

# Clinical Characteristics of Adolescents with Serious Emotional Disturbance Who Continued Substance Abuse after One Year Participation in Systems of Care



Melanie A. Wegner, M.A.<sup>1</sup>, Shawn K. Acheson, Ph.D.<sup>2</sup>, Maria E. Fernandez, Ph.D.<sup>3</sup>,  
May Alexander, M.S.<sup>4</sup>, and Elizabeth G. Sharpe, Ph.D.<sup>5</sup>

<sup>1</sup>Dept. of Counseling, Rehabilitation Counseling and Counseling Psychology, West Virginia University – Morgantown, WV; <sup>2</sup>Department of Psychology, Western Carolina University - Cullowhee, NC

<sup>3</sup>Division of Mental Health, Developmental Disabilities, and Substance Abuse Services, N.C. Dept. of Public Health – Raleigh, NC; <sup>4</sup>Orange-Person-Chatham Mental Health Center - Chapel Hill, NC; <sup>5</sup>East Carolina University - Greenville, NC

## Introduction

Substance abuse is prevalent among adolescents in the United States (Johnston, O'Malley, & Bachman, 1993). Epidemiological research shows that at least 5% of adolescents meet DSM criteria for an alcohol use disorder (Rohde, Lewinsohn, & Seeley, 1996). Substance use is highly correlated with many negative consequences, such as greater impairment in school, depression, and acting out behaviors. Psychosocial and interpersonal problems experienced by adolescents who use alcohol and drugs regularly include low self-esteem, depression, anxiety, impaired peer relations, social isolation, and adjustment difficulties. Many studies have focused on the variables associated with substance use (Hawkins, Arthur, & Catalano, 1995; Dobkin, Tremblay, Masse, & Vitaro, 1995; Yu and Williford, 1992; Windle & Windle, 1993; Biederman, Wilens, Mick, & Faraone, 1997; Kessler, Nelson, McGonagle, Edlund, Frank, & Leaf, 1996; Stowell & Estroff, 1992; Hawkins, Catalano, & Miller, 1992; Newcomb, 1995; Lewinsohn, Gotlib, & Seeley, 1995; Costa, Jessor, & Turbin, 1999; Haggerty, Sherrod, Garnezy, & Rutter, 1994; Mayhew & Lempers, 1998; Fisher & Fagot, 1998); however, the variables that correlate with continued substance use have not been well researched. The purpose of this study was to identify variables associated with continued substance use among adolescents with serious emotional disturbance after one-year of participation in the Systems of Care program. Understanding the differences among these adolescents may assist in developing and tailoring services to meet their specific needs.

## Methods

The sample was drawn from 7 N.C. counties involved the SOC evaluation project and included 788 males, 312 females, and 80 participants with missing gender information, aged 5 years 0 months to 17 years 6 months. There was no difference in the gender distribution between users and abstainers ( $\chi^2 = 1.4, p = .23$ ). The mean age was 12.29 (s. d. = 3.35). Subjects were included if they met the following criteria: subject indicated substance use at baseline, subject was between 11 and 18 years old, and subject had a complete data set on all variables of interest at baseline, six month and 12 month follow-up. The final sample included 33 males and 22 females ( $M_{age} = 14.2 (1.5)$ ; 2 Hispanic, 1 Native American or Alaskan Native, 19 African American, and 33 Caucasian). The sample was classified into two groups. Any adolescent that indicated continued substance abuse at either the 6-month or 12-month follow-up was included in the continued substance abuse group (i.e., "users",  $n=43$ ); all others became the "abstainers" ( $n=12$ ).

**Substance Use Scales A & B.** History of substance abuse and current status of substance abuse was drawn from Substance Use Scales A & B (Kay Hodges, 1994).

**Child and Adolescent Functional Assessment Scale (CAFAS).** The CAFAS (Hodges, 1990) assesses level of functioning across three role performance domains (school/work, home, community), two mood domains (moods/emotions, self-harmful behavior), behavior toward others, substance use and thinking. We used a modified total CAFAS score (excluding the substance use domain) rather than the total composite score.

**Child Behavior Checklist (CBCL).** The CBCL provides a standardized measure for children producing a total problem score, two broad-band syndrome scores (internalizing, externalizing), and eight narrow-band syndrome scores (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, aggressive problems, delinquent problems).

**Youth Self-Report (YSR).** The YSR (Achenbach, 1991), the adolescent self-report version of the CBCL, also produces a total problem score, two broad-band syndrome scores (internalizing, externalizing), and eight narrow-band syndrome scores (withdrawn, somatic complaints, anxious/depressed, social problems, thought problems, attention problems, aggressive problems, delinquent problems).

