

ASSESSING DIFFERENCES IN CHEMICALLY DEPENDENT ADOLESCENT MALES USING THE CHILD BEHAVIOR CHECKLIST

Norbert Ralph and Kimberly Ann Morgan

ABSTRACT

A study was conducted with 59 chemically dependent (CD) male adolescents (ages 13 to 16) using the Child Behavior Checklist (CBC). The CD sample was compared to a normative group on four adaptive behavior scales and twelve behavior problem scales, and was found to be significantly different on all measures. The CD sample was also compared to a general clinical group on nine behavior problem scales, and was found to score significantly higher on scales measuring delinquent and uncommunicative behaviors, and significantly lower on scales measuring immature and hostile-withdrawn behaviors. Summary profile types were compared with the clinical population and a separate assaultive/aggressive population. More of the CD population fit an uncommunicative/delinquent profile type and relatively fewer fit schizoid and immature/aggressive profile types as compared to the two other groups. The CBC differentiated subgroups in the CD sample with respect to completion of treatment and type of drug used, but not motivation for treatment at admission.

Most initial experimentation with alcohol and drugs takes place during adolescence (Johnston, Bachman, & O'Malley, 1981). Chemical dependency may be the most prevalent health-impairing condition in adolescence and is a major contributor to adolescent mortality (e.g., drunk driving fatalities and suicides) (Medina, Wallace, Ralph, & Goldstein, 1982).

There has been little research to determine whether behavioral or personality patterns exist for chemically dependent (CD) adolescents. However, there is considerable literature regarding CD adults in treatment (Kandel, 1978). Newcomb and Bentler (1989) describe adolescent chemical dependency in terms of risk factors which include family structure, peer group, personality and behavior. Psychological factors include low self-esteem, delinquent behavior, need for excitement, and depression. They note that "the correlates and etiology of drug use would not seem to be an important research priority" (p. 245). Krug and Henry (1974) studied differences between 563 adolescent drug

Kimberly Ann Morgan, M.S., Disability Services, Modesto Junior College, Modesto, California.

Reprint requests to Norbert Ralph, Ph.D., M.P.H., Psychological Services of Dublin, 7567 Amador Valley Blvd. #210, Dublin, California 94568.

ADOLESCENCE, Vol. 26, No. 101, Spring 1991
Libra Publishers, Inc., 3089C Clairemont Dr., Suite 383, San Diego, CA 92117

users and nonusers (mean age was 17). Drug use was measured by a self-report questionnaire (any drug use would qualify an individual as a drug user). Users differed from nonusers in higher dominance, radicalism, self-indulgence, and aggression combined with lower social inhibition and conscience development.

Several researchers describe adolescent chemical dependency in behavioral terms, as part of a syndrome of "problem behavior" (Jessor, 1988; Donovan, Jessor, & Costa, 1988; Jessor, Chase, & Donovan, 1980; Wright, 1985; Spotts & Shontz, 1985; McKenry, Tishler, & Kelley, 1983). These studies reveal marked patterns of problem behaviors including increased deviance, sexual precociousness, more suicide attempts and depression, and general avoidance of the consequences of their actions.

Ralph and Barr (1989) have described these behaviors as part of an Adolescent Behavioral Chemical Dependency Syndrome (ABCD-S), which they define as a disturbance of behavior that has its onset after the development of a substance abuse or substance dependence disorder, and which largely subsides two months after the cessation of use. This syndrome is based on follow-up studies of CD youth discharged from treatment. The syndrome includes increased defiance toward parents, alienation from parental values, identification with delinquent and pro-drug/alcohol peer groups, decline in school achievement, increased truancy, lack of long-range planning, increased impulsiveness, increased depressive and suicidal symptoms, and increased hyperactivity.

