



Chapter 3

Individual Characteristics and Needs Associated with Substance Misuse of Adolescents and Young Adults in Addiction Treatment

Michael L. Dennis, Michelle K. White, and Melissa L. Ives

This chapter examines the characteristics and needs of substance misusing adolescents (ages 12–17) and young adults (ages 18–25), as well as implications for improving practice. The chapter begins with a review of the literature on the prevalence, course, and correlates of adolescent substance misuse. It then uses a large treatment data set to provide a detailed description of the different demographic, substance use, and comorbidity characteristics of adolescents presenting to substance abuse treatment and explores how they vary by three demographic groups, systems where they could be recruited from, and levels of addiction treatment. The chapter then focuses on using more detailed data on 14,776 adolescents from 113 Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Substance Abuse Treatment (CSAT) grantee treatment programs in the United States who were interviewed with a standardized biopsychosocial assessment called the Global Appraisal of Individual Needs (GAIN; Dennis, Titus, White, Unsicker, & Hodgkins, 2003). The chapter concludes with implications for early intervention (EI) and treatment.

Background on the Prevalence, Course, and Correlates of Adolescent Substance Misuse

Prevalence

Using a life course perspective, the prevalence of substance use, abuse, and dependence rises through the teen years, peaking at around 20% between ages 18 and 20, then declines gradually over the next four decades (Dennis & Scott, 2007). Of the ~24.3 million adolescents (ages 12–17) in the US, ~16.6% have used alcohol in the past month (10.3% to the point of intoxication), 9.8% have used illicit drugs (6.7% marijuana), and 8.0% self-report criteria for substance abuse or dependence in the past year (SAMHSA, 2007a). Of the ~32.4 million young adults (ages 18–25) in the US, ~61.9% have used alcohol in the past month (42.2% to the point of intoxication), 19.8% have used illicit drugs (16.3% marijuana), and 21.3% self-report

criteria for substance abuse or dependence in the past year (SAMHSA, 2007a). Yet it is estimated that less than 1 in 6 adolescents (1.4% of the population) and 1 in 12 young adults with abuse or dependence (1.7% of the population) received any kind of addiction treatment in the past year (SAMHSA, 2007a). It has been further noted that over 90% of those who develop substance dependence in their lifetime started using under the age of 18 and half started using under the age of 15 (Dennis, Babor, Roebuck, & Donaldson, 2002). *Thus, substance misuse is primarily an adolescent-onset disorder.*

Long-Term Course and Demographic Correlates

The age of onset is related to the long-term course of addiction. Those who initiate substance use prior to the age of 15 are significantly more likely than those who start over the age of 18 to have symptoms of dependence as an adult an average of 20 years later (Dennis, Babor, Roebuck, & Donaldson, 2002). In a study of adults in treatment (Dennis, Scott, Funk, & Foss, 2005), the median time from first use to at least a year of abstinence was significantly longer for people who started using before the age of 15 (median of 29 years of use before a year of abstinence) than those who started between the ages of 15 and 20 (26 years of use) or who started at the age of 21 or older (18 years of use). Conversely, even after controlling for age of onset, the median duration of use was significantly shorter for those treated in the first 9 years of use (15 years of use) than for those first treated after 10–19 years of use (23 years of use) or after 20 or more years of use (over 35 years of use). Multiple investigations have suggested that in addition to the age of onset, gender and race are related to the rates of initiation, prevalence, and remission from substance use and substance use disorders (Dennis, Foss, & Scott, 2007; Grant & Dawson, 1998; Rounds-Bryant & Staab, 2001; Van Etten & Anthony, 1999). While they have similar rates of abuse and dependence as boys in the community (SAMHSA, 2007a), on average girls represent only about one-third of the people who receive publicly funded treatment (SAMHSA, 2008). *Thus, intervention during adolescence and young adulthood is an important strategy for reducing long-term use but it is important to explore gender differences.*

Need for Screening and Intervention in Multiple Systems

Relative to adolescents who are abstinent, those who report the use of marijuana (and typically alcohol as well) weekly or more often are 4–47 times more likely to have a wide range of past-year problems including symptoms of cannabis dependence (0% vs 77%), alcohol dependence (0% vs 67%), clinically severe symptoms of attention deficit, hyperactivity, or conduct disorder (CD; 13% vs 57%), getting into physical fights (11% vs 47%), dropping out of school (6% vs 25%), emergency

room admissions (17% vs 33%), any illegal activity (17% vs 69%), and any arrest (1% vs 23%) (Dennis & McGeary, 1999). In fact, substance use is increasingly recognized as the leading malleable cause of death in the US (Mokdad, Marks, Stroup, & Gerberding, 2004). As a person develops from ages 6–11 to ages 12–17 to ages 18–20, there are dramatic increases in the rate of emergency departments admissions with problems related to illicit drug use (2.4 to 197.9 to 517.5 per 100,000 population) with higher rates for males at all ages than females (SAMHSA, 2007b). While interventions at this point can be effective (e.g., Spirito et al., 2004), from a public health perspective it makes more sense to intervene within other systems of care before problems become life threatening.

Some of the other major systems that provide opportunities for screening and early interventions with adolescent substance users include schools, the workplace, child welfare systems, and the justice system. In schools, among 12th graders, 48.2% have used illicit drugs at some point in their lives (21.5% in the past month) and 56.4% have been drunk in their lifetime (30.0% in the past month) (Johnston, O'Malley, Bachman, & Schulenberg, 2007). Among adolescents in the workplace, 23.3% reported lifetime illicit drug use (19.1% in the past month), 17.5% have been drunk in the past month, and 4.4% self-report criteria for substance abuse or dependence in the past year; among young adults in the workplace, 76.7% report lifetime illicit drug use (24.7% in the past month), 82.5% have been drunk in the past month, and 6.2% self-report criteria for substance abuse or dependence in the past year (SAMHSA, 2007a). Clearly, there is a need for screening and intervention in school and workplace settings.

The child welfare system also has a need for screening and intervention: research suggests that 50–90% of child welfare cases involve one or more family members with a substance use disorder (Marsh, Ryan, Choi, & Testa, 2006; McAlpine, Marshall, & Doran, 2001) and 60–87% of adolescents in substance abuse treatment self-report having been victimized (Shane, Diamond, Mensinger, Shera, & Wintersteen, 2006; Titus, Dennis, White, Scott, & Funk, 2003). Within the system, tremendous racial disparities exist – for African-Americans in particular – including higher likelihood of cases being opened, more case dispositions resulting in out-of-home placement, longer foster care stays, reduced likelihood of family reunification, and longer time to reunification (Government Accountability Office [GAO], 2007; Green, Rockhill, & Furrer, 2007; Lu et al., 2004). Further, African-American families in the child welfare system are less likely to have received addiction treatment and other services than Caucasian and Latino families and experience overall poorer case outcomes (Courtney et al., 1996).

Of the adolescents and young adults who reported lifetime arrests, 81.9% had used illicit drugs (61.1% in the past month), 56.1% had been drunk in the past month, and 11.5% self-report criteria for substance abuse or dependence in the past year (SAMHSA, 2007a). From 1992 to 2006 the number of adolescents referred to publicly funded treatment from the juvenile or criminal justice systems increased from 35,369 to 67,437 (39.0% to 50.6% of all public treatment admissions); in the same time period the number of young adults referred to publicly funded treatment from the justice system increased from 105,560 to 163,179 (43.3% to 50.2%) of all

public treatment admissions (SAMHSA, 2008). Across ages, referral to treatment by the juvenile or criminal justice system was much more likely for males than for females (56.6% vs 36.9%) and for African-American and mixed-race adolescents than for Caucasian youth (60.0% and 51.1% vs 47.8%) (SAMHSA, 2008). *Thus, there are multiple promising systems for identifying and intervening with more adolescents and young adult substance users, and doing so systematically has the potential to reduce current health disparities.*

Variations by Level of Care

While policymakers and researchers have often attempted to compare outpatient (OP) and inpatient treatment, these programs have historically served different adolescents in terms of the severity of substance use disorders and other co-occurring problems (Dennis, Dawud-Noursi, Muck, & McDermeit (Ives), 2003; Gerstein & Johnson, 1999; Hser et al., 2001; Hubbard, Cavanaugh, Craddock, & Rachal, 1985; Rounds-Bryant, Kristiansen, & Hubbard, 1999; Sells & Simpson, 1979; Simpson, Savage, & Sells, 1978). These differences grew in the 1990s with the increasing use of more explicit patient placement criteria, such as those recommended by the American Society of Addiction Medicine (ASAM, 1996, 2001), the use of which has been mandated in several states. The guidelines recommend (and studies have increasingly also found) that the severity of substance use disorders and co-occurring problems increase with the intensity of services (i.e., EI, OP, intensive outpatient (IOP), residential). One of the major shifts that has been noted in the past decade is a significant drop in the number of short-term residential (STR) programs for low-severity youth. The short-term programs remaining today are typically more likely to target dual diagnosis and high-severity youth (at least in terms of medical and psychiatric needs) than are long-term programs (Dennis, Dawud-Noursi, Muck, & McDermeit (Ives), 2003). *Thus, it is important to recognize the heterogeneity of who is served in different types of treatment programs.*

Methods

Data Source

The rest of this chapter will explore the needs and correlates of adolescents presenting to treatment in more depth, and how they vary by the systems they are involved in and by their demographics. The data for the rest of this chapter are from 14,776 adolescents interviewed from 1998 to 2007 as part of 113 SAMHSA/CSAT adolescent and young adult treatment grants across the United States. These studies were

conducted across a variety of addiction treatment levels of care (e.g., early intervention, regular and intensive outpatient, short-, moderate-, and long-term residential) and institutional settings (e.g., addiction agencies, student assistance programs, child protective service agencies, justice agencies). All data were collected as part of general clinical practice or specific research studies under their respective voluntary consent procedures and have been pooled for secondary analysis here under the terms of data sharing agreements and the supervision of Chestnut's Institutional Review Board.

