

Mental Health Status of Infrequent Adolescent Substance Users

Robert J. Williams
Theresa Zolner
Lorne D. Bertrand
R. Meghan Davis

ABSTRACT. Frequent substance use has a strong association with poor mental health. The relationship between infrequent substance use and mental health is less clear. The present study investigated this relationship in a large group ($n = 2118$) of 12-19-year-olds from Alberta, Canada. Results indicated that adolescents who used tobacco or alcohol once a month or less tended to have equivalent mental health status to abstainers. Using cannabis 3-5 times/year or less had no adverse mental health associations. However, poorer mental health was associated with single time use of hallucinogens or other drugs. In general, substance usage tended to have more negative mental health associations for younger compared to older adolescents. *[Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address:*

Robert J. Williams, PhD, is Associate Professor in the Addictions Counselling Program, School of Health Sciences, University of Lethbridge, T1K 3M4. Theresa Zolner, PhD, is Assistant Professor in the Department of Psychology, St. Thomas More College, University of Saskatchewan, Saskatoon, Saskatchewan, S7N 0W6. Lorne D. Bertrand, PhD, is Research Associate with the Canadian Research Institute for Law and the Family, University of Calgary, Calgary, Alberta. R. Meghan Davis, MSc, is a graduate student in the Forensic Psychology Program, Sam Houston State University, Huntsville, Texas.

Address correspondence to: Robert J. Williams, School of Health Sciences, University of Lethbridge, Lethbridge, Alberta, Canada, T1K 3M4 (E-mail: Robert.Williams@uleth.ca).

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INTRODUCTION

It is well established in both adult and adolescent populations that frequent substance use tends to co-occur with mental health problems. This is because of the pervasive negative impact substance abuse has on people's lives, the potential for individuals with psychiatric problems to self-medicate, and perhaps because of a common etiological vulnerability (Angold, Costello, & Erkanli, 1999; Farrell et al., 1998; Goldsmith, 1999; Greenbaum, Foster-Johnson, & Petril, 1996; Mueser, Drake, & Wallach, 1998; Siegfried, 1998).

Less well established is the relationship between infrequent/occasional substance use and mental health. Many studies have found occasional use to be associated with poorer mental health. Lavik (1987) found that Norwegian junior high school students who had used cigarettes, alcohol, cannabis, organic solvents, or tranquilizers had more mental health symptoms than nonusers. Marston, Jacobs, Singer, Widaman, and Little (1988) found that the 767 students in a California high school who reported use of either alcohol, tobacco or other drugs had poorer mental and physical health than the 77 students who denied any use of these substances. Warheit and Biafora (1991) found a strong relationship between self-reported drug use and psychopathology for 18-21-year-olds living in shelters. Kinnier, Metha, Okey, and Keim (1994) found that in a sample of 161 adolescents (1/2 from an inner city high school and 1/2 from psychiatric hospitals) there was a linear relationship between self-reported mental health problems and frequency of drug use in the past 6 months. Kandel and Davies (1996) reported that depressive symptoms were higher among 11th and 12th graders in New York State who had used any licit or illicit drug compared to adolescents who have never used. Kandel et al. (1997) found that daily cigarette smoking, weekly alcohol consumption, and any illicit substance use in the past year for 9-18-year-olds in New York State were each independently associated with an elevated likelihood of psychiatric disorders.

However, there are many researchers who have found infrequent substance use to be associated with either no negative consequences or

else better mental health than found in abstainers. Because adolescence is a period of rebellion and experimentation, experimental drug use may be somewhat normative. Indeed, the peak period of initial drug use occurs between the ages of 15-19 (DeWit, Offord, & Wong, 1997) and in 1995 nearly 50% of high school seniors reported having used an illicit drug (Johnston, O'Malley, & Bachman, 1996).