The Child Behavior Checklist (CBC) (Achenbach & Edelbrock, 1983) has been used with adolescents, but not with adolescent CD populations, to assess outcomes of psychotherapy (Weisz, 1986), major and daily events (Compas, Davis, Forsythe, & Wagner, 1987), control-related beliefs and depression (Weisz, Weiss, Wasserman, & Rintoul, 1987), lying as a problem behavior (Stouthamer-Loeber & Loeber, 1986), characteristics of families at risk for destructive parent-child relations (Garbarino, Sebes, & Schellenbach, 1984), aggressiveness (Susman, Inoff-Germain, Nottlemann, Loriaux, Cutler, & Chrousos, 1987; Curry, Pelisser, Woodford, & Lochman, 1988), skill deficits and male delinquency (Loeber, Dishion, & Patterson, 1984), and the stability of antisocial and delinquent behavior (Loeber, 1982). The CBC also has been used for classification of adolescent psychopathology from a developmental perspective (Garber, 1984).

Curry, Pelisser, Woodford, and Lochman (1988) studied adolescents aged 12 to 16 who had been identified as assaultive or violent. Compared to the clinically referred sample of Achenbach and Edelbrock (1983), this sample was elevated on scales measuring delinquency, aggression, and hostility-withdrawal. The most frequent profile type

was immature/aggressive, which was found in 26% of their sample.

The present study was conducted to investigate the usefulness of the CBC in assessing CD populations. It was hypothesized that a behavioral measure should distinguish CD youth not only from normal populations, but also from general clinical populations in order to be useful. The study investigated whether: (1) CD adolescents will significantly differ from the normative sample on CBC behavior problem and social competence scales, (2) CD adolescents will significantly differ from a clinical sample on all CBC behavior problem scales, (3) CD profile types will differ significantly from Curry et al.'s (1988) assaultive male sample on the CBC, and (4) CBC scores will significantly discriminate youths in regard to motivation for treatment, type of substance use, and completion of the CD treatment program.

METHOD

Subjects

The subjects were 59 male CD adolescents between the ages of 13 and 16 (mean = 15.3). All had been admitted to a six-week adolescent chemical dependency program with a diagnosis of either substance dependence or substance abuse disorder serious enough to require inpatient hospitalization. Sixty-eight percent of the sample completed the six-week program. The types of substance use were: marijuana most frequently and alcohol next most frequently (42%), marijuana most frequently and any other substance other than alcohol (22%), alcohol most frequently and any other drug type (17%), and all other drug combinations (19%). Fifty-four percent were motivated at admission to stop drug use, and 46% were either not motivated or unsure. Classification as motivated or not was based on the clinical interview at admission.

Instrument

The Child Behavior Checklist (CBC) (Achenbach & Edelbrock, 1983) was used to assess behavior problems and social competence in the CD sample. The CBC was completed by a parent or guardian at admission.

The CBC consists of 118 behavior problem items and 20 items that assess social competence in peer and school activities. The checklist has norms for males and females for ages 4 to 5, 6 to 11, and 12 to 16. For males 12 to 16, three social competence scales, nine behavior problem scales (Somatic Complaints, Schizoid, Uncommunicative, Immature, Obsessive-Compulsive, Hostile-Withdrawal, Delinquent, Aggressive, and Hyperactive), four summary scales, and correlations with profile types are provided in a computerized analysis. Profile types are

derived from a cluster analysis of scale scores for each age and sex subgroup, and each profile type is named after the most prominent scale elevations. The normative sample used by Achenbach and Edelbrock (1983) did not include any children who had received mental health services during the previous year. Data on a clinical sample of children in treatment was obtained from CBCs filled out by parents as part of the intake procedure in 28 mental health settings.

