 (8.96)	35.31 (10.10)	36.56 (9.47)
R1 (T-score)	34.00 (11.78)	30.87 (10.78)	32.74 (11.17)
R2 (T-score)	45.76 (10.21)	44.01 (11.19)	45.06 (10.62)
R3 (T-score)	33.63 (8.51)	32.28 (10.31)	33.09 (9.28)
TOTP (Raw scores)	304.15 (32.81)	294.00 (39.48)	300.07 (35.90)
RR1 (Raw scores)	109.40 (13.98)	105.10 (14.48)	107.67 (14.31)
RR2 (Raw scores)	98.59 (14.64)	95.20 (16.83)	97.22 (15.61)
RR3 (Raw scores)	96.16 (10.77)	93.67 (13.92)	95.16 (12.16)
PAG	5.24 (2.00)	5.53 (1.90)	5.36 (1.96)
VIC	4.23 (1.74)	4.80 (1.91)	4.46 (1.83)
NC	6.59 (2.37)	7.13 (2.27)	6.81 (2.34)
PO	2.88 (1.38)	3.21 (1.51)	3.01 (1.44)
PPAG (Prop scores)	54.94 (12.17)	53.71 (12.38)	54.45 (12.24)
PVIC (Prop scores)	45.06 (12.17)	46.29 (12.38)	45.55 (12.24)
PNC (Prop scores)	70.17 (12.89)	69.32 (11.74)	69.83 (12.42)
PPO (Prop scores)	29.83 (12.89)	30.68 (11.74)	30.17 (12.42)

Table G3

Means (and SD) of Major Variables by Gender: 116 Cases

Variable	Gender		
	Male (n=91)	Female (n=75)	Overall (n=116)
CDI	11.57 (7.48)	16.62 (9.39)	13.86 (8.74)
IE	9.88 (3.34)	10.99 (3.43)	10.37 (3.42)
TOTP (T-scores)	38.02 (9.27)	34.88 (9.08)	36.60 (9.29)
R1 (T-score)	35.06 (11.96)	30.41 (10.27)	32.96 (11.43)
R2 (T-score)	46.48 (10.19)	43.76 (11.24)	45.25 (10.27)
R3 (T-score)	33.65 (9.19)	31.96 (9.50)	32.89 (9.34)
TOTP (Raw scores)	306.45 (33.47)	292.88 (36.17)	300.32 (35.26)
RR1 (Raw scores)	110.59 (14.58)	104.59 (13.87)	107.88 (14.53)
RR2 (Raw scores)	99.80 (14.40)	94.92 (15.82)	97.60 (15.21)
RR3 (Raw scores)	96.05 (11.64)	93.35 (12.82)	94.83 (12.23)
PAG	5.18 (1.98)	5.51 (1.92)	5.32 (1.95)
VIC	4.08 (1.75)	4.84 (1.92)	4.42 (1.86)
NC	6.45 (2.37)	7.03 (2.27)	6.71 (2.33)
PO	2.80 (1.33)	3.22 (1.51)	3.04 (1.43)
PPAG (Prop scores)	55.55 (12.70)	53.33 (12.32)	54.54 (12.54)
PVIC (Prop scores)	44.45 (12.70)	46.67 (12.32)	45.46 (12.54)
PNC (Prop scores)	70.38 (12.83)	68.23 (11.55)	69.41 (12.28)
PPO (Prop scores)	29.62 (12.83)	31.77 (11.55)	30.59 (12.28)