Hogan, Mankin, Conway, and Fox (1970) found college marijuana users more self-confident and socially skilled than nonusers. Wexler (1975) found this same pattern with drug experimentation in high school students. Richek, Angle, McAdams, and D'Angelo (1975) found no differences in psychological status for high school marijuana users and nonusers. Bentler (1987) found a small positive association between marijuana use and positive self-concept. Newcomb, Bentler, and Fahy (1987) found very weak relationships between cocaine involvement and measures of psychopathology in a general community sample of 19-24 year olds. Pederson (1990) found that 13-19-year-old Norwegian marijuana experimenters were less conforming and more oppositional, but had no worse mental health than nonusers. Swadi (1992) found adolescent experimenters to be more behaviorally disturbed, but with no more emotional problems.

Several studies have obtained mixed results. Shedler and Block (1990) found a linear relationship between marijuana use and mental health problems for 14-year-olds, but a curvilinear relationship for 18-year-olds. Adolescents who, by age 18, had never experimented with any drug were relatively anxious, emotionally constricted, and lacking in social skills. Boyle and Offord (1991), in a sample of 12-16-year-olds, found that tobacco, alcohol and hard drug use was related to more signs of emotional disorder, but marijuana usage was not. Henry et al. (1993) found that among 15-year-old New Zealand adolescents, drug use was associated with depression for girls but not for boys. In a group of adolescents oversampled for Aboriginal youth and individuals with behavioral problems, Costello, Erkanli, Federman, and Angold (1999) found that depression, but not anxiety, was associated with a higher rate and earlier onset of both substance use and abuse for both genders.

In all likelihood, the relationship between mental health and occasional/infrequent substance use in adolescents is a complex one. This relationship is likely dependent on the cohort being examined, with different results during periods of high substance use (e.g., 1970s) compared with periods of relatively low use (e.g., early 1960s or early 1990s). The relationship might also be dependent on the culture or country being examined, with different results for cultures with more

tolerance for substance use. It might be dependent on the substance used, with more benign associations for licit substances and "soft drugs" compared with other drugs. Alternatively, it might be dependent on the developmental period examined, with different results for very young users versus older adolescents. Finally, the relationship certainly is dependent on how "experimentation" and "good mental health" are defined and operationalized.

The present study had two purposes. The first was to investigate the concurrent relationship between frequency of substance use and mental health in adolescents from Alberta, Canada. The second was to examine this relationship in a comprehensive enough manner (using a large sample size) to shed some light on the mediating effect of some of the above-mentioned variables, particularly developmental period and substance used.

METHOD

Sample and Procedure

The data used for the present study was collected as part of a provincial study on the prevalence of substance use, social, school, psychological and family problems among adolescents in Alberta, Canada (Bertrand, Smith, Bolitho, & Hornick, 1994). Data were collected at five sites (nine school districts) throughout the province to reflect both the urban and rural environments of the Alberta student population. High schools within these nine school districts were randomly chosen, and 3,390 individual students, ages 12 to 19, from these schools were randomly selected for participation. Following student selection, a letter was mailed to their parents requesting consent to have their child participate in this "Youth and Family Lifestyle Survey." If parents did not wish their child to participate, they were requested to sign an enclosed form and return it.

A trained member of the research team distributed the 260-question "Youth and Family Lifestyle Survey" to students in their classrooms between late April and early June. Students were informed that their participation was voluntary and, if they chose to participate, they could omit any questions they did not wish to answer. They were assured the information provided would remain anonymous. No personally identifiable information was requested on the form. The questionnaire gathered information on age, gender, school functioning, family func-

tioning, social functioning, behavioral functioning, mental health, and substance use.

Of the 3,390 students selected for participation, 489 (14.4%) were excluded because parents did not give consent, leaving 2,901. Complete questionnaires were obtained from 2,118 students. Gender was split evenly between males (51.5%) and females (48.5%). Age distribution closely approximated the age distribution of the general Alberta high school student population.