Measures

The participant characteristics, substance use, and comorbidity profiles were based on participant self-report to in-person interviews with the Global Appraisal of Individual Needs (GAIN; Dennis, Titus, White, Unsicker, & Hodgkins, 2003). GAIN is a standardized biopsychosocial assessment that integrates clinical and research measures into one comprehensive structured interview with eight main sections: background, substance use, physical health, risk behaviors, mental health, environment risk, legal involvement, and vocational correlates. GAIN has been used primarily to assess problems in order to support clinical decision making related to diagnosis, placement, and treatment planning, to measure change, and to document service utilization. GAIN incorporates DSM-IV-TR (American Psychiatric Association [APA], 2000) symptoms for common disorders, the American Society of Addiction Medicine's (ASAM, 2001) patient-placement criteria for the treatment of substance-related disorders, the Joint Commission on Accreditation of Healthcare Organization's standards (JCAHO, 1995), epidemiological questions from the National Household Survey on Drug Abuse (NHSDA; SAMHSA, 1996), and items which have been economically valued for benefit–cost analysis with adults and adolescents by Dr. Michael French (1994, 2003) and colleagues.

The GAIN's main scales have demonstrated excellent to good internal consistency (alpha over .90 on main scales, .70 on subscales), and test-retest reliability (Rho over .70 on problem counts, Kappa over .60 on categorical measures) (Dennis, Chan, & Funk, 2006; Dennis, Dawud-Noursi, Muck, & McDermeit (Ives), 2003; Dennis, Ives, White, & Muck, 2008; Dennis, Scott, & Funk, 2003; Dennis et al., 2004). GAIN measures have been validated with time line follow-back methods, urine tests, collateral reports, treatment records, blind psychiatric diagnosis, Rasch measurement models, confirmatory factor analysis, structural equation models, and via construct or predictive validation (Dennis, Chan, & Funk, 2006; Dennis, Scott, & Funk, 2003; Dennis et al., 2002, 2004; Godley, Godley, Dennis, Funk, & Passetti, 2002; Godley, Godley, Dennis, Funk, & Passetti, 2007; Lennox, Dennis, Ives, & White, 2006; Lennox, Dennis, Scott, & Funk, 2006; Riley, Conrad, Bezruczko, & Dennis, 2007; Shane, Jasiukaitis, & Green, 2003; White, 2005; White, Funk, White, & Dennis, 2004). GAIN has also been demonstrated to be sensitive to

changes in clinical diagnosis and needs by age (Chan, Dennis, & Funk, 2008; Dennis, Chan, & Funk, 2006). A more detailed list of studies, copies of the actual GAIN instruments and items, and the syntax for creating the scales and diagnostic group variables are publicly available at www.chestnut.org/li/gain.

Participant Characteristics

The youth in this sample ($n = 14,776$) were interviewed across multiple levels of care including 7% early intervention, 62% outpatient, 7% IOP, 2% short-term (under 30 day) residential, 8% moderate-term (30–90 days) residential, 7% long-term (more than 90 days) residential, 2% correctional, and 5% outpatient continuing care (OPCC). In terms of current systems involvement, 88% were in school, 31% employed, 31% involved in the child welfare system, and 70% involved in the justice system (including 16% with 14 or more days in detention/jail of the 90 days before intake). Note that information on the degree of child welfare system involvement was available only for a subset of 5,934 clients (40% of the total). Clients involved in child welfare systems represented 31% of this subset or 1,815. Demographically, the youth in this sample were 73% male and 27% female; 16% African-American, 44% Caucasian, 21% Hispanic, 14% Mixed, and 6% other; 19% under the age of 15, 74% between the ages of 15 and 17, and 8% between the ages of 18 and 25 (range 9–25; mean age = 15.8, SD. = 1.5).

Analyses

Descriptive data is presented in the tables and sections below overall and then by level of care, system involvement, gender, race, and age. The differences were tested with chi-square analysis for the mutually exclusive groups (level of care, gender, race, and age). Clients were often involved in more than one system, thus chi-square analyses were done comparing those involved in the system versus those who were not. For space purposes the latter is not shown. Chi-square analyses were not done when a variable was part of the definition of a group (e.g., race by race). The results are organized in terms of the overall characteristics of adolescents in the data set, with comments on how they vary by each of the subgroups. Because the large sample sizes make even small differences statistically significant, the latter focuses on differences that are statistically significant at $p < .05$ and at least 25% different from the overall average (e.g., 1% if average is 4%; 10% if average is 40%) or more than a 9 percentage point difference (e.g., 65% vs 75%).

Characteristics and Correlates of Adolescents in Treatment

Overall Findings

Demographic and Environmental Characteristics

As noted earlier and shown in the first column of Table 3.1, the adolescent and young adult clients in this sample were predominately male, nonwhite, and between the ages of 15 and 17. Overall 49% of the clients were in the custody of a single parent, 27% reported weekly alcohol use in the home, 13% reported weekly drug use in the home, and 31% reported having been homeless or runaway. Clients reported high levels of social peer drug use (72%), vocational peer (at work/school) drug use (64%), and social peer weekly alcohol use (53%), with only slightly fewer reporting weekly alcohol use among vocational peers (48%). *Thus, many clients had one more major environmental risk factor associated with continued use or relapse.*

Most (88%) of the clients had been in school in the past 90 days (88%), and 31% had worked in the same time period. About 31% reported some kind of involvement in the child welfare system, either for themselves or their own children. Most (70%) were currently involved in juvenile or criminal justice system. *Thus, there was clearly overlap with the populations seen by other systems of care.*

Substance Use Characteristics

As shown in the first column of Table 3.2, the average age of first use was 12.6 years of age (range 1–20, SD. = 2.2), with 73% beginning use between the ages of 10 and 14. Clients reported an average of 3.2 years of substance use prior to intake (range 0–19, SD. = 2.3), with 23% reporting more than 5 years of use. Most (56%) self-reported criteria for lifetime substance dependence, with an additional 31% self-report criteria of lifetime abuse, and 12% self-reporting use with no abuse or dependence symptoms and 1% reporting no use or symptoms. In the 90 days before intake, 56% reported using substances weekly or more often, with the most common substances being marijuana (44%), alcohol (15%), cocaine (3%), heroin (2%), or other drugs (6%; includes amphetamines, tranquilizers, inhalants, PCP, etc.). In addition, 52% reported using tobacco weekly or more often. It should be noted that these rates were somewhat suppressed because 38% had been in a controlled environment (e.g., incarceration, residential/inpatient treatment) during the 90 days prior to intake (including 25% for 13 or more of 90 days). Many (42%) reported lifetime withdrawal symptoms, with 27% reporting withdrawal in the past week and 6% reporting a high number (11 or more) of withdrawal symptoms in the past week. Only 33% had been in treatment before, but almost half of those (14%) had

Table 3.1 Participant demographics by level of care, system involvement, gender, race group, and age group

	Total	Early Intervention (EI)	Outpatient (OP)	Intensive OP (IOP)	Short-Term Resid. (STR)	Mod.-Term Resid. (MTR)	Long-Term Resid. (LTR)	Corrections	OP Cont. Care (OPCC)	In School	In Workforce	In Child Welfare	In Justice System	Male	Female	African-American	White	Hispanic	Mixed	Other	Under 15	Age 15-17	Age 18-25
Total%	14,776	991	9,156	1,095	361	1,219	998	275	681	12,993	4,522	1,815	10,352	10,745	4,024	2,399	6,412	3,032	2,032	865	2,739	10,886	1,149
	100%	7%	62%	7%	2%	8%	7%	2%	5%	88%	31%	31%	70%	73%	27%	16%	43%	21%	14%	6%	19%	74%	8%
Demographics^a																							
Female	27%	18%	28%	28%	33%	28%	27%	21%	28%	28%	23%	38%	24%	-	100%	18%	31%	22%	33%	33%	34%	26%	22%
African-American/Black	16%	20%	15%	23%	18%	17%	15%	30%	16%	16%	10%	16%	17%	18%	11%	100%	-	-	-	-	17%	16%	20%
Caucasian/White	44%	24%	50%	39%	37%	27%	25%	37%	49%	44%	58%	41%	41%	41%	49%	100%	-	-	-	-	36%	45%	47%
Hispanic	21%	38%	19%	25%	23%	18%	17%	16%	14%	20%	15%	13%	23%	22%	16%	-	100%	-	-	-	25%	20%	16%
Mixed	14%	16%	12%	12%	14%	11%	33%	16%	15%	14%	12%	22%	14%	13%	17%	-	-	100%	-	-	15%	14%	10%
Other (NA, Asian, Other)	6%	2%	4%	2%	9%	27%	10%	1%	6%	5%	5%	8%	5%	5%	7%	-	-	-	100%	7%	7%	6%	6%
Age	19%	19%	20%	18%	11%	22%	12%	19%	6%	20%	7%	18%	16%	17%	23%	19%	15%	22%	21%	21%	100%	-	-
< 15-years	74%	74%	72%	80%	85%	72%	81%	81%	67%	74%	81%	80%	76%	75%	71%	71%	76%	71%	73%	70%	-	100%	-
15-17-years	8%	7%	8%	2%	4%	6%	7%	0%	27%	6%	12%	1%	8%	8%	6%	9%	8%	6%	6%	8%	-	-	100%
18-25-years																							
Family/living																							
Single parent family	49%	57%	47%	57%	58%	48%	46%	62%	47%	49%	43%	39%	51%	48%	50%	62%	43%	52%	50%	43%	53%	48%	7%
Weekly alcohol use in home	27%	18%	27%	26%	49%	29%	28%	19%	16%	27%	31%	23%	26%	26%	30%	17%	33%	21%	29%	24%	26%	27%	28%
Weekly drug use in home	13%	10%	10%	16%	31%	22%	23%	11%	10%	12%	13%	16%	12%	11%	17%	12%	13%	11%	15%	14%	12%	12%	17%
Ever homeless/runaway	31%	36%	24%	37%	44%	40%	51%	44%	48%	30%	27%	53%	32%	26%	43%	24%	29%	31%	44%	32%	29%	31%	31%
Social peers																							
Regular peer alcohol use at Work/school ^b	48%	41%	45%	54%	65%	59%	55%	47%	38%	49%	53%	48%	48%	48%	47%	31%	52%	49%	49%	54%	40%	50%	40%
Regular peer drug use ^a	53%	52%	49%	57%	79%	72%	68%	45%	50%	53%	57%	56%	55%	53%	54%	41%	57%	53%	54%	60%	43%	57%	49%
Regular peer drug use at Work/school ^b	64%	54%	66%	65%	78%	67%	64%	61%	41%	67%	70%	57%	62%	64%	63%	50%	71%	61%	64%	62%	62%	66%	46%
Regular peer drug use ^b	72%	66%	70%	72%	90%	82%	81%	69%	53%	71%	76%	69%	71%	72%	72%	62%	78%	66%	72%	69%	66%	74%	60%