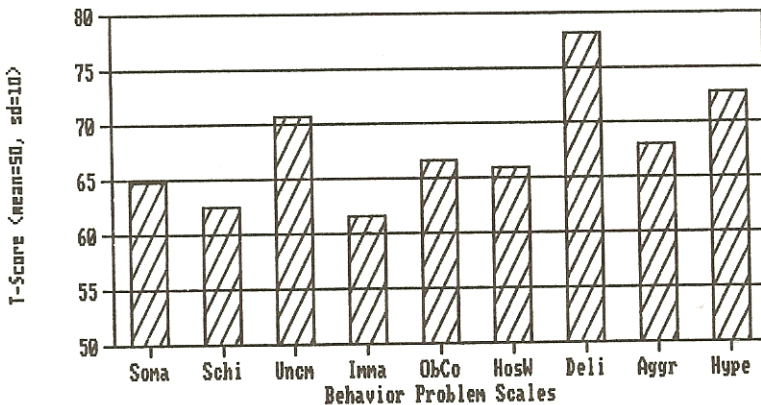
Procedure

Uncorrelated two-tailed *t* tests were used to compare the CD sample with the normative and clinical samples of Achenbach and Edelbrock (1983). Probability levels were corrected for multiple comparisons. Chi-square analysis was used to compare profile types with the CBC clinical sample and Curry et al.'s (1988) sample of assaultive youth. Logistic regression using the Number Cruncher's Statistical Software procedure (Hintze, 1989) assessed whether such factors as motivation for treatment, completion of the CD treatment program, and type of drug use would differentiate the sample. Drug use in subsequent analysis was classified into those who used alcohol and any other drug versus those who used marijuana or other drugs but not alcohol.

RESULTS

Figures 1 and 2 show the mean T scores for all social competence and behavior problem scales compared to the normative sample. Parent ratings of the inpatient CD adolescent males (ages 13 to 16) were significantly higher ($p < .001$) on all behavior problem scales as com-

Figure 1. Behavior Problem Scales:
Normative and CD Samples



pared to the normative sample. Three scales were over a scaled score of 70, i.e., two standard deviations above the mean. In rank order, they were Delinquent, Hyperactive, and Uncommunicative. When compared to the normative sample, the parent ratings of CD adolescents were significantly lower ($p < .001$) on all social competence scales.

The CD sample and Achenbach and Edelbrock's sample (1983) of clinically referred adolescent males (ages 12 to 16) were compared using the nine behavior problem scales (see Figure 3). Mean differences between the clinically referred and the CD adolescents showed significantly higher scores for the CD sample ($p < .001$) on the Delinquent and Uncommunicative scales, and significantly lower ($p < .001$) scores on the Immature and Hostile-Withdrawal scales.

Figure 2. Social Competence Scales:
Normative and CD Samples

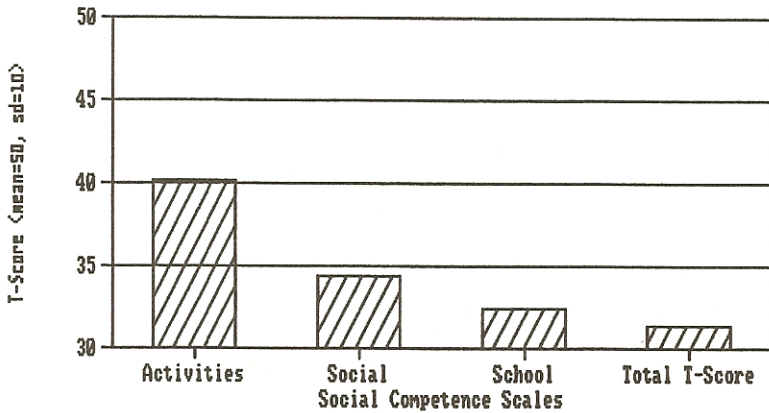
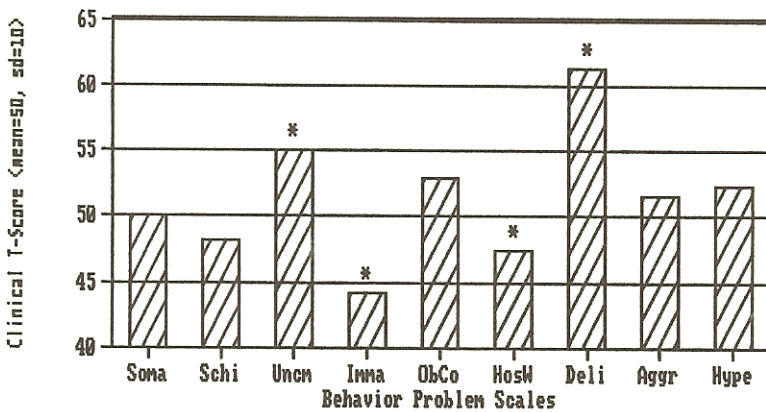