Table G4

Means (and SD) of Major Variables by Diagnostic Group and Gender

Variable: CDI			
Group: MDD	N	Mean	SD
Male	23	15.43	7.97
Female	38	20.29	9.31
Group: DYS	N	Mean	SD
Male	13	11.84	5.54
Female	17	13.35	7.23
Group: CD	N	Mean	SD
Male	26	9.54	8.30
Female	9	10.00	4.18
Group: OPP	N	Mean	SD
Male	13	9.31	5.87
Female	3	7.33	5.51
Group: ADD	N	Mean	SD
Male	9	11.67	7.45
Female	4	14.25	6.08
Group: VC	N	Mean	SD
Male	7	10.00	5.16
Female	4	20.00	15.79
Variable: IE			
Group: MDD	N	Mean	SD
Male	23	8.70	3.47
Female	38	11.45	3.27
Group: DYS	N	Mean	SD
Male	13	11.23	3.09
Female	17	10.35	3.69
Group: CD	N	Mean	SD
Male	26	9.73	3.11
Female	9	10.56	2.83
Group: OPP	N	Mean	SD
Male	13	10.77	3.96
Female	3	7.67	4.93
Group: ADD	N	Mean	SD
Male	9	10.56	2.19
Female	4	11.25	2.22
Group: VC	N	Mean	SD
Male	7	9.29	3.73
Female	4	12.50	4.93

Table G4 (con't)

Variable: TOTP (T-score)

Group: MDD	N	Mean	SD
Male	23	35.13	6.82
Female	38	31.50	6.75
Group: DYS	**N**	**Mean**	**SD**
Male	13	33.62	5.28
Female	17	38.65	10.44
Group: CD	**N**	**Mean**	**SD**
Male	26	40.39	10.49
Female	9	40.11	10.49
Group: OPP	**N**	**Mean**	**SD**
Male	13	39.62	8.14
Female	3	39.00	13.00
Group: ADD	**N**	**Mean**	**SD**
Male	9	37.33	8.76
Female	4	33.25	6.75
Group: VC	**N**	**Mean**	**SD**
Male	7	44.86	14.55
Female	4	37.75	9.91

Variable: R1 (T-score)

Group: MDD	N	Mean	SD
Male	23	33.22	9.55
Female	38	28.26	9.37
Group: DYS	**N**	**Mean**	**SD**
Male	13	30.31	10.48
Female	17	34.65	11.12
Group: CD	**N**	**Mean**	**SD**
Male	26	35.81	13.94
Female	9	33.22	9.90
Group: OPP	**N**	**Mean**	**SD**
Male	13	35.77	11.67
Female	3	30.33	14.98
Group: ADD	**N**	**Mean**	**SD**
Male	9	37.78	8.91
Female	4	27.50	11.62
Group: VC	**N**	**Mean**	**SD**
Male	7	42.29	16.31
Female	4	29.50	10.67

Table G4 (con't)

Variable: R2 (T-score)

Group: MDD	N	Mean	SD
Male	23	42.96	10.36
Female	38	39.47	8.96
Group: DYS	**N**	**Mean**	**SD**
Male	13	41.85	5.98
Female	17	46.00	9.41
Group: CD	**N**	**Mean**	**SD**
Male	26	48.62	9.69
Female	9	52.44	10.62
Group: OPP	**N**	**Mean**	**SD**
Male	13	50.00	9.46
Female	3	47.33	11.68
Group: ADD	**N**	**Mean**	**SD**
Male	9	44.22	9.18
Female	4	45.75	6.65
Group: VC	**N**	**Mean**	**SD**
Male	7	55.14	13.15
Female	4	50.75	10.81

Variable: R3 (T-score)

Group: MDD	N	Mean	SD
Male	23	31.61	8.85
Female	38	29.13	7.55
Group: DYS	**N**	**Mean**	**SD**
Male	13	29.92	6.20
Female	17	36.24	11.13
Group: CD	**N**	**Mean**	**SD**
Male	26	36.62	9.71
Female	9	34.56	10.77
Group: OPP	**N**	**Mean**	**SD**
Male	13	34.46	6.05
Female	3	37.33	11.02
Group: ADD	**N**	**Mean**	**SD**
Male	9	30.11	7.13
Female	4	29.25	5.91
Group: VC	**N**	**Mean**	**SD**
Male	7	39.29	15.05
Female	4	33.50	13.10

Table G4 (con't)

Variable: RTOTP (Raw score)