Environment

In school ^f	88%	85%	91%	88%	<u>75%</u>	<u>76%</u>	84%	83%	89%	100%	86%	88%	87%	88%	90%	88%	90%	88%	90%	79%	95%	89%	66%
Employed ^e	31%	22%	35%	28%	<u>32%</u>	<u>24%</u>	24%	10%	22%	30%	100%	21%	30%	32%	26%	19%	41%	22%	27%	25%	11%	34%	48%
Any child welfare involvement ^d	31%	45%	<u>22%</u>	38%	<u>17%</u>	30%	81%	97%	85%	30%	<u>21%</u>	100%	32%	27%	39%	32%	25%	29%	47%	33%	32%	30%	73%

Note: Differences that are statistically significant at $p < .05$ and 25% (or more than 9 points) higher than average are in bold; those lower than average by this much are **bold and underlined**. Child welfare based on $n = 5934$.

^a Spent time in the past year with one or more people at work/school or socially who got drunk weekly.

^b Spent time in the past year with one or more people at work/school or socially who used drugs quarterly.

^c During the past 90 days.

^d Reports days in foster care or a group home, referred to treatment by social worker or DCFS/welfare, has child in foster care, group home or institution.

Table 3.2 Participant substance use history at intake by level of care, system involvement, gender, race group, and age group

	Total	Early Intervention (EI)	Outpatient (OP)	Intensive OP (IOP)	Short-Term Resid. (STR)	Mod-Term Resid. (MIT)	Long-Term Resid. (LTR)	Corrections	OP Cont. Care (OPCC)	In School	In Workforce	In Child Welfare	In Justice System	Male	Female	African-American	White	Hispanic	Mixed	Other	Under 15	Age 15-17	Age 18-25
	14,776	991	9,156	1,095	361	1,219	998	275	681	12,993	4,522	1,815	10,352	10,745	4,024	2,399	6,412	3,032	2,032	865	2,739	10,886	1,149
Total %	100%	7%	62%	7%	2%	8%	7%	2%	5%	88%	31%	31%	70%	73%	27%	16%	43%	21%	14%	6%	19%	74%	8%
Age of first use																							
Under 10	9%	8%	6%	13%	20%	15%	13%	11%	13%	8%	8%	13%	9%	10%	7%	7%	8%	9%	12%	15%	11%	9%	7%
Age 10-14	73%	73%	72%	76%	73%	77%	78%	79%	75%	74%	65%	77%	74%	72%	76%	73%	71%	78%	74%	72%	89%	72%	54%
Age 15+	18%	19%	22%	10%	8%	8%	9%	10%	12%	18%	27%	11%	17%	18%	17%	21%	21%	13%	14%	14%	0%	20%	39%
Lifetime substance severity																							
No Use	1%	2%	2%	1%	0%	1%	1%	0%	0%	2%	0%	2%	1%	1%	2%	4%	1%	1%	1%	3%	5%	1%	0%
Use	12%	12%	16%	6%	1%	2%	5%	9%	2%	12%	11%	8%	11%	11%	12%	16%	11%	12%	11%	8%	16%	11%	9%
Abuse	31%	26%	37%	29%	9%	17%	16%	29%	9%	31%	32%	24%	31%	33%	24%	39%	30%	30%	25%	23%	35%	30%	24%
Dependence	56%	60%	45%	64%	91%	81%	78%	62%	89%	55%	57%	66%	57%	54%	61%	41%	58%	57%	63%	67%	44%	58%	67%
Drug Use past 90 days:																							
Weekly User of anything ^a	56%	43%	53%	62%	89%	81%	72%	54%	20%	55%	60%	49%	55%	57%	53%	56%	57%	57%	54%	55%	50%	58%	49%
Weekly Alcohol Use ^a	15%	12%	12%	15%	37%	31%	26%	11%	6%	14%	18%	14%	15%	15%	16%	10%	16%	16%	17%	19%	11%	16%	19%
Weekly Tobacco Use ^a	52%	38%	51%	55%	81%	55%	64%	51%	56%	51%	59%	59%	52%	50%	57%	45%	62%	37%	54%	37%	40%	54%	61%
Weekly Marijuana Use ^a	44%	33%	41%	48%	72%	65%	56%	44%	15%	43%	47%	36%	43%	46%	37%	49%	44%	44%	41%	40%	40%	46%	33%
Weekly Crack/Cocaine Use ^a	3%	2%	1%	4%	15%	11%	6%	4%	2%	3%	4%	3%	3%	3%	4%	1%	3%	6%	3%	3%	2%	3%	5%
Weekly Heroin/Opioid User ^a	2%	2%	1%	2%	8%	6%	5%	1%	1%	2%	3%	2%	2%	2%	3%	1%	3%	2%	2%	2%	1%	2%	5%
Weekly Other Drug Use ^a	6%	2%	3%	6%	20%	14%	20%	4%	2%	5%	6%	7%	6%	4%	10%	1%	6%	6%	8%	7%	4%	6%	4%
13+ Days controlled environment ^b	25%	44%	12%	36%	42%	35%	53%	69%	76%	24%	16%	56%	32%	26%	24%	30%	19%	27%	34%	33%	18%	26%	34%

Withdrawal severity																							
Any lifetime	42%	37%	36%	49%	60%	65%	58%	34%	55%	41%	43%	50%	41%	40%	49%	29%	42%	45%	47%	54%	38%	43%	45%
Any past week	27%	18%	26%	28%	34%	43%	39%	16%	8%	27%	29%	28%	26%	27%	28%	22%	26%	29%	30%	33%	27%	27%	25%
High (11+) past week symptoms	6%	3%	4%	8%	18%	13%	1%	1%	1%	5%	7%	6%	5%	5%	8%	3%	6%	6%	5%	14	5%	6%	6%
Prior SA treatment episodes																							
Any	33%	28%	22%	43%	54%	53%	45%	85%	31%	33%	33%	47%	35%	32%	33%	24%	33%	32%	38%	43%	19%	34%	48%
Two or more	14%	8%	7%	22%	24%	24%	28%	17%	51%	13%	14%	26%	16%	13%	15%	8%	15%	13%	17%	19%	6%	15%	24%
Perception																							
Perceives AOD as a problem ^c	27%	26%	18%	31%	64%	48%	50%	25%	45%	25%	28%	35%	27%	25%	32%	16%	30%	24%	31%	34%	17%	28%	36%
Perceives need for treatment	69%	70%	61%	83%	95%	89%	90%	64%	94%	68%	67%	76%	69%	68%	70%	67%	70%	67%	71%	71%	64%	70%	76%

Note: Differences that are statistically significant at $p < 0.05$ and 25% (or more than 9 points) higher than average are in **bold**, those lower than average by this much are **bold and underlined** Child welfare based on $n = 5934$.

^a During the past 90 days.

^b Hospitals, treatment, detention, or jail (where not free to come and go as you please).

^c Do you currently have any problems related to alcohol or drug use?

been in treatment two or more times before. While only 27% believed they had a problem related to alcohol or other drugs (AOD), 69% recognized that they needed treatment to deal with some substance-related problem. *While certainly in need of treatment, this profile also suggests that the adolescents and young adults presenting to treatment are largely being seen earlier (i.e., first 10 years) in the course of their addiction.*

Co-occurring Psychiatric, Victimization, HIV Risk, Crime Problems

As shown in the first column of Table 3.3, 67% of the clients self-reported criteria for one or more major psychiatric problems, including externalizing disorders (59%) such as CD (50%) or attention-deficit hyperactivity disorder (ADHD, 43%), and internalizing disorders (42%), such as depression (major depressive disorder, MDD, 35%), traumatic distress disorders (TDD, 24%), suicidal thoughts or actions (22%), or generalized anxiety disorders (GAD, 14%). This includes over half (52% of those with any, 35% of total) self-reporting criteria for both internalizing and externalizing disorders. However, only 40% reported having received prior mental health treatment. *Thus, co-occurring psychiatric problems are the norm and often have not been treated.*

Most (63%) of the clients reported being victimized (physically, sexually, or emotionally) in their lifetime, with almost half (45%) reporting high levels of victimization (i.e., multiple types of victimization, multiple times or people involved, people they trusted involved, physical harm, fear of death, no one believed them when they sought help, ongoing concerns about it happening again) and 20% reporting recent victimization in the 90 days prior to their intake assessment. In the 90 days prior to intake, the most common HIV-risk behaviors were having sex (65%), having sex with multiple sexual partners (30%), and having unprotected sex (25%); though present, needle use was relatively rare (2% in the past 90 days). In the year prior to intake, 80% self-reported violence toward others (68%) and/or illegal activity (64%), with the latter including property crimes (48%), violent crimes (43%), and drug-related/other crimes (45%; not including just use). Figure 3.1 shows the number of past-year problems endorsed in 12 areas: alcohol disorder (abuse or dependence), marijuana disorder, other substance disorder, depression, anxiety, suicide, traumatic distress, CD, ADHD, victimization, physical violence, and illegal activities. Most (94%) reported at least one problem, with the majority reporting multiple problems, 84% reporting two or more problems, 72% reporting three or more problems, 58% reporting four or more problems, and 45% reporting five or more problems. *Thus, multiple co-occurring problems are the norm of people entering treatment.*

The following three sections summarize the characteristics of clients by the initial study treatment level of care, by four measures of system involvement (school, work, child welfare, justice), and by key demographics (gender, race group, and age group) using breakouts found to the right of the total in these three tables and the figure. The rest of the chapter highlights only differences of 25% or more from the overall average characteristics described above.