**Caregiver Strain Questionnaire (CGSQ).** (Brannan, Heflinger, & Bickman, 1990). The CGSQ assesses stress resulting from caregiving responsibilities. Objective Strain involves observable negative events (e.g., the child's getting into trouble at school or with law enforcement. Subjective Strain-Internalized involves negative feelings the caregiver may have experienced such as worry, guilt, and fatigue. Subjective Strain-Externalized involves negative feelings the caregiver may have experienced such as embarrassed, and angry.

## Results

Group means and standard deviations for each dependent variable are reported in Table 1. The overall MANOVA (Wilks's Lambda = .655,  $F(9, 45) = 2.63, p = .015, \eta^2 = .345, power = .899$ ) was significant. These results indicate a significant difference between those who continued to use substances versus those who abstained. Results of individual univariate F-tests are reported in Table 2 for each dependent variable. There were statistically significant differences between the group of users and the group of abstainers in terms of CGSQ objective, internal and global caregiver strain (see Table 2). In each of these latter findings, higher caregiver strain was associated with continued substance use.

## Discussion

Several observations are worth significant mention. First, the abstainers and users differed significantly on the variables described within the present analysis. This alone points to the significant possibility that factors identified at baseline may be used effectively to help identify those individuals that continue to abuse substances. It is also worth noting that the groups differ only on variables that assess caregiver strain. As a result it may be of significant value to target the caregivers as individuals in need of some therapeutic intervention. Although our study neglects the direction of causation, attempts to reduce caregiver strain may well help to prevent a child's continued substance use.

Another important observation concerns the total variance in substance use that is accounted for by this collection of measures. Our effect size ( $\eta^2$ ) suggests that only about 35% of the total variance in group membership was accounted for by these measures. That indicates that there is significant variance that is as yet unaccounted for. These additional factors may include environmental factors as well as other child or family characteristics. Moreover, it will be of value to consider both risk factors (as assessed here) and protective factors in future analyses.

**Table 1.** Group Means and Standard Deviations for Users and Abstainers on Internalizing T-score and Externalizing T-score (CBCL and YSR); CGSQ Objective Strain, Internal Strain, External Strain, and Global Strain; modified CAFAS Total Functional Impairment Score; and Age of Onset.

<u>Dependent Variable</u>	<u>Group</u>	<u>Mean</u>	<u>Std. Deviation</u>
Internalizing T-score, CBCL	abstainers	60.25	12.48
	users	62.19	12.90
Externalizing T-score, CBCL	abstainers	66.17	14.54
	users	72.40	9.18
Internalizing T-score, YSR	abstainers	57.17	13.98
	users	52.74	12.51
Externalizing T-score, YSR	abstainers	63.08	12.97
	users	63.77	10.42
Objective Strain	abstainers	28.83	11.27
	users	35.77	10.11
Internal Strain	abstainers	7.83	3.95
	users	11.02	2.90
External Strain	abstainers	21.67	6.83
	users	23.51	6.22
Global Strain	abstainers	58.33	17.99
	users	70.30	17.41
Modified CAFAS Total	abstainers	93.33	41.19
	users	112.09	35.43
Age of Onset	abstainers	9.5	1.93
	users	11.05	2.54

**Table 2.** Differences between Users and Abstainers on Internalizing T-score and Externalizing T-score (CBCL and YSR); CGSQ Objective Strain, Internal Strain, External Strain, and Global Strain; Modified CAFAS Total Functional Impairment Score; and Age of Onset.

<u>Dependent Variable</u>	<u>F</u>	<u>df</u>	<u>p</u>	<u><math>\eta^2</math></u>	<u>Power</u>
Internalizing T-score, CBCL	.214	1	.645	.004	.074
Externalizing T-score, CBCL	3.291	1	.075	.058	.429
Internalizing T-score, YSR	1.115	1	.296	.021	.179
Externalizing T-score, YSR	0.36	1	.550	.001	.054
Objective Strain	4.199	1	.045*	.073	.521
Internal Strain	9.607	1	.003**	.153	.861
External Strain	.792	1	.378	.015	.141
Global Strain	4.372	1	.041*	.076	.537
Modified CAFAS Total	2.452	1	.123	.044	.337
Age of Onset	3.801	1	.057	.067	.482

\*  $p < .05$ , \*\*  $p < .01$