Figure 3. Behavior Problem Scales:
Clinical & CD Samples



Investigation of profile types used chi-square statistics for analysis of categorical data. Each case was assigned to a profile type according to the largest positive correlation, and compared in separate analyses to both Achenbach and Edelbrock's (1983) clinical sample and Curry et al.'s (1988) sample of assaultive youth. The results are shown in Table 1. The schizoid, immature/aggressive, and hyperactive profile types were collapsed into one cell for chi-square analysis because of the small numbers in these categories in the CD sample. Compared with the mental health and assaultive/aggressive population, more of the CD population fit an uncommunicative/delinquent pattern, and relatively fewer fit the schizoid and immature/aggressive patterns ($\chi^2 = 85.6, df = 6, p < .000001$). Those in the uncommunicative/delinquent profile made up 45.8% of the CD sample and are characterized by elevations on both Delinquent and Uncommunicative scales.

Logistic regression was used to assess whether scores on the behavior problem scales would differentiate subgroups in the CD sample. A stepwise upward regression procedure was used, with $\chi^2 = 4.0$ for each variable. All three adaptive behavior scales and nine behavior problem scales were entered into the analysis. The factors analyzed were whether the subjects completed the six-week CD treatment program and whether they were motivated to stop substance abuse. In addition, drug use was classified into those who used alcohol versus those who used any drug but not alcohol. The analysis with motivation as a dependent variable did not produce significant results for any scale.

Using completion of the program as a dependent variable, three variables produced a statistically significant model and correctly predicted 71% of the cases (see Table 2). Those who were lower on the Schizoid and Hostile-Withdrawal scales and higher on the Uncommunicative scale were more likely to complete the program. With regard to drug type, only one scale, Hostile-Withdrawal, produced a significant model, which correctly identified 67.8% of the cases (Table 3). The higher the score, the greater likelihood that the subject used alcohol primarily or in combination with other drugs.

Table 1. Percentage of Adolescents in CD, Mental Health, and Assaultive Samples

Profile type	CD	Mental Health	Assaultive
Schizoid	3.4%	16.6%	10.4%
Uncommunicative	16.9%	12.3%	11.9%
Immature/aggressive	0.0%	12.8%	26.6%
Hyperactive	1.7%	11.8%	9.9%
Uncommunicative/delinquent	45.8%	12.0%	6.2%
Delinquent	25.4%	15.0%	14.4%

Sample Total	59	633	416

Table 2. CBC Scales as Predictors of Completion of Treatment

Variable	Beta Estimate	Standard Error	Chi-Square Beta=0	Prob Beta=0
Intercept	8.919578	3.780637	5.57	0.0183
Schizoid	-.1349157	6.062235E-02	4.95	0.0260
Uncommunicative	.1532945	5.539748E-02	7.66	0.0057
Hostile-Withdrawal	-.1556259	6.479131E-02	5.77	0.0163

Iterations = 6, Model chi-square = 15.24, d.f. = 3
 Model R-square = 0.2170, Prob. chi-square = 0: 0.0016

Table 3. CBC Scales as Predictors of Drug Type

Variable	Beta Estimate	Standard Error	Chi-Square Beta=0	Prob Beta=0
Intercept	-5.942597	2.509327	5.61	0.0179
Hostile-Withdrawal	9.606469E-02	3.843219E-02	6.25	0.0124

Iterations = 5, Model chi-square = 7.94, d.f. = 1
 Model R-square = 0.1223, Prob. chi-square = 0: 0.0048