Measures

Mental health status was assessed with the Emotional Disorder scale as used in the Ontario Child Health Study (Boyle et al., 1987; Offord et al., 1987). This is a 13-question scale (score range 0 to 26) inquiring about mental health problems in the past 6 months. Response options for each question (0, 1, 2) correspond to perceived increases in the intensity or duration of symptoms. These questions were originally taken from the Anxious/Depressed Syndrome Scale of the Child Behavior Checklist Youth Self-Report Form (Achenbach & Edelbrock, 1981), supplemented by a few additional items reflecting elements of the DSM criteria for overanxious disorder, affective disorder and obsessive-compulsive disorder. This scale has been previously documented to have a high degree of both reliability and validity (Boyle et al., 1987; Boyle & Offord, 1991; Boyle et al., 1993). Individuals scoring in the top 10% of scores are considered to have a diagnosable emotional disorder (in the present study, a score of 14 or higher).

Substance use frequency was assessed with questions that asked how often the adolescent had used a particular substance within the past year. They were asked about "cigarettes," "alcohol," "marijuana or hashish," "glue or solvents," "cocaine or crack," "hallucinogens such as LSD, PCP and magic mushrooms," "barbiturates or tranquilizers (downers, Seconal, Valium) without a prescription," "amphetamines or stimulants (speed, bennies, uppers, pep pills, diet pills, etc.) without a prescription," and "opiates such as heroin, morphine or opium." For tobacco, their choices were "never used; once or twice in past year; 1/month or less in past year; 2-3/month in past year; 1/week in past year; 2-3/week in past year; 4-5/week in past year; 6-7/week in past year." For alcohol, their choices were "never used; had sip in past year; once or twice at special events in past year; 1/month or less in past year; 2-3/month in past year; 1/week in past year; 2-3/week in past year; 4-5/week in past year; 6-7/week past year." For all other substances, their choices were "never

used; 1-2 in past year; 3-5 times in past year; 6-9 times in past year; 10-19 times in past year; 20-39 times in past year; and > 40 in past year.”

Analysis

The relationship between scores on the emotional disorder scale and self-reported substance-use frequency was examined with specific reference to the mediating effects of two variables: substance being used and age. Data were first divided into three age groupings: 12-14 ($n = 849$), 15-17 ($n = 1093$) and > 18 ($n = 167$) (18 is the legal age in Alberta to purchase tobacco and alcohol). Within each of these age groupings the relationship between emotional disorder and substance use frequency was examined for five substance groupings: tobacco, alcohol, cannabis, hallucinogens, and “other drugs” (cocaine/crack, stimulants, inhalants, tranquilizers, and opiate use were combined into “other drugs” because of too few users for separate analysis).

Scores on the emotional disturbance scale were plotted against self-reported substance-use frequency for each data set to visually examine the relationship. A Kruskal-Wallis test was then applied to each data set to determine whether there was any significant variation in emotional disorder score as a function of substance use frequency. When a significant variation was detected, Dunn post-hoc comparisons were used to determine at which substance use levels significant differences occurred.

RESULTS

Average emotional disorder scores for each substance use frequency as a function of age are reported in Tables 1 to 3. Figures 1 to 5 show these relationships organized by substance. No values are reported at frequencies that were not one of the available options for that substance on the questionnaire and/or when there were less than 10 adolescents reporting substance use at that frequency.

Age Group 12-14

For age group 12-14, a Kruskal-Wallis test indicated a significant variation in emotional disorder scores as a function of tobacco use frequency ($H = 41.9$, $p < .01$); alcohol use frequency ($H = 38.0$, $p < .01$); cannabis use frequency ($H = 12.7$, $p < .05$); and other drug use frequency (stimulants, cocaine/crack, glue/solvents, opiates) ($H = 37.5$, $p < .01$).