Table 3.3 Co-occurring problems by level of care, system involvement, gender, race group and age group

Variable	Total	Early Intervention (EI)	Outpatient (OP)	Intensive OP (IOP)	Short-Term Resid. (MTR)	Mod-Term Resid. (LTR)	Long-Term Resid. (LTR)	Corrections	OP Comt. Care (OPCC)	In School	In Workforce	In Child Welfare	In Justice System	Male	Female	African-American	White	Hispanic	Mixed	Other	Under 15	Age 15-17	Age 18-25
Total %	14,776	991	9,156	1,095	361	1,219	998	275	681	12,993	4,522	1,815	10,352	10,745	4,024	2,399	6,412	3,032	2,032	865	2,739	10,886	1,149
	100%	7%	62%	7%	2%	8%	7%	2%	5%	88%	31%	31%	70%	73%	27%	16%	43%	21%	14%	6%	19%	74%	8%
Any past year psychiatric problems	67%	66%	60%	73%	93%	81%	83%	78%	73%	67%	65%	78%	66%	62%	78%	54%	69%	66%	74%	68%	69%	67%	57%
Past year internalizing problems																							
Any past year internal disorder	42%	39%	36%	49%	73%	60%	61%	44%	55%	42%	41%	55%	41%	35%	62%	30%	43%	42%	52%	48%	39%	43%	44%
Major Depression disorder	35%	31%	29%	42%	58%	49%	52%	36%	47%	34%	33%	47%	33%	28%	54%	22%	36%	35%	44%	39%	33%	35%	36%
Generalized Anxiety disorder	14%	12%	10%	18%	42%	28%	27%	11%	18%	14%	15%	18%	14%	11%	23%	8%	15%	14%	17%	22%	11%	15%	19%
Suicidal thoughts or actions	22%	18%	19%	28%	43%	33%	33%	23%	32%	22%	22%	30%	21%	20%	29%	18%	23%	21%	26%	28%	23%	22%	22%
Traumatic distress disorder ^a	24%	22%	19%	31%	49%	33%	41%	26%	37%	23%	24%	33%	23%	18%	40%	17%	24%	23%	30%	28%	22%	24%	26%
Past year externalizing problems																							
Any past year external disorder	59%	57%	54%	66%	87%	72%	76%	75%	62%	60%	58%	70%	59%	56%	67%	46%	63%	58%	65%	58%	63%	60%	45%
Conduct disorder	50%	48%	43%	59%	82%	68%	72%	69%	50%	50%	49%	61%	51%	48%	56%	40%	52%	50%	56%	50%	53%	52%	33%
Attention Deficit-Hyperactivity disorder	43%	38%	38%	48%	68%	52%	58%	53%	48%	43%	42%	53%	42%	39%	53%	29%	48%	39%	50%	40%	46%	43%	34%
Pattern of psychiatric problems																							
Neither	33%	34%	40%	27%	7%	19%	17%	22%	27%	33%	35%	22%	34%	38%	22%	46%	31%	34%	26%	32%	31%	33%	43%
Internalizing only	7%	8%	7%	7%	5%	8%	7%	3%	10%	7%	7%	8%	6%	6%	10%	8%	5%	8%	8%	10%	5%	7%	12%
Externalizing only	24%	27%	25%	24%	20%	21%	23%	34%	17%	25%	24%	23%	25%	27%	15%	24%	25%	24%	22%	20%	29%	24%	13%
Both internalizing and externalizing	35%	30%	29%	42%	68%	52%	54%	41%	45%	35%	34%	47%	34%	29%	52%	22%	38%	34%	44%	39%	34%	36%	32%
Any prior mental health treatment	40%	32%	37%	43%	48%	45%	46%	52%	50%	39%	40%	58%	38%	36%	50%	26%	50%	25%	47%	35%	37%	40%	42%
Physical, sexual, or Emotional Victimization																							
Any history of victim or current worries	65%	68%	60%	72%	84%	76%	79%	59%	77%	64%	66%	75%	66%	64%	69%	59%	65%	65%	73%	70%	60%	66%	70%
Lifetime history of victimization	63%	67%	57%	69%	83%	74%	77%	58%	78%	61%	63%	73%	64%	61%	67%	55%	62%	63%	72%	67%	57%	64%	69%
High levels of victimization ^b	45%	49%	38%	53%	70%	59%	64%	41%	63%	44%	45%	58%	46%	41%	55%	36%	44%	45%	56%	54%	41%	46%	50%
Past year	37%	40%	32%	45%	59%	52%	51%	31%	36%	37%	36%	41%	38%	36%	41%	30%	36%	38%	44%	39%	38%	38%	27%
Past 90 days	20%	16%	18%	24%	34%	29%	25%	15%	10%	20%	21%	20%	20%	18%	24%	17%	20%	20%	23%	18%	23%	20%	13%
Current worry about victimization	18%	17%	16%	22%	39%	25%	24%	9%	20%	18%	17%	22%	18%	16%	25%	16%	16%	20%	22%	27%	21%	18%	16%

(continued)

Table 3.3 (continued)

Variable	Total	Early Intervention(ED)	Outpatient (OP)	Intensive OP (IOP)	Short-Term Resid. (MTR)	Mod-Term Resid. (LTR)	Long-Term Resid. (LTR)	Corrections	OP Cont. Care (OPCC)	In School	In Workforce	In Child Welfare	In Justice System	Male	Female	African-American	White	Hispanic	Mixed	Other	Under 15	Age 15-17	Age 18-25	
Total %	14,776	991	9,156	1,095	361	1,219	998	275	681	12,993	4,522	1,815	10,352	10,745	4,024	2,399	6,412	3,032	2,032	865	2,739	10,886	1,149	
	100%	7%	62%	7%	2%	8%	7%	2%	5%	88%	31%	31%	70%	73%	27%	16%	43%	21%	14%	6%	19%	74%	8%	
HIV Risks																								
Any past 90 days needle use	2%	<u>1%</u>	<u>1%</u>	<u>1%</u>	<u>7%</u>	5%	10%	<u>1%</u>	<u>1%</u>	2%	2%	3%	2%	2%	3%	<u>1%</u>	2%	3%	<u>1%</u>	3%	<u>1%</u>	<u>1%</u>	2%	4%
Any past 90 days sexual experience	65%	56%	62%	66%	82%	75%	79%	60%	72%	63%	72%	65%	67%	65%	63%	74%	62%	65%	66%	66%	57%	46%	68%	73%
Any past 90 day unprotected sex	25%	22%	22%	26%	45%	33%	40%	20%	29%	24%	30%	26%	27%	23%	31%	23%	25%	28%	28%	18%	15%	27%	36%	
Multiple sexual partners in past 90 days	30%	25%	27%	33%	52%	38%	39%	34%	21%	29%	32%	30%	31%	32%	23%	44%	25%	31%	29%	22%	22%	31%	30%	
Violence and Illegal activity (other than possession use)																								
Any violence or Illegal activity	80%	85%	76%	85%	94%	89%	91%	91%	76%	80%	79%	83%	84%	81%	77%	80%	78%	81%	83%	81%	80%	81%	70%	
Acts of physical Violence ^a	68%	74%	63%	73%	84%	76%	80%	80%	68%	67%	64%	74%	71%	69%	66%	70%	63%	72%	75%	68%	72%	68%	57%	
Any Illegal Activity	64%	73%	57%	72%	87%	79%	82%	78%	57%	63%	65%	65%	71%	67%	55%	61%	63%	66%	66%	66%	61%	66%	49%	
Property Crimes ^b	48%	55%	40%	56%	78%	65%	70%	63%	49%	48%	47%	54%	52%	50%	41%	42%	47%	50%	53%	51%	48%	50%	32%	
Violent Crimes ^c	43%	54%	36%	53%	67%	54%	64%	55%	42%	43%	41%	48%	48%	46%	35%	44%	39%	48%	49%	43%	45%	44%	29%	
Other drug related crimes ^f	45%	53%	37%	55%	79%	62%	67%	56%	44%	44%	50%	47%	51%	49%	34%	41%	44%	49%	47%	47%	37%	48%	38%	

Note: Differences that are statistically significant at p<.05 and 25% (or more than 9 points) higher than average are in **bold** those lower by this much are **bold and underlined**. Child welfare based on 5934

^a Post traumatic distress, acute traumatic distress or disorders of extreme stress not otherwise specified.