DISCUSSION

The results support the hypothesis that parent ratings of CD adolescents will be significantly higher than those for the normative sample on all behavioral problem scales and lower on all social competence scales of the CBC. This suggests that there are social and behavioral differences among this population as compared to normative groups. These findings are consistent with research which shows that adolescent CD populations differ from nonclinical populations. Drug users have been found to exhibit a greater number of psychiatric symptoms and to have more abnormal Minnesota Multiphasic Personality Inventory profiles than do control groups of nonusers (Fitzgibbons, Berry, & Shearn, 1973; Gilbert & Lombardi, 1967; McAree, Steffenhagen, & Zheutlin, 1972; Sutker, 1971).

The CBC clinical sample differed significantly from the CD adolescents on four out of nine behavior problem scales. The CD sample scored highest on the Delinquent scale. These results are consistent with the literature on "problem behavior" (Jessor, 1988; Donovan, Jessor, & Costa, 1988; Jessor, Chase, & Donovan, 1980; Wright, 1985; Spotts & Shontz, 1985; McKenry, Tishler, & Kelley, 1983). Gordon (1973) has stated that delinquency is commonly, though not inevitably, linked with drug dependency. The significantly higher scores on the

Delinquent scale are also consistent with the findings of Bell and Champion (1979), whose data showed that deviancy and antisocial behavior correlated closely with the tendency to use drugs.

The CD group scored significantly higher on the Uncommunicative scale. These results are consistent with previous research in that drug abusers were found to be shy, less self-confident, and insecure (Cockett & Marks, 1969); self-conscious (Gilbert & Lombardi, 1967); slow moving (Zimmering, Toolan, Safrin, & Wortin, 1952); and suspicious (Carrol & Zukerman, 1977).

The CD sample scored significantly lower on the Hostile-Withdrawal scale than did the clinically referred adolescents. This is inconsistent with the findings of several authors who have suggested that drug abusers experienced rejection, loneliness, and hostility (Cockett & Marks, 1969; Edwards, Bloom, & Cohen, 1969; Kaplan & Meyerowitz, 1970); had poor peer relations (Gilbert & Lombardi, 1967); felt worthless (Kaplan & Meyerowitz, 1970); and were less likely to react with overt aggression (Zimmering, Toolan, Safrin, & Wortin, 1952). The CD group also scored significantly lower on the Immature scale, suggesting that they were less immature than the clinically referred population. These results are inconsistent with previous research which identified drug abusers as being immature (Rettig & Pasamanick, 1964; Rosenberg, 1969).

No differences were found between the CD and clinical samples on the Somatic Complaints, Schizoid, Obsessive-Compulsive, Aggressive, and Hyperactive scales. These results are consistent with the findings of Fitzgibbons, Berry, and Shearn (1973) that many of the personality characteristics which have been found in previous studies to be associated with illicit drug use are not specific to drug abuse but are common to all young people who are experiencing severe psychological distress.

The present study has several limitations. Comparisons with other research is problematic given that different populations were studied at different times, using different age or ethnic groups and different sets of dependent or independent variables. The inpatient CD population studied here may differ from other adolescent drug abusers who never obtain treatment or who receive treatment in a different setting (e.g., outpatient).

The CBC is filled out by one parent, and a response bias may involve either over- or underreporting behavior problems. For example, Clarisio and McCoy (1976) have stated that behavior rating scales are measures of adult reports or perceptions of children's behavior and do not necessarily reflect actual behavior. Parent reports of child behavior are influenced by attitudes and family interaction, variables that are

seldom measured along with symptom inventories (Garrison & Earls, 1985). Rosenberg and Joshi (1986) found that the greater the marital difficulty, the greater the difference in the adults' ratings of behavior difficulties in the children. According to Goldman, L'Engle-Stein, and Guerry (1983), the CBC is subject to problems relating to responder bias, such as unreliability of informants due to either inaccurate or distorted reporting. Friedlander, Weiss, and Traylor (1986) assessed the influence of maternal depression on the validity of the CBC and found that both the child's gender and maternal depression showed systematic relationships to mothers' ratings of their children.