TABLE 1. Average Emotional Disorder Scores at Different Substance Use Frequencies for Ages 12-14

AGE 12-14	Kruskal-Wallis H	0	1-2/yr	3-5/yr	6-9/yr	1/mo	2-3/mo	1/wk	2-3/wk	4-5/wk	6-7/wk
Tobacco	41.9**	6.6	7.1	-	-	8.4	7.5	9.6	7.8	11.6	8.6
N		551	97	-	-	35	24	17	25	25	75
Alcohol	38.0**	6.7	6.5	-	-	8.4	8.8	12.2	-	-	-
N		358	243	-	-	105	62	10	-	-	-
Cannabis	12.7*	7.1	7.8	6.6	-	10.1	-	10.2	-	-	-
N		778	26	11	-	16	-	13	-	-	-
Hallucinogens	7.4	7.1	8.1	10.0	-	-	-	-	-	-	-
N		808	19	11	-	-	-	-	-	-	-
Other Drugs	37.5**	6.9	8.1	10.9	10.5	14.3	-	-	-	-	-
N		768	30	16	13	10	-	-	-	-	-

Note. No values are reported at frequencies that were not one of the available options for that substance on the questionnaire and/or when there were less than 10 adolescents at this frequency. * p < .05; ** p < .01. Underlined values were significantly higher than the emotional disorder score for abstainers.

TABLE 2. Average Emotional Disorder Scores at Different Substance Use Frequencies for Ages 15-17

AGE 15-17	Kruskal-Wallis H	0	1-2/yr	3-5/yr	6-9/yr	1/mo	2-3/mo	1/wk	2-3/wk	4-5/wk	6-7/wk
Tobacco	35.9**	7.5	8.3	-	-	7.9	<u>9.1</u>	<u>10.9</u>	<u>9.0</u>	<u>10.0</u>	<u>9.1</u>
N		617	108	-	-	35	51	16	40	33	193
Alcohol	15.2*	7.5	7.7	-	-	8.2	<u>8.8</u>	<u>9.1</u>	8.8	<u>11.0</u>	-
N		262	253	-	-	243	162	65	43	16	-
Cannabis	16.5*	7.9	8.6	8.7	<u>11.9</u>	9.0	-	<u>9.5</u>	-	-	-
N		873	80	42	31	27	-	30	-	-	-
Hallucinogens	12.9*	7.9	<u>10.0</u>	<u>10.6</u>	10.0	-	-	-	-	-	-
N		972	65	22	11	-	-	-	-	-	-
Other Drugs	49.6**	7.8	<u>9.2</u>	<u>10.5</u>	<u>11.6</u>	<u>10.8</u>	-	-	-	-	-
N		930	74	37	16	16	-	-	-	-	-

Note. No values are reported at frequencies that were not one of the available options for that substance on the questionnaire and/or when there were less than 10 adolescents at this frequency. * p < .05; ** p < .01. Underlined values were significantly higher than the emotional disorder score for abstainers.

TABLE 3. Average Emotional Disorder Scores at Different Substance Use Frequencies for Ages 18 and Older

AGE 18+	Kruskal-Wallis H	0	1-2/yr	3-5/yr	6-9/yr	1/mo	2-3/mo	1/wk	2-3/wk	4-5/wk	6-7/wk
Tobacco	1.7	8.3	8.1	-	-	-	-	-	-	-	8.5
N		97	12	-	-	-	-	-	-	-	43
Alcohol	7.3	8.0	8.2	-	-	7.4	9.1	8.2	7.4	-	-
N		30	26	-	-	35	25	16	28	-	-
Cannabis	3.7	8.1	9.3	7.4	-	-	-	-	-	-	-
N		116	25	12	-	-	-	-	-	-	-
Hallucinogens	5.7	8.2	9.7	-	-	-	-	-	-	-	-
N		139	13	-	-	-	-	-	-	-	-
Other Drugs	8.2	8.1	8.1	-	-	-	-	-	-	-	-
N		142	11	-	-	-	-	-	-	-	-

Note. No values are reported at frequencies that were not one of the available options for that substance on the questionnaire and/or when there were less than 10 adolescents at this frequency. * p < .05; ** p < .01. Underlined values were significantly higher than the emotional disorder score for abstainers

FIGURE 1. Emotional Disorder Scores for Each Age Group as a Function of Tobacco Use Frequency in the Past Year