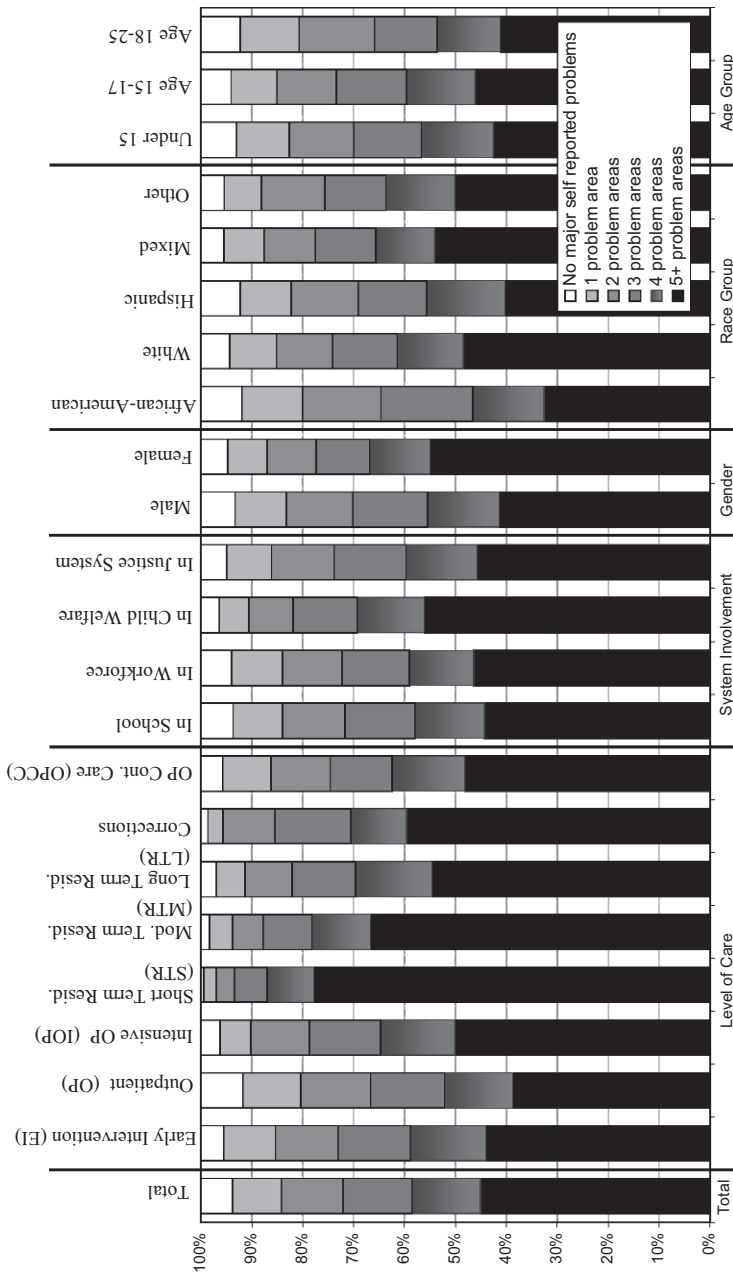
^b Reporting 4 or more of the following types of victimization, traumatic factors (e.g., multiple people, someone they trusted, fearing for life, sexual penetration, people didn't believe them) or continuing fear-it will reoccur.

^c Physical assault of another person within the past year.

^d Self report of or arrests related to vandalism, forgery, bad checks shoplifting, theft, robbery, auto theft.

^e Self report of or arrests related to assault, aggravated assault with a weapon, rape, murder, arson.

^f Self report of or arrests related to driving under the influence, manufacture or distribution, prostitution, gang involvement.



*Count of the number of problems endorsed in any the following areas during the past year: alcohol disorder, marijuana disorder, other substance disorder, internalizing problems, externalizing problems, victimization, physical violence, illegal activities. While level of care, gender, race and age group show all levels or groups, the four system involvement items present data only for those involved in the given system (as compared to those not involved with that system). All comparisons are significant with the exception of working compared to those not working.

Fig. 3.1 Number of major clinical problem areas*

Variation by Level of Care

Early Intervention (*n* = 991)

As shown in Table 3.1, EI clients were more likely than average to be Hispanic (38%) and to be involved with child welfare (45%), but were less likely than average to be female (18%), Caucasian (24%), to have weekly alcohol use in the home (18%), to report regular drug use among vocational peers (54%), or to be employed (22%). Table 3.2 shows that EI clients had the lowest rates of weekly tobacco use (38%) and lower than average weekly use of any substance (43%), including marijuana (33%), cocaine (2%), and other drugs (2%). They were more likely than average to have been in a controlled environment in the past 90 days (44%). They were less likely than average to report withdrawal in each time period. They reported slightly lower levels of prior treatment (28%) and were much less likely to report multiple episodes of treatment (8%). Table 3.3 shows that EI clients reported the lowest rates of suicidal thoughts (18%). As would be expected from their higher than average justice system involvement, this group had higher than average illegal activity (73%) and involvement in violent crime (54%). In Figure 3.1, the total number of problems reported by EI clients is equal to or higher than for clients in OP. *Thus, rather than reaching lower severity people, EI is more characterized by reaching people who are appropriate but not yet reaching outpatient treatment (whether due to motivation, barrier, or opportunity).*

Outpatient (*n* = 9,156)

As shown in Table 3.1 OP clients were the largest group. They were less likely to have child welfare system involvement (22%), but on other measures, this group was close to average. Table 3.2 shows that OP clients had the lowest proportion of those who started using under the age of 10 (6%) and the lowest percentage with lifetime dependence (45%), perceiving the need for treatment (61%) and of perceiving AOD use as a problem (18%). They were also the least likely to have had any prior treatment (22%) and to have 2+ prior episodes (7%). Their rates of weekly use were average for most substances. Table 3.3 shows that OP clients reported the lowest or among the lowest rates of internalizing problems (36% any) and externalizing problems (54% any). In Fig. 3.1, OP clients were most likely to report no problems (8%) and the least likely to report five or more problems (39%).

Intensive Outpatient (*n* = 1,095)

As shown in Table 3.1, IOP clients were more likely than average to be African-American (23%) and less likely to be aged 18–25 (2%). Table 3.2 shows that IOP

clients were more likely to have started using under the age of 10 (13%) and less likely to have started over the age of 15 (10%). They were more likely than EI or OP clients to have had prior treatment (43%). Table 3.3 shows that IOP clients had higher than average rates of TDD (31%), violent crime (53%), and drug crimes (55%). In Fig. 3.1, this group was more severe than EI or OP, but less severe than STR.

Short-Term Residential ($n = 361$)

As shown in Table 3.1, STR clients were the most likely to report weekly alcohol (49%) or drug (31%) use in the home, weekly alcohol or drug use among social (79% and 90%, respectively) or vocational (65% and 78%, respectively) peers. STR clients were more likely than average to have ever been homeless or runaway (44%), but were least likely to be involved with the child welfare system (17%). Those in STR had the highest percentage who started using under the age of 10 (20%) and had the highest percentage of clients with lifetime dependence (91%), as well as the highest with weekly use of each substance (89% of any substance, 81% tobacco, 72% marijuana, 37% alcohol, 15% cocaine, 8% opioids, and 20% other) and more than average for 13+ days in a controlled environment (42%). Clients in STR were most likely to perceive a need for any treatment (95%) and AOD use as a problem (64%). They were also among the highest in reporting withdrawal (60% lifetime, 34% past week, 18% acute past week) and prior treatment (54%), including two or more prior treatment episodes (24%). Table 3.3 shows that STR clients reported the highest rates of most co-occurring problems. The exceptions, where STR clients were among the lowest, were having “only” internalizing problems (5%) and “only” externalizing (20%), as opposed to both (STR was highest at 68%) or neither (STR was lowest at 7%). While higher than average, these clients were not the most likely to have received prior mental health treatment (48%). Past 90-day needle use was higher than average for STR (7%). In Fig. 3.1, STR clients were the most likely to report problems in five or more areas (78%), and least likely to report no problems (1%). *Thus, STR clients are actually a subset of the most severe clients who have often gotten the farthest into trouble, often very quickly.*

Moderate-Term Residential ($n = 1,219$)

As shown in Table 3.1, moderate-term residential (MTR) clients were the second largest group and the most likely to be under 15 years of age (22%), of other race groups (27%, including Native American, Alaskan, Hawaiian, Pacific Islander, Asian, Other). Similar to STR, those in MTR were more likely to report weekly drug use in the home (22%), ever being homeless or runaway (40%), and regular peer drug (82%) and alcohol use (72% social peers; 59% vocational peers). Table 3.2 shows that MTR had the highest withdrawal severity rates across time periods.

They were higher than average in starting use under the age of 10 (15%), reporting lifetime dependence (81%), in weekly use of each substance (81% of any substance), having 13+ days in a controlled environment (35%), having prior treatment (54%; including 2+ episodes (24%)), perceiving a need for any treatment (89%), and for perceiving AOD as a problem (48%). Table 3.3 shows that MTR clients had a similar pattern of high comorbidity as those in STR, but with slightly lower rates than that group. In Fig. 3.1, this group was more severe than EI or OP, but less severe than STR.