The CBC appears to be a useful instrument in evaluating adolescent CD populations, and to differentiate the CD group from both normative populations as well as related clinical groups. The results are consistent with several descriptions of CD adolescents, including "problem behavior" syndromes (Jessor, 1988; Donovan, Jessor, & Costa, 1988; Jessor, Chase, & Donovan, 1980; Wright, 1985; Spotts & Shontz, 1985; McKenry, Tishler, & Kelley, 1983), and Ralph and Barr's (1989) description of the ABCD-S, including a mix of delinquent, depressive, and hyperactive types of behaviors. The modal "profile type" derived from the CBC was uncommunicative/delinquent. Subjects fitting this profile made up 45.8% of the CD sample and are characterized by elevations on both Delinquent and Uncommunicative scales. This was followed by the delinquent type (25.4%) and the uncommunicative type (16.9%).

While the high incidence of delinquent symptoms is not surprising, the coincidence of these symptoms with depressive behaviors is less frequently noted, with the exception of Ralph and Barr (1989) and the literature on problem behaviors in adolescence (Jessor, 1988; Donovan, Jessor, & Costa, 1988; Jessor, Chase, & Donovan, 1980; Wright, 1985; Spotts & Shontz, 1985; McKenry, Tishler, & Kelley, 1983). The presence of depressive symptoms and other internalized distress has also been noted in assaultive youth (Curry et al., 1988) and juvenile offenders (Chiles, Miller, & Cox, 1980; Alessi, McManus, Grapentine, & Brickman, 1984). The reasons for the coincidence of depressive and delinquent symptoms in these populations is a matter of speculation, and is most likely related to a variety of factors. Reactions from significant others in the adolescent's life, including parents, school personnel and legal authorities, are often negative and do not reinforce a sense of interpersonal competence. The adolescent's self-evaluation and guilt over misbehavior contribute to depressive symptoms, as does the toxic effects of chemical dependency. The depressive effects of alcohol, amphetamines, and cocaine, especially after acute use, are well documented. Treatment models should address the presence of inter-

nalized symptoms as well as acting-out and delinquent behaviors.

The finding that the CD population was lower on the Hostile-Withdrawal and Immature scales as compared to the clinical sample indicates that the immature, depressed, destructive, and irritable behaviors that these scales assess are less frequent in CD populations. This may be consistent with Ralph and Barr's (1989) hypothesis that the behavioral disturbance seen in adolescent CD is a "side effect" of the substance abuse and its associated social-psychological consequences, and not part of a chronic pattern of personality disturbance that elevations on the Hostile-Withdrawal and Immature scales may represent in clinically referred youth.

The CBC differentiated subgroups in the CD sample with respect to completion of treatment and type of substance used, but not motivation for treatment at admission. The logistic regression model correctly classified 71% of the sample regarding completion of the program. Those who scored lower on the Schizoid and Hostile-Withdrawal scales and higher on the Uncommunicative scale were more likely to complete the program. While this modest result is a matter of interpretation, one possibility is that those who were more depressed had more internal discomfort which acted as motivation for treatment, and those with lower Schizoid and Hostile-Withdrawal scores were more interpersonally able to respond to treatment. The Hostile-Withdrawal scale correctly identified 67.8% of those who were more likely to have used alcohol singly or in combination with other drugs. The items in this scale may identify some characteristics of this type of drug use relative to substance use in general, and that immature, depressed, destructive, and irritable behaviors are more frequent with alcohol-abusing adolescents, at least in this sample.