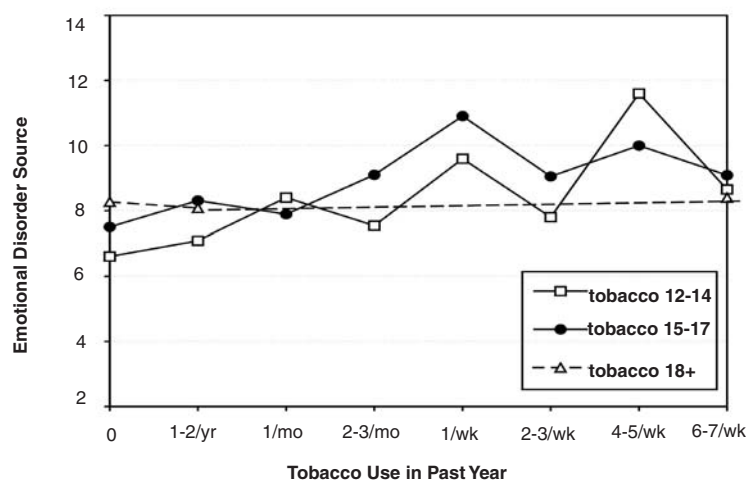
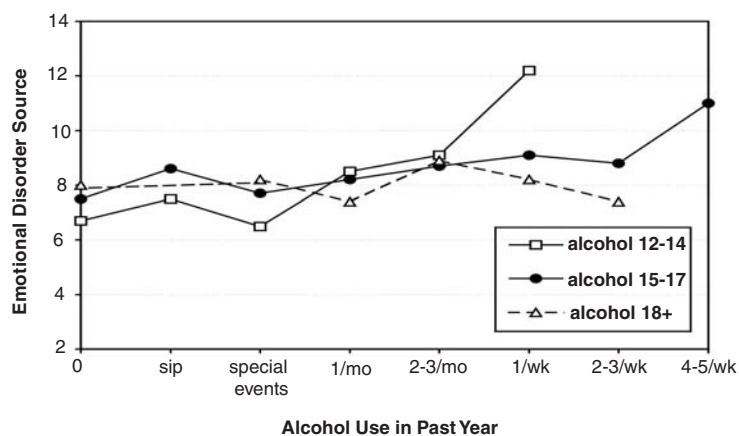


FIGURE 2. Emotional Disorder Scores for Each Age Group as a Function of Alcohol Use Frequency in the Past Year



There was no significant variation as a function of hallucinogen use frequency ($H = 7.4, p > .05$), although the power to detect an effect was low due to the small number of 12-14-year-olds who reported using hallucinogens. Dunn post-hoc comparisons determined that adolescents who used tobacco *once/week or more* in the past year tended to have signifi-

FIGURE 3. Emotional Disorder Scores for Each Age Group as a Function of Cannabis Use Frequency in the Past Year

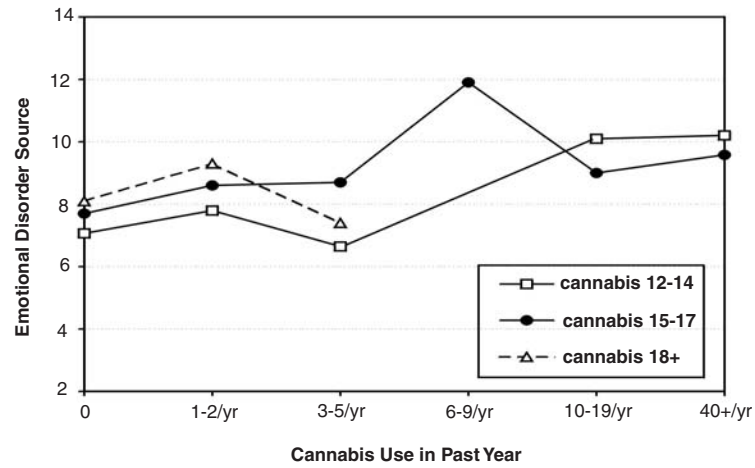


FIGURE 4. Emotional Disorder Scores for Each Age Group as a Function of Hallucinogen Use Frequency in the Past Year