Group: MDD	N	Mean	SD
Male	23	295.30	30.07
Female	38	279.71	32.31

Group: DYS	N	Mean	SD
Male	13	290.92	23.18
Female	17	307.65	36.48

Group: CD	N	Mean	SD
Male	26	314.65	34.33
Female	9	313.11	37.44

Group: OPP	N	Mean	SD
Male	13	313.31	29.13
Female	3	306.00	45.13

Group: ADD	N	Mean	SD
Male	9	305.56	33.33
Female	4	289.25	27.95

Group: VC	N	Mean	SD
Male	7	329.86	47.86
Female	4	303.50	37.68

Variable: RR1 (Raw score)

Group: MDD	N	Mean	SD
Male	23	108.52	12.40
Female	38	101.68	13.22

Group: DYS	N	Mean	SD
Male	13	104.85	13.14
Female	17	110.24	13.56

Group: CD	N	Mean	SD
Male	26	110.85	16.99
Female	9	108.67	13.15

Group: OPP	N	Mean	SD
Male	13	111.62	13.34
Female	3	104.00	18.33

Group: ADD	N	Mean	SD
Male	9	117.89	14.17
Female	4	100.50	16.90

Group: VC	N	Mean	SD
Male	7	115.86	15.77
Female	4	103.50	16.68

Table G4 (con't)

Variable: RR2 (Raw score)

Group: MDD	N	Mean	SD
Male	23	93.70	15.51
Female	38	88.24	14.80
Group: DYS	**N**	**Mean**	**SD**
Male	13	95.31	8.39
Female	17	98.71	14.15
Group: CD	**N**	**Mean**	**SD**
Male	26	103.62	13.46
Female	9	107.67	14.02
Group: OPP	**N**	**Mean**	**SD**
Male	13	104.00	12.90
Female	3	101.00	17.09
Group: ADD	**N**	**Mean**	**SD**
Male	9	96.11	13.27
Female	4	98.50	9.95
Group: VC	**N**	**Mean**	**SD**
Male	7	111.00	17.59
Female	4	105.50	15.78

Variable: RR3 (Raw score)

Group: MDD	N	Mean	SD
Male	23	93.09	11.88
Female	38	89.79	11.55
Group: DYS	**N**	**Mean**	**SD**
Male	13	90.77	8.86
Female	17	98.71	13.49
Group: CD	**N**	**Mean**	**SD**
Male	26	100.19	11.04
Female	9	96.56	13.58
Group: OPP	**N**	**Mean**	**SD**
Male	13	97.69	7.87
Female	3	101.00	12.29
Group: ADD	**N**	**Mean**	**SD**
Male	9	91.56	11.19
Female	4	90.25	8.46
Group: VC	**N**	**Mean**	**SD**
Male	7	103.00	17.30
Female	4	94.50	18.65

Table G4 (con't)

Variable: PAG

Group: MDD	N	Mean	SD
Male	23	4.78	2.17
Female	38	5.82	1.69

Group: DYS	N	Mean	SD
Male	13	5.85	1.68
Female	17	5.47	2.27

Group: CD	N	Mean	SD
Male	26	4.96	1.84
Female	9	5.22	1.72

Group: OPP	N	Mean	SD
Male	13	5.69	2.43
Female	3	4.67	3.51

Group: ADD	N	Mean	SD
Male	9	5.78	1.64
Female	4	5.00	1.16

Group: VC	N	Mean	SD
Male	7	4.29	1.60
Female	4	4.50	2.65

Variable: VIC

Group: MDD	N	Mean	SD
Male	23	3.30	1.58
Female	38	4.95	2.03

Group: DYS	N	Mean	SD
Male	13	4.85	1.57
Female	17	4.41	1.66

Group: CD	N	Mean	SD
Male	26	4.12	1.75
Female	9	4.56	1.59

Group: OPP	N	Mean	SD
Male	13	4.46	2.11
Female	3	2.67	1.53

Group: ADD	N	Mean	SD
Male	9	3.78	1.20
Female	4	6.00	1.41

Group: VC	N	Mean	SD
Male	7	4.71	1.89
Female	4	6.75	1.71

Table G4 (con't)