REFERENCES

- Achenbach, T.M., & Edelbrock, C.S. (1983). *Manual for the Child Behavior Checklist and Revised Child Behavior Profile*. Burlington, VT: Department of Psychiatry, University of Vermont.
- Alessi, N.E., McManus, M., Grapentine, W.L., & Brickman, A. (1984). The characterization of depressive disorder in serious juvenile offenders. *Journal of Affective Disorders*, 6, 9-17.
- Bell, D.S., & Champion, R.A. (1979). Deviancy, delinquency, and drug use. *British Journal of Psychiatry*, 134, 269-276.
- Carrol, E., & Zukerman, M. (1977). Psychopathology and sensation seeking in "downers," "speeders," and "trippers": A study of the relationship between personality and drug choice. *International Journal of the Addictions*, 12, 591-601.
- Chiles, J.A., Miller, M.D., & Cox, G.B. (1980). Depression in an adolescent delinquent population. *Archives of General Psychiatry*, 37, 1179-1184.

- Clariso, H.F., & McCoy, G.F. (1976). *Behavior disorders in children* (2nd ed.). New York: Harper and Row.
- Cockett, R., & Marks, V. (1969). Amphetamine taking among young offenders. *British Journal of Psychiatry*, *115*, 1203-1204.
- Compas, B.E., Davis, G.E., Forsythe, C.J., & Wagner, B.M. (1987). Assessment of major and daily stressful events during adolescence: The Adolescent Perceived Events Scale. *Journal of Consulting and Clinical Psychology*, *55*(4), 534-541.
- Curry, J.F., Pelisser, B., Woodford, D.J., & Lochman, J.E. (1988). Violent or assaultive youth: Dimensional and categorical comparisons with mental health samples. *Journal of the American Academy of Child and Adolescent Psychiatry*, *27*, 226-232.
- Donovan, J.E., Jessor, R., & Costa, F.M. (1988). Syndrome of problem behavior in adolescence: A replication. *Journal of Consulting and Clinical Psychology*, *56*(5), 762-765.
- Edwards, A.E., Bloom, M.H., & Cohen, S. (1969). The psychedelics: Love or hostility potion? *Journal of Psychological Reports*, *24*, 843-846.
- Fitzgibbons, D.J., Berry, D.F., & Shearn, C.R. (1973). MMPI and diagnosis among hospitalized drug abusers. *Journal of Community Psychology*, *1*(1), 79-81.
- Friedlander, S., Weiss, D., & Traylor, J. (1986). Assessing the influence of maternal depression on the validity of the Child Behavior Checklist. *Journal of Abnormal Child Psychology*, *14*(1), 123-133.
- Garbarino, J., Sebes, J., & Schellenbach, C. (1984). Families at risk for destructive parent-child relations in adolescence. *Child Development*, *55*(1), 174-183.
- Garber, J. (1984). Classification of childhood psychopathology: A developmental perspective. *Child Development*, *55*(1), 30-48.
- Garrison, W.T., & Earls, F. (1985). The Child Behavior Checklist as a screening instrument for young children. *Journal of the Academy of Child Psychiatry*, *24*(1), 76-80.
- Gilbert, J., & Lombardi, D. (1967). Personality characteristics of young male narcotic addicts. *Journal of Consulting Psychology*, *31*(5), 536-538.
- Goldman, J., L'Engle-Stein, C., & Guerry, S. (1983). *Psychological methods of child assessment*. New York: Brunner/Mazel, 251-314.
- Gordon, A.M. (1973). Patterns of delinquency in drug addiction. *British Journal of Psychiatry*, *122*, 205-210.
- Hintze, J.L. (1989). *Number cruncher's statistical software*. Jerry Hintze, Kaysville, UT.
- Jessor, R. (1988). Problem-behavior theory and adolescent drinking. *Brown University Digest of Addiction Theory and Application*, *7*(1), 52-55.
- Jessor, R., Chase, J.A., & Donovan, J.E. (1980). Psychosocial correlates of marijuana use and problem drinking in a national sample of adolescents. *American Journal of Public Health*, *70*, 604-613.
- Johnston, L., Bachman, J., & O'Malley, P. (1981). *Highlights from student drug use in America 1975-1981*. Rockville, MD: National Institute on Drug Abuse.
- Kandel, D. (1978). *Longitudinal research on drug use: Empirical findings and methodological issues*. New York: Wiley.
- Kaplan, H.B., & Meyerowitz, J.H. (1970). Social and psychological correlates of drug abuse: A comparison of addict and non-addict populations from the perspective of self theory. *Social Science and Medicine*, *4*, 203-225.