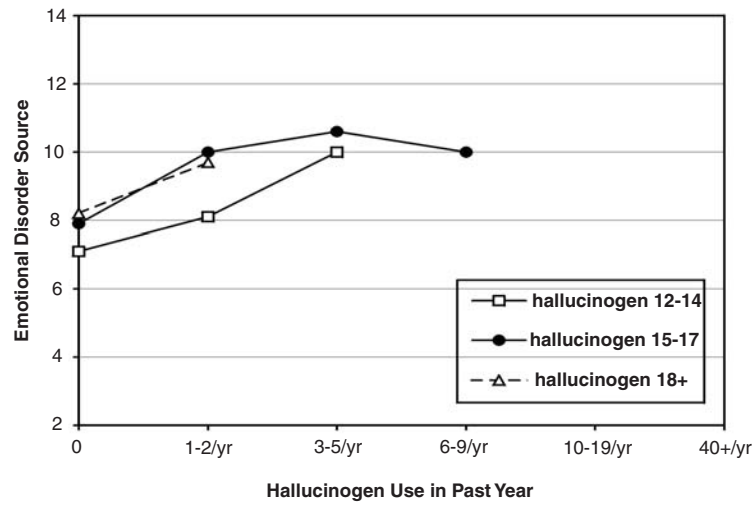
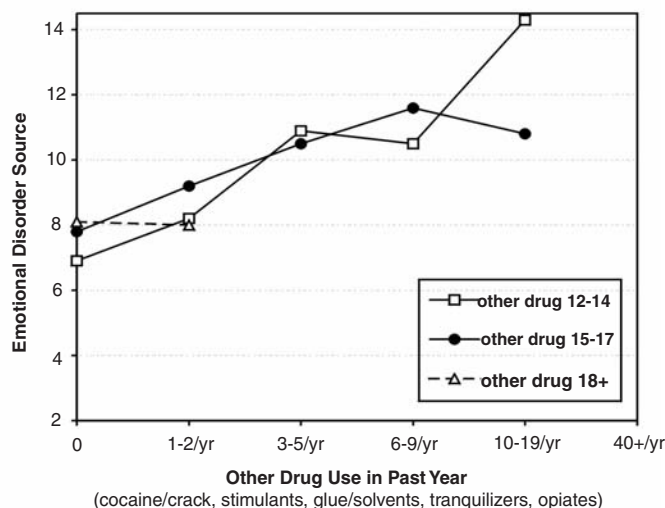


FIGURE 5. Emotional Disorder Scores for Each Age Group as a Function of “Other Drug” Use Frequency in the Past Year



cantly higher emotional disorder scores than adolescents who had never used tobacco. Adolescents who used tobacco less than once/week had scores not significantly different from abstainers. For alcohol use, adolescents who used *once/month or more* had significantly higher emotional disorders scores than adolescents who had never used alcohol. Adolescents who had used alcohol once or twice on special occasions in the past year had emotional disorder scores not significantly different from abstainers. For cannabis use, adolescents who used *once/month or more* had emotional disorder scores significantly higher than abstainers. Adolescents who used cannabis five or fewer times in the past year had scores not significantly different from abstainers. For use of “other drugs” (cocaine/crack, stimulants, glue/solvents, tranquilizers, opiates), adolescents who used one of these substances *3 or more times in the past year* had significantly higher emotional disorder scores than abstainers. Adolescents who used only once or twice had scores not significantly different from adolescents who had never used these substances.

Age Group 15-17

For age group 15-17, a Kruskal-Wallis test indicated a significant variation in emotional disorder scores as a function of tobacco use frequency ($H = 35.9$, $p < .01$); alcohol use frequency ($H = 15.2$, $p < .05$);