Variable: NC

Group: MDD	N	Mean	SD
Male	23	5.22	2.22
Female	38	7.29	2.25

Group: DYS	N	Mean	SD
Male	13	7.15	2.64
Female	17	6.47	2.13

Group: CD	N	Mean	SD
Male	26	6.73	2.27
Female	9	7.11	2.21

Group: OPP	N	Mean	SD
Male	13	7.00	2.45
Female	3	4.33	3.06

Group: ADD	N	Mean	SD
Male	9	6.89	1.90
Female	4	7.50	1.00

Group: VC	N	Mean	SD
Male	7	6.57	2.37
Female	4	8.25	2.75

Variable: PO

Group: MDD	N	Mean	SD
Male	23	2.87	1.55
Female	38	3.47	1.45

Group: DYS	N	Mean	SD
Male	13	3.54	0.66
Female	17	3.41	1.81

Group: CD	N	Mean	SD
Male	26	2.35	1.20
Female	9	2.67	0.87

Group: OPP	N	Mean	SD
Male	13	3.15	1.46
Female	3	3.00	1.73

Group: ADD	N	Mean	SD
Male	9	2.67	1.23
Female	4	3.50	2.08

Group: VC	N	Mean	SD
Male	7	2.43	1.40
Female	4	3.00	1.63

Table G4 (con't)

Variable: PPAG (Prop score)

Group: MDD	N	Mean	SD
Male	23	57.12	17.23
Female	38	54.89	11.43
Group: DYS	**N**	**Mean**	**SD**
Male	13	54.95	7.35
Female	17	54.41	13.02
Group: CD	**N**	**Mean**	**SD**
Male	26	54.57	10.70
Female	9	53.49	12.02
Group: OPP	**N**	**Mean**	**SD**
Male	13	56.09	15.97
Female	3	59.43	11.85
Group: ADD	**N**	**Mean**	**SD**
Male	9	60.46	7.74
Female	4	45.63	6.44
Group: VC	**N**	**Mean**	**SD**
Male	7	47.75	5.86
Female	4	36.64	13.56

Variable: PVIC (Prop score)

Group: MDD	N	Mean	SD
Male	23	42.88	17.23
Female	38	45.11	11.43
Group: DYS	**N**	**Mean**	**SD**
Male	13	45.05	7.35
Female	17	45.59	13.02
Group: CD	**N**	**Mean**	**SD**
Male	26	45.43	10.70
Female	9	46.51	12.02
Group: OPP	**N**	**Mean**	**SD**
Male	13	43.91	15.97
Female	3	40.57	11.85
Group: ADD	**N**	**Mean**	**SD**
Male	9	39.54	7.74
Female	4	54.37	6.44
Group: VC	**N**	**Mean**	**SD**
Male	7	52.25	5.86
Female	4	63.36	13.56

Table G4 (con't)

Variable: PNC (Prop score)

Group: MDD	N	Mean	SD
Male	23	66.49	15.66
Female	38	67.82	11.50
Group: DYS	**N**	**Mean**	**SD**
Male	13	64.78	11.46
Female	17	67.09	13.14
Group: CD	**N**	**Mean**	**SD**
Male	26	75.31	11.40
Female	9	72.40	8.39
Group: OPP	**N**	**Mean**	**SD**
Male	13	69.34	9.15
Female	3	56.40	6.86
Group: ADD	**N**	**Mean**	**SD**
Male	9	72.39	10.28
Female	4	70.00	14.52
Group: VC	**N**	**Mean**	**SD**
Male	7	74.59	14.06
Female	4	74.75	6.76

Variable: PPO (Prop score)

Group: MDD	N	Mean	SD
Male	23	33.51	15.66
Female	38	32.18	11.50
Group: DYS	**N**	**Mean**	**SD**
Male	13	35.22	11.46
Female	17	32.91	13.14
Group: CD	**N**	**Mean**	**SD**
Male	26	24.69	11.40
Female	9	27.60	8.39
Group: OPP	**N**	**Mean**	**SD**
Male	13	30.66	9.15
Female	3	43.60	6.86
Group: ADD	**N**	**Mean**	**SD**
Male	9	27.61	10.28
Female	4	30.00	14.52
Group: VC	**N**	**Mean**	**SD**
Male	7	25.41	14.06
Female	4	25.25	6.76