Long-Term Residential ($n = 998$)

As shown in Table 3.1, LTR clients were the most likely to be of mixed race (33%), to have been homeless or runaway (51%), to report weekly drug use in the home (23%), and weekly alcohol use among social peers (68%). LTR clients were also more likely than average to have regular peer drug users (81%) and be involved in the child welfare system (81%) and/or justice system (83%). Table 3.2 shows that LTR clients were quite similar to MTR clients, but weekly tobacco use was higher among LTR (64%) than among MTR (55%) clients, and LTR clients were more likely to have 13+ days in a controlled environment (53%). Table 3.3 shows that LTR clients were the most likely to report needle use in the past 90 days (10%); otherwise their rates generally fell between the high rates of STR clients and the lower rates for MTR clients. Of the three groups of residential clients, they were the least likely to report anxiety (27%) and recent victimization (25%) and the most likely to report externalizing problems only (23%). In Fig. 3.1, this group was more severe than EI or OP, but less severe than STR. *Thus, LTR (and to a lesser extent MTR) serve clients who are characterized by high levels of involvement in welfare and justice systems and higher than average psychiatric severity (but not the highest).*

Corrections ($n = 275$)

As shown in Table 3.1, corrections settings were the smallest group and were most likely to be African-American (30%), from a single parent family (62%), and involved in the child welfare system (97%). None in this sample were over the age of 18. By definition they were 100% involved in the justice system. They were less likely than average to report weekly alcohol use in the home (19%) and were least likely to be employed (10%). Table 3.2 shows that correctional setting clients had the highest percentage starting use between the ages of 10 and 14 (79%). While similar to average or slightly lower for weekly use of most substance, this group had high rates of 13+ days in a controlled environment (69%), second only to OPCC (76%). Withdrawal was lowest for those in corrections (34% lifetime, 1% acute past week) and they were more likely than average to report prior treatment (45%). Table 3.3 shows that corrections clients reported

average rates of internalizing problems (44%), but higher than average rates of externalizing problems (75%), including both CD (69%) and ADHD (53%). They were the most likely to have received prior mental health treatment (52%) and the least likely to report current worries about victimization (9%). As expected, they were among the most likely to report acts of physical violence (any 80%), any illegal activity (78%), property crime (63%), violent crime (55%), and drug-related crime (56%). In Fig. 3.1, this group was more severe than EI, OP, or LTR, but less severe than STR or MTR. *Having nearly twice the average number of African-Americans as the overall average suggests the need to better understand and address health disparities in the justice system.*

Outpatient Continuing Care ($n = 681$)

As shown in Table 3.1, OPCC clients are unique in having been in a controlled environment (residential treatment or correctional) for some period of time prior to their current treatment. They were the most likely to be of ages 18–25 (27%), more likely than average to be Caucasian (49%), and the least likely to be Hispanic (14%). OPCC clients were more likely to have been homeless or runaway (48%) and to be involved with the child welfare system (85%). They were the least likely of all groups to be under 18 (67% 15–17 and 6% under 15), to report weekly alcohol use in the home (16%), or regular drug use among social (53%) or vocational (41%) peers. This group was also less likely than average to be employed (22%) or to have current justice system involvement (66%). With the exception of weekly tobacco use (56%), OPCC clients reported close to or the lowest rate of any weekly substance use (20%) and each specific substance (presumably related to being in a controlled environment). As expected, OPCC had the highest rates of prior treatment (85%) and two or more episodes of prior treatment (51%). They were the most likely to have been 13+ days in a controlled environment (76%), and had higher than average rates of lifetime dependence (89%) and lifetime withdrawal (55%). Past-week withdrawal, however, was lower than average for OPCC (8% past week, 1% acute past week). OPCC clients were the more likely to perceive a need for treatment (94%), and that their AOD use was a problem (45%). Table 3.3 shows that OPCC clients were the most likely to report “only” internalizing problems (10%) and the least likely to report “only” externalizing problems (17%). They were more likely than average to report both internalizing and externalizing problems (45%) and lifetime victimization (78%). However, they were the least likely to report recent victimization (10%). They were also the least likely to report needle use (<1%) and multiple sex partners (21%). OPCC clients with OP clients were the least likely to report any violence or illegal activities (76%). In Fig. 3.1, this group was more severe than EI or OP, but less severe than STR or MTR. *Thus, while they have high severity in the past year, OPCC serves clients characterized by high levels of service and recent reductions in problems.*

Variation by System Involvement

In School ($n=12,993$)

Since 88% of the clients were in school, the characteristic of those in school was within 2 percentage points of the total for most of Tables 3.1–3.3 and Fig. 3.1 (see overview above). The exception is that those in school were less likely to be of ages 18–25 (6%) compared to those who were not in school.

In the Workforce ($n = 4,522$)

In Table 3.1, clients in the workforce were more likely to be white (58%) and of ages 18–25 (12%); they were less likely to be African-American (10%), Hispanic (15%), under the age of 15 (7%), or involved in the welfare system (21%). Table 3.2 shows that clients in the workforce were more likely to have started use over the age of 15 (27%) and to report weekly use of opiates (3%). Clients in the workforce reported average rates of mental health, HIV risk, and crime-related problems (Table 3.3) and number of other problems (Fig. 3.1).

Child Welfare ($n = 1,815$ of 5,934)

In Table 3.1, clients involved in the child welfare system (themselves or via their children) were more likely to be female (38%), of mixed race (22%) or other race (8%), to have weekly drug use in the home (16%), or to have a history of running away or being homeless (53%). They were less likely to be Hispanic (13%), of ages 18–25 (1%), from a single parent family (39%), or employed (21%). Table 3.2 shows that they were more likely to have started using before the age of 10 (13%), self-report criteria for dependence (66%), to have spent 13 or more of the 90 days before intake in a controlled environment (56%), to report prior treatment (47%; 26% multiple episodes of treatment), to perceive AOD use as a problem (35%), and/or to perceive the need for treatment (76%). Table 3.3 shows that they were more likely to report having any psychiatric problem (78%) overall and for each type of disorder listed. They were also more likely to report having both internalizing and externalizing disorders (47%) and a history of mental health treatment (58%). They were more likely to report both lifetime victimization (73%), high levels of victimization (58%), and needle use (3%). In Fig. 3.1, they were more likely to report having problems in five or more areas (56%). *Thus, clients in the welfare system are more severe than average and a particularly high risk of long-term substance misuse.*

Justice System ($n = 10,352$)

Since 70% of the clients were involved in the justice system, the characteristic of those involved in the justice system was generally within a few percentage points

of the total for most of Tables 3.1–3.3 and Fig. 3.1 (see overview above). Not surprisingly, the exception is that those involved in the justice system were more likely to have spent 13 or more days prior to intake in a controlled environment (32%).

Variation by Demographic Groups

Gender ($n = 10,745$ males and $4,024$ females)

In Table 3.1, females are more likely than males to have weekly drug use in their home (17% vs. 11%), a history of running away or being homeless (43% vs 26%), and be involved in the child welfare system (39% vs 27%); they are less likely to be African-American (11% vs 18%) and involved in the juvenile justice system (61% vs 74%). Table 3.2 shows that females are more likely than males to report weekly use of cocaine (4% vs 3%), opioids (3% vs 2%), and other drugs (10% vs 4%), and to report a high number of withdrawal symptoms in the past week (8% vs 5%); they were less likely to have started using under the age of 10 (7% vs 10%). Table 3.3 shows that females are more likely than males to report each mental health problem and to have higher rates of any psychological problem (78% vs 62%), including higher self-reported rates of any internalizing disorder (62% vs 35%), any externalizing disorder (67% vs 56%), having both internalizing and externalizing disorders (52% vs 29%), and having a history of prior mental health treatment (50% vs 36%). Females were also more likely than males to report high levels of victimization (55% vs 41%) and report needle use in the past 90 days (3% vs 2%); they were less likely to report having multiple sexual partners in the past 90 days (23% vs 32%), any illegal activity (55% vs 67%), and each type of crime. In Fig. 3.1, females are more likely than males to report five or more major problems (55% vs 41%). *Thus, female clients tend to be more severe on average, but have different issues (more mental health, less illegal activity) than do male clients.*

Race ($n = 2,399$ African-American; $6,412$ White; $3,032$ Hispanic; $2,032$ Mixed; and 865 Other)

In Table 3.1, African-American clients were less likely than average to be female (18%), and the least likely of all race groups to report weekly alcohol use in their home (17%), regular peer alcohol use (31% vocational, 41% social) or drug use (50% vocational, 62% social), and to be employed (19%), and the most likely of any race to be of ages 18–25 (9%) or from a single parent family (62%). White clients were more likely to be employed (41%) while Hispanic clients were less likely to be employed (22%). Mixed race clients were more likely to report a history of running away or being homeless (44%) and being involved in the child welfare system (47%); they were less likely to be of ages 18–25 (6%). Table 3.2 shows that African-Americans were less likely to report starting under the age of 10 (7%),

dependence (41%), weekly use of alcohol (10%), cocaine (1%), opioids (1%), other drugs (1%), and withdrawal symptoms (29% lifetime, 22% past week, 3% high number of symptoms in the past week), prior treatment (24% any, 8% more than once), and to perceive that their alcohol or drug use is a problem (16%). White clients were most likely to report weekly use of opioids (3%) or tobacco (62%). Hispanic clients were more likely to report weekly cocaine use (6%) and less likely to report first use over the age of 15 (13%) and weekly tobacco use (37%). Mixed race clients were more likely to report first use under the age of 10 (12%), weekly use of other drugs (8%), being in a controlled environment for 13 or more of the past 90 days (34%), and having been in treatment two or more times (17%). Other race clients were the most likely to have started using under the age of 10 (15%) and to report weekly alcohol use (19%), lifetime dependence (67%), prior treatment (43% any, 19% two or more times), and to perceive their alcohol or drug use as a problem (34%). They were more likely to report being in a controlled environment 13 or more of the past 90 days (33%) and withdrawal symptoms (54% lifetime, 33% past week, and 14% a high number in the past week), and with Hispanics, the least likely to report weekly tobacco use (37%). Table 3.3 shows that African-American clients report the lowest rates for any race group of each psychological disorder including any disorder (54%), internalizing disorders (30%), externalizing disorders (46%), and both internalizing and externalizing disorders (22%), as well as prior mental health treatment (26%). Although both were relatively average in their rates of mental disorders, White clients had higher than average rates of prior mental health treatments (50%), while Hispanic clients had lower than average rates of prior treatment (25%). Mixed race clients were the most likely to report any internalizing disorder (52%), particularly symptoms suggestive of depression (44%), traumatic stress disorders (30%), and victimization (72% lifetime; 56% high levels). Other race clients were more likely to report symptoms suggestive of anxiety disorders (22%) and concerns about future violence (27%) and were the most likely to report only internalizing disorders (10%). Past-year needle use was higher than average for Hispanics (3%) and other race clients (3%) and lower than average for African-Americans (1%) and mixed race clients (1%). In the past 90 days, African-Americans were the most likely to report any sexual experience (74%) and multiple sexual partners (44%) while other race clients were less likely to report unprotected sex (18%) or multiple sexual partners (22%). In Fig. 3.1, African-American clients had lower than average problem counts while those of mixed and other race had the highest. *This demonstrates the importance of adapting materials to target the different perspectives and risks associated with clients who are mixed and other races.*

**Variation by Age Group ($n = 2,739$ under the age of 15;
10,886 age 15–17; 1,149 age 18–25)**

Since three-quarters of all clients were of ages 15–17, this group was generally within a few percentage points of the total for most of Tables 3.1–3.3 and Fig. 3.1.