cannabis use frequency ($H = 16.5, p < .05$); hallucinogen use frequency ($H = 12.9, p < .05$) and other drug use frequency (stimulants, cocaine/crack, glue/solvents, tranquilizers, opiates) ($H = 49.6, p < .01$). Dunn post-hoc comparisons determined that 15-17-year-olds who used tobacco *2-3 times/month or more* in the past year tended to have significantly higher emotional disorder scores than 15-17-year-olds who had never used tobacco. Adolescents who used tobacco less than 2-3 times/month had scores not significantly different from abstainers. For alcohol use, adolescents who used *2-3 times/month or more* had significantly higher emotional disorders scores than adolescents who had never used alcohol. Adolescents who had used alcohol once/month or less in the past year had scores not significantly different from abstainers. For cannabis use, adolescents who used *6-9 times in the past year or more* tended to have significantly higher emotional disorder scores than abstainers. Adolescents who used cannabis five or fewer times in the past year had scores not significantly different from abstainers. For hallucinogen and other drug use, adolescents who used *once or more in the past year* had significantly higher emotional disorder scores than abstainers.

Age Group 18 and Older

For adolescents aged 18 and older, there was no significant variation in emotional disorder scores as a function of substance use frequency for any substance. The lack of frequent users of cannabis, hallucinogens and “other drugs” is partly responsible for this. However, there were adequate numbers of adolescents aged 18 and older at the lower frequencies for these substances, and adequate numbers at both high and low frequencies for tobacco and alcohol use. Furthermore, as shown in Table 4, the general strength of the relationship between mental health and substance use frequency appears weaker for adolescents 18 and older, although the only significant difference between Spearman correlation coefficients is between tobacco use for age group 12-14 versus 18+ ($p < .05$).

DISCUSSION

Consistent with previous research, this study has found a tendency for *frequent* substance use to be associated with poorer mental health status. Weekly use or more of tobacco, alcohol or cannabis was associated with poorer mental health for adolescents between the ages of 12

TABLE 4. Spearman Correlations Between Frequency of Substance Use and Emotional Disorder Scores

	AGE 12-14 (<i>n</i> = 849)	AGE 15-17 (<i>n</i> = 1093)	AGE 18+ (<i>n</i> = 167)
Tobacco	.182**	.163**	.038
Alcohol	.135**	.090**	.009
Cannabis	.102**	.105**	.059
Hallucinogens	.074*	.093**	.054
Other Drugs	.177**	.166**	.137

** $p < .01$ (2-tail)

and 17. There were insufficient numbers of high frequency users of hallucinogens and “other drugs” in this age group to investigate their mental health status. However, it would be surprising if the result was different considering that even low frequency use of these substances was associated with poorer mental health for these ages.

An important exception to this association between frequent substance use and poorer mental health concerns alcohol and tobacco usage for students 18 and over. In the present study, students 18 and older who reported using tobacco 6-7 times/week or alcohol weekly to 2-3 times/week had equivalent mental health status to abstainers. There are two observations relevant to this finding. First, unlike younger adolescents, 18-year-olds in Alberta are able to legally purchase and consume tobacco and alcohol. Secondly, longitudinal studies across the lifespan consistently show that both the prevalence and period of heaviest substance use is highest in the late teens to early 20s (i.e., it is more “normative” than it is for younger age groups) (Fillmore, 1988; Kandel & Raveis, 1989; Labouvie, 1996; Pape & Hammer, 1996). Most teenagers curb their substance usage as they enter into adult roles of employment, marriage and parenting. The ones that do not appear to be the ones at risk for mental health problems (Fillmore, 1988; Kandel & Raveis, 1989; Labouvie, 1996; Pape & Hammer, 1996).

The relationship between *infrequent* substance use and mental health is more complex, with the results being dependent on the substance being used, the frequency of use, and the age of the user. Occasional use of some substances does not appear to have negative mental health associations. In general, substances appear to have increasingly negative mental health associations in the order: tobacco -> alcohol -> cannabis -> hallucinogens -> “other drugs.” Adolescents who used tobacco once a

month or less had equivalent mental health status to abstainers. A similar result was obtained for alcohol, although the “safe” level of use for ages 12-14 was just on special events, rather than monthly. For cannabis, the level of use with no adverse mental health consequences tended to be lower, at about 3-5 times/year. For hallucinogens, poorer mental health was evident in 15-17-year-olds who used these substances even once, although this was not the case for the other age groups. Single time use of “other drugs” (amphetamines, cocaine/crack, opiates, tranquilizers, inhalants) was also associated with poorer mental health status for 15-17-year-olds, although the frequency associated with poorer mental health status in 12-14-year-olds was slightly higher (3-5 times/year).