- Krug, S., & Henry, T. (1974). Personality, motivation and adolescent drug use patterns. *Journal of Consulting Psychology, 21*(5), 440-445.
- Loeber, R. (1982). The stability of antisocial and delinquent child behavior: A review. *Child Development, 53*(6), 1431-1446.
- Loeber, R., Dishion, T.J., & Patterson, G.R. (1984). Multiple gating: A multi-stage assessment procedure for identifying youths at risk for delinquency. *Journal of Research in Crime and Delinquency, 21*(1), 7-32.
- McAree, C.P., Steffenhagen, R.A., & Zheutlin, L.S. (1972). Personality factors and patterns of drug usage in college students. *American Journal of Psychiatry, 128*(7), 890-893.
- McKenry, P.C., Tishler, C.L., & Kelley, C. (1983). The role of drugs in adolescent suicide attempts. *Suicide and Life-Threatening Behavior, 13*(3), 166-175.
- Medina, A.S., Wallace, H.M., Ralph, N.B., & Goldstein, H. (1982). Adolescent health in Alameda County. *Journal of Adolescent Health Care, 2*(3), 175-182.
- Newcomb, M.D., & Bentler, P.M. (1989). Substance use and abuse among children and teenagers. *American Psychologist, 44*(2), 242-248.
- Ralph, N.B., & Barr, M.A. (1989). Diagnosing attention-deficit hyperactivity disorder and learning disabilities with chemically dependent adolescents. *Journal of Psychoactive Drugs, 21*(2), 203-215.
- Rettig, S., & Pasamanick, B. (1964). Subcultural identification of hospitalized male drug addicts: A further examination. *Journal of Nervous and Mental Disease, 139*, 83-86.
- Rosenberg, C.M. (1969). Young alcoholics. *British Journal of Psychiatry, 115*, 181-188.
- Rosenberg, L.A., & Joshi, P. (1986). Effect of marital discord on parental reports on the Child Behavior Checklist. *Psychological Reports, 59*, 1255-1259.
- Spotts, J., & Shontz, F.C. (1985). A theory of adolescent substance abuse. *Advances in Alcohol and Substance Abuse, 4*(3-4), 117-138.
- Stouthamer-Loeber, M., & Loeber, R. (1986). Boys who lie. *Journal of Abnormal Child Psychology, 14*(4), 551-564.
- Susman, E.J., Inoff-Germain, G., Nottlemann, E.D., Loriaux, D.L., Cutler, G.B., & Chrousos, G.P. (1987). Hormones, emotional dispositions and aggressive attributes in young adolescents. *Child Development, 58*(4), 1114-1134.
- Sutker, P. (1971). Personality differences and sociopathy in heroin addicts and nonaddict prisoners. *Journal of Abnormal Psychology, 78*(3), 247-257.
- Weisz, J.R. (1986). Contingency and control beliefs as predictors of psychotherapy outcomes among children and adolescents. *Journal of Consulting and Clinical Psychology, 54*(6), 789-795.
- Weisz, J.R., Weiss, B., Wasserman, A.A., & Rintoul, B. (1987). Control-related beliefs and depression among clinic-referred children and adolescents. *Journal of Abnormal Psychology, 96*(1), 58-63.
- Wright, L.S. (1985). High school polydrug users and abusers. *Adolescence, 20*(80), 853-861.
- Zimmering, P., Toolan, J., Safrin, R., & Wortin, S.B. (1952). Drug addiction in relation to problems of adolescence. *American Journal of Psychiatry, 109*, 272-278.