However, differences were evident for younger and older clients. In Table 3.1, clients under the age of 15 were less likely to report regular peer alcohol use (43%), to be employed (11%), and to be involved in the justice system (61%). Clients of ages 18–25 were more likely to report weekly drug use in their home (17%), to be employed (48%), and to be involved in the child welfare system (73%); they were less likely than average to report being of mixed race (10%), from a single parent or from a single parent family (7%), regular peer drug use at work (46%) or socially (60%), and being in school (66%). Table 3.2 shows that clients under the age of 15 were more likely to report first use between the ages of 10 and 14 (89%) and less likely than average to report criteria for dependence (44%), weekly use of alcohol (11%), tobacco (40%), cocaine (2%), opioids (1%), and other drugs (4%), being in a controlled environment for 13 or more of the past 90 days (18%), prior addiction treatment (19% any, 6% multiple), and to perceive their alcohol or drug use as a problem (17%). Clients of the ages 18–25 were more likely to report first use over the age of 15 (39%), dependence (67%), weekly use of alcohol (19%), tobacco (61%), cocaine (5%), and opioids (5%), being in a controlled environment for 13 or more of the past 90 days (34%), prior addiction treatment (48% any, 24% multiple), and to perceive their alcohol or drug use as a problem (36%). They were less likely than average to report weekly marijuana use (33%). Table 3.3 shows that clients under the age of 15 report slightly lower rates of internalizing disorders, slightly higher rates of externalizing disorders, and lower rates of HIV risk behaviors. Clients of ages 18–25 conversely report higher rates of internalizing disorders, lower rates of externalizing disorders, and higher rates of HIV risk behaviors; they were less likely to report any past-year violence or illegal activity (70%). These trends cancel each other out and produce little difference in Fig. 3.1. *Thus, severity and mix of focal clinical conditions shift with the client's age.*

Discussion

Implications for Improving Practice

The background literature and data presented here demonstrate that adolescents and young adults are at high risk of substance misuse, that this misuse is associated with a wide range of problems, and that the consequences of misuse (particularly early onset) may last for decades. While intervention during the first decade of use is associated with a reduced duration of problems (Dennis, Scott, Funk, & Foss, 2005), relapse is also common after adolescent treatment (Dennis et al., 2004; Godley et al., 2007). Given that 73% of the youth presenting to treatment had 3 or more (45% 5 or more) of the 12 co-occurring risk factors in the following areas – substance use, mental health, victimization, physical violence, and illegal activity problems – it is likely that in addition to addressing substance use, it is important to address other co-occurring problems to reduce the likelihood of relapse.

Consistent with the treatment literature reviewed earlier, it is important to recognize that different levels of care are targeting clients with different needs and that these needs are sometimes different than commonly expected. For instance, the severity of clients in early intervention in school settings was very similar to those in regular outpatient settings. Rather than reaching a lower severity client, these programs appear to be more assertive in reaching adolescents where they are. Consistent with trends for short-term programs to be increasingly focused on dual diagnosis, the STR programs were serving the most severe clients. Clients in moderate- and long-term programs were still more severe than average, but were as or more defined by environmental risks and their involvement in the welfare and justice systems.

The literature and data presented here demonstrate that a large number of youth with substance misuse are involved in school, workplace, welfare, and justice systems. These systems represent an important opportunity for screening and earlier intervention to reduce substance misuse. They also have implications for practice. Most youth in treatment were involved in school, suggesting the importance of making treatment more convenient (e.g., via schedule, location) so that these youth can continue with their schooling and providing opportunities to continue with school while in residential treatment. After treatment, the high rates of substance misuse in schools suggest that they are also potentially risky recovery environments and suggest the need to provide youth with formal programs and support to re-enter school or to consider providing special programs like recovery schools (e.g., <http://www.recoveryschools.org/>). While becoming vocationally engaged is a positive outcome in its own right, data on use in the workplace suggests that this is by no means a substitute for treatment and that clients need help in negotiating it as a recovery environment as well. Clients in the child welfare system are at particularly high risk of relapse and continued use given their higher rates of early onset and co-occurring problems. While it is understandable that these systems focus first on the safety of the child and the public, the data presented here suggest that substance abuse and other behavioral health treatment is likely to be vital to their long-term course of recovery as individuals and as families. Targeting these systems with increased screening and referral protocols and enhanced multiple-system interaction has the potential to reduce some of the health disparities that have been previously noted in the literature (e.g., lower rates of girls in treatment than expected, higher rates of African-Americans in welfare).

While there is often much discussion about making treatment more gender, culturally, or age appropriate in abstract terms, the data presented here suggest that there are also some explicit implications for treatment. Girls are more likely to need psychiatric services while boys need more services related to controlling anger, violence, and illegal activities. African-Americans are at lower overall risk of problems on average while Hispanic, mixed, and other race youth are at much higher risk and each group has different problems. This suggests the importance of adapting materials to include issues relevant to the subgroup. This said, clients in each subgroup experienced each type of problem, hence the need for comprehensive screening. Age was associated less with a change in the overall severity than in a shift of the

problem mix. As age increased the severity of system involvement, substance use disorders, internalizing disorder problems, and HIV risk behaviors increased while the rates of externalizing disorders, crime, and violence decreased.

Adolescents and young adults have high rates of substance misuse. The heterogeneity and number of different clinical problems suggest the need for comprehensive screening and intervention. Given the high rates of youth involved in other systems and their rates of use/problems, these systems represent an important potential venue for further screening and intervention. The fact that most clients had multiple problems points to the need to develop better approaches for cross-system collaboration. Given the high rates of use in those environments, treatment providers need to develop protocols to support youth trying to negotiate these environments during their recovery.

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References

- American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders version 4 text revised (DSM-IV-TR)*. Washington, DC: American Psychiatric Association.
- American Society of Addiction Medicine (ASAM). (1996). *Patient placement criteria for the treatment of psychoactive substance disorders* (2nd ed.). Chevy Chase, MD: American Society of Addiction Medicine.
- American Society of Addiction Medicine (ASAM). (2001). *Patient placement criteria for the treatment of substance-related disorders* (2nd ed.). Chevy Chase, MD: American Society of Addiction Medicine.
- Chan, Y. F., Dennis, M. L., & Funk, R. R. (2008). Prevalence and comorbidity co-occurrence of major internalizing and externalizing disorders among adolescents and adults presenting to substance abuse treatment. *Journal of Substance Abuse Treatment, 34*, 14–24.
- Courtney, M. E., Barth, R. P., Berrick, J. D., Brooks, D., Needell, B., & Park, L. (1996). Race and child welfare service: Past research and future direction. *Child Welfare, 75*, 99–138.
- Dennis, M. L., Babor, T., Roebuck, M. C., & Donaldson, J. (2002). Changing the focus: The case for recognizing and treating marijuana use disorders. *Addiction, 97*(Suppl. 1), S4–S15.

- Dennis, M. L., Chan, Y. -F., & Funk, R. (2006). Development and validation of the GAIN Short Screener (GSS) for internalizing, externalizing, and substance use disorders and crime/violence problems among adolescents and adults. *American Journal on Addictions, 15*, 80–91.
- Dennis, M. L., Dawud-Noursi, S., Muck, R. D., & McDermeit (Ives), M. (2003). The need for developing and evaluating adolescent treatment models. In S. J. Stevens & A. R. Morral (Eds.), *Adolescent substance abuse treatment in the United States: Exemplary models from a National Evaluation Study* (pp. 3–34). Binghamton, NY: Haworth Press.
- Dennis, M. L., Foss, M. A., & Scott, C. K. (2007). Correlates of long-term recovery after treatment. *Evaluation Review, 31*(6), 585–612.
- Dennis, M. L., Godley, S. H., Diamond, G., Tims, F. M., Babor, T., Donaldson, J. (2004). The Cannabis Youth Treatment (CYT) Study: Main findings from two randomized trials. *Journal of Substance Abuse Treatment, 27*(3), 197–213.
- Dennis, M. L., Ives, M. L., White, M. K., & Muck, R. D. (2008). The Strengthening Communities For Youth (SCY) initiative: A cluster analysis of the services received, their correlates and how they are associated with outcomes. *Journal of Psychoactive Drugs, 40*(1), 3–16.
- Dennis, M. L., & McGeary, K. A. (1999, fall). Adolescent alcohol and marijuana treatment: Kids need it now. *TIE Communique, 10–12*. (Retrieved from http://www.chestnut.org/li/trends/Adolescent%20Problems/youth_need_treat.html on May 7, 2008.)
- Dennis, M. L. & Scott, C. K. (2007). Managing addiction as a chronic condition. *Addiction Science & Clinical Practice, 4*(1), 45–55.
- Dennis, M. L., Scott, C. K., & Funk, R. (2003). An experimental evaluation of recovery management checkups (RMC) for people with chronic substance use disorders. *Evaluation and Program Planning, 26*(3), 339–352.
- Dennis, M. L., Scott, C. K., Funk, R., & Foss, M. A. (2005). The duration and correlates of addiction and treatment careers. *Journal of Substance Abuse Treatment, 28*(Supplement 1), S51–S62.
- Dennis, M. L., Titus, J. C., Diamond, G., Donaldson, J., Godley, S.H., Tims, F. (2002). The Cannabis Youth Treatment (CYT) experiment: Rationale, study design, and analysis plans. *Addiction, 97*(Suppl. 1), S16–S34.
- Dennis, M. L., Titus, J. C., White, M., Unsicker, J., & Hodgkins, D. (2003). *Global Appraisal of Individual Needs (GAIN): Administration guide for the GAIN and related measures*. (Version 5). Bloomington, IL: Chestnut Health Systems. Retrieved from <http://www.chestnut.org/LI/gain/index.html> on May 7, 2008.
- French, M. T., Bradley, C. J., Calingaert, B., Dennis, M. L., & Karuntzos, G. T. (1994). Cost analysis of training and employment services in methadone treatment. *Evaluation and Program Planning, 17*(2), 107–120.
- French, M. T., Roebuck, M. C., Dennis, M. L., Diamond, G., Godley, S. H., Liddle, H. A., & Tims, F. M. (2003). Outpatient marijuana treatment for adolescents: Economic evaluation of a multi-site field experiment. *Evaluation Review, 27*(4), 421–459.
- Gerstein, D. R., & Johnson, R. A. (1999). *Adolescents and young adults in the National Treatment Improvement Evaluation Study* (National Evaluation Data Services Report). Rockville, MD: Center for Substance Abuse Treatment.
- Godley, M. D., Godley, S. H., Dennis, M. L., Funk, R., & Passetti, L. (2002). Preliminary outcomes from the assertive continuing care experiment for adolescents discharged from residential treatment. *Journal of Substance Abuse Treatment, 23*(1), 21–32.
- Godley, M. D., Godley, S. H., Dennis, M. L., Funk, R. R., & Passetti, L. L. (2007). The effect of Assertive Continuing Care (ACC) on continuing care linkage, adherence and abstinence following residential treatment for adolescents. *Psychology of Addictive Behaviors, 102*, 81–93.
- Government Accountability Office (GAO). (2007). *African American children in foster care*. Washington, DC: Author.
- Grant, B. F., & Dawson, D. A. (1998). Age of onset of drug use and its association with DSM-IV drug abuse and dependence. *Journal of Substance Abuse, 10*, 163–173.
- Green, B. L., Rockhill, A., & Furrer, C. (2007). Does substance abuse treatment make a difference for child welfare case outcomes?: A statewide longitudinal study. *Children and Youth Services Review, 29*(4), 460–473.

- Hser, Y. I., Grella, C. E., Hubbard, R. L., Hsieh, S. C., Fletcher, B.W., Brown, B. S., & Anglin, M. D. (2001). An evaluation of drug treatments for adolescents in four U.S. cities. *Archives of General Psychiatry*, 58, 689–695.
- Hubbard, R. L., Cavanaugh, E. R., Craddock, S. G., & Rachal, J.V. (1985). Characteristics, behaviors, and outcomes for youth in the TOPS: Treatment services for adolescent substance abusers. In A. S. Friedman & G. M. Beschner (Eds.), *Treatment services for adolescent substance abusers* (pp. 49–65). Rockville, MD: National Institute on Drug Abuse.
- Joint Commission on Accreditation of Healthcare Organization (JCAHO). (1995). *Accreditation manual for mental health, chemical dependency, and mental retardation/developmental disabilities services: Standards*. Oakbrook Terrace, IL: Author.
- Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J.E. (2007). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2006*. (NIH Publication No. 07-6202). Bethesda, MD: National Institute on Drug Abuse. Retrieved from http://eric.ed.gov/ERICDocs/data/ericdocs2sql/content_storage_01/0000019b/80/2a/75/88.pdf on April 5, 2008.
- Lennox, R., Dennis, M. L., Ives, M., & White, M. K. (2006). The construct and predictive validity of different approaches to combining urine and self-reported drug use measures among older adolescents after substance abuse treatment. *American Journal on Addictions*, 15, 92–101.
- Lennox, R. D., Dennis, M. L., Scott, C. K., & Funk, R. R. (2006). Combining psychometric and biometric measures of substance use. *Drug and Alcohol Dependence*, 83, 95–103.
- Lu, Y. E., Landsverk, J., Ellis-Macleod, E., Newton, R., Ganger, W., & Johnson, I. (2004). Race, ethnicity, and case outcomes in child protective services. *Children and Youth Services Review*, 26, 447–461.
- Marsh, J. C., Ryan, J. P., Choi, S., & Testa, M. F. (2006). Integrated services for families with multiple problems: Obstacles to family reunification. *Children and Youth Services Review*, 28, 1074–1087.
- McAlpine, C., Marshall, C. C., & Doran, N. H. (2001). Combining child welfare and substance abuse services: A blended model of intervention. *Child Welfare*, 80(2), 129–149.
- Mokdad, A. H., Marks, J. S., Stroup, D. F., & Gerberding, J. L. (2004). Actual causes of death in the United States, 2000. *Journal of the American Medical Association*, 291(10), 1238–1245.
- Riley, B. B., Conrad, K. J., Bezruczko, N., & Dennis, M. L. (2007). Relative precision, efficiency and construct validity of different starting and stopping rules for a computerized adaptive test: The GAIN substance problem scale. *Journal of Applied Measurement*, 8(1), 48–64.
- Rounds-Bryant, J. L., Kristiansen, P. L., & Hubbard, R. L. (1999). Drug Abuse Treatment Outcome Study of Adolescents: A comparison of client characteristics and pretreatment behaviors in three treatment modalities. *American Journal of Drug and Alcohol Abuse*, 25(4), 573–591.
- Rounds-Bryant, J. L., & Staab, J. (2001). Patient characteristics and treatment outcomes for African American, Hispanic, and White adolescents in DATOS-A. *Journal of Adolescent Research*, 16(6), 624–641.
- Sells, S. B., & Simpson, D. D. (1979). Evaluation of treatment outcome for youths in the Drug Abuse Reporting Program (DARP): A follow-up study. In G. M. Beschner & A. S. Friedman (Eds.), *Youth drug abuse: Problems, issues, and treatment* (pp. 571–628). Lexington, MA: DC Heath.
- Shane, P., Diamond, G. S., Mensinger, J. L., Shera, D., & Wintersteen, M. B. (2006). Impact of victimization on substance abuse treatment outcomes for adolescents in outpatient and residential substance abuse treatment. *American Journal on Addictions*, 15(Suppl 1), 34–42.
- Shane, P., Jasiukaitis, P., & Green, R. S. (2003). Treatment outcomes among adolescents with substance abuse problems: The relationship between comorbidities and post-treatment substance involvement. *Evaluation and Program Planning*, 26(4), 393–402.
- Simpson, D. D., Savage, L. J., & Sells, S. B. (1978). *Data book on drug treatment outcomes. Follow-up study of the 1969–1977 admissions to the Drug Abuse Reporting Program (IRB Report No. 78-10)*. Fort Worth, TX: Texas Christian University.

- Spirito, A., Monti, P. M., Barnett, N. P., Colby, S. M., Sindelar, H., Rohsenow, D. J., Lewander, W., & Myers, M. (2004). A randomized clinical trial of a brief motivational intervention for alcohol-positive adolescents treated in an emergency department. *The Journal of Pediatrics*, *145*(3), 396–402.
- Substance Abuse and Mental Health Services Administration (SAMHSA), (1996). *Preliminary estimates from the 1995 National Household Survey on Drug Abuse* (Advance Report No. 18). Rockville, MD: Office of Applied Studies.
- Substance Abuse and Mental Health Services Administration (SAMHSA), (2007a). *Results from the 2006 National Survey on Drug Use and Health: National Findings* (Office of Applied Studies, NSDUH Series H-32, DHHS Publication No. SMA 07-4293). Rockville, MD: Office of Applied Studies. Retrieved from <http://www.oas.samhsa.gov/nsduh/2k6nsduh/2k6Results.pdf> and <http://www.icpsr.umich.edu/SAMHDA/> on April 5, 2008.
- Substance Abuse and Mental Health Services Administration (SAMHSA), (2007b). *Drug Abuse Warning Network, 2005: National Estimates of Drug-Related Emergency Department Visits*. DAWN Series D-29, DHHS Publication No. (SMA) 07-4256, Rockville, MD: Office of Applied Studies. Retrieved from <http://dawninfo.samhsa.gov/files/DAWN-ED-2005-Web.pdf> and <http://www.icpsr.umich.edu/SAMHDA/> on April 5, 2008.
- Substance Abuse and Mental Health Services Administration (SAMHSA), (2008). Treatment Episode Data Set (TEDS). Highlights – 2006. National Admissions to Substance Abuse Treatment Services, DASIS Series: S-40, DHHS Publication No. (SMA) 08-4313. Rockville, MD: Office of Applied Studies. Retrieved from <http://www.oas.samhsa.gov/teds2k6highlights/teds2k6highWeb.pdf> and <http://www.icpsr.umich.edu/SAMHDA/> on April 5, 2008.
- Titus, J. C., Dennis, M. L., White, W. L., Scott, C. K., & Funk, R.R. (2003). Gender differences in victimization severity and outcomes among adolescents treated for substance abuse. *Journal of Child Maltreatment*, *8*(1), 19–35.
- U.S. Department of Health and Human Services, Administration on Children, Youth and Families. (ACYF) (2006). *Child maltreatment 2004*. Washington, DC: U.S. Government Printing Office.
- Van Etten, M. L., & Anthony, J. C. (1999). Comparative epidemiology of initial drug opportunities and transitions to first use: marijuana, cocaine, hallucinogens and heroin. *Drug and Alcohol Dependence*, *54*, 117–125.
- White, M. (2005). Predicting violence in juvenile offenders: The interaction of individual, social, and environmental influences. *Offender Substance Abuse Report*, 83–84, 89–90.
- White, M. K., Funk, R. R., White, W. L., & Dennis, M. L. (2004). Predicting violent behavior in adolescent cannabis users: The GAIN-CVI. In K. Knight & D. Farabee (Eds.), *Treating addicted offenders: A continuum of effective practices* (pp. 3-1–3-7). Kingston, NJ: Civic Research Institute.