Occasional substance use tends to have more negative mental health associations for younger compared to older adolescents. For ages 18 and older, individuals with 1-2 times per year use of any substance have equivalent mental health status to abstainers. In contrast, adolescents aged 15-17 who used hallucinogens or “other drugs” even once in the past year had poorer mental health status than abstainers (although significant differences were not found when these same comparisons were made for ages 12-14). Similarly, once a month use of alcohol had benign associations for ages 15-17 and 18 and older, but was associated with a poorer mental health status for 12-14-year-olds. The highest average emotional disorder score obtained in this study (14.3) was associated with once a month use of “other drugs” for 12-14-year-olds (by comparison, 15-17-year-olds had a score of 10.8).

To put the present results in context, it should be noted that 14 is the score level generally associated with having a diagnosable emotional disorder. The present study has shown that poorer mental health status is associated with certain substances, certain ages, and higher substance use frequencies. However, once a month use of “other drugs” for 12-14-year-olds was the only circumstance where the average emotional disorder score was in a clinical range. Similarly, there is great variability in emotional disorder scores at all substance use frequencies. The correlations between emotional disorder scores and substance use frequency were all positive and many were statistically significant. Nonetheless, they were all quite low (none above .19). Thus, it is not unusual to find high emotional disorder scores among abstainers, nor is it unusual to find low emotional disorder scores among frequent substance users.

The present study has some important limitations. First, these results are specific to the sample that was studied: school-attending Albertan adolescents in the mid-1990s. Different results would likely be obtained in cultures and historical periods where different normative patterns ex-

ist (Oetting, Donnermeyer, Trimble, & Beauvais, 1998). It is also anticipated that the strength of these relationships may have been stronger if we had been able to include teenagers who were not attending school. School dropouts are known to have higher levels of both substance use and mental health problems (e.g., Guagliardo, Huang, Hicks, & D'Angelo, 1998; Kaplan, Damphousse, & Kaplan, 1994; Swaim, Beauvais, Chavez, Oetting, 1997).

Secondly, this data is based on self-report. Adolescent self-report of substance use tends to be reasonably reliable and valid as measured by consistency over time and correspondence with biochemical measures (Adair, Craddock, Miller, & Turner, 1996; Smith, McCarthy, & Goldman, 1995). However, it is influenced to some extent by the demand characteristics and memory requirements of the situation. Under-reporting is characteristic of recent arrestees (Harrison, 1995; Magura & Kang, 1996); for less socially acceptable drugs such as cocaine (Lundy et al., 1997; Wish, Hoffman, & Nemes, 1997); when parents are present (Aquilino, 1997); when answers are given verbally (Aquilino, 1997; Turner, Lessler, & Gfroerer, 1992); and when individuals have completed a treatment program (Wish et al., 1997). Retrospective reports are influenced by current substance use status, with somewhat higher reports of retrospective use being associated with higher current use and vice versa (e.g., Collins, Graham, Hansen, & Johnson, 1985). It should be noted that the methods used in the present study (self-administered written questionnaires, group administration by a researcher unknown to the students, no personally identifying information, guarantees of confidentiality) are procedures that optimize validity.

A third limitation is that this is a correlational study that says nothing about causal direction. It is only plausible speculation that the relationship between frequent substance use and poor mental health is causally related, or that the association between abstinence and good mental health is due to a common third factor.

A fourth, very important limitation is that this is a cross-sectional rather than a prospective study. The benign association between infrequent use of certain substances and good mental health is not necessarily an enduring one. There is a subset of individuals where drug experimentation leads to heavier drug use and/or serves as a gateway to "harder drugs" (Kandel, Davies, Karus, & Yamaguchi, 1986; Kandel, Yamaguchi, & Chen, 1992; Newcomb, Scheier, & Bentler, 1997). Substance use at an early age is one of the risk factors for this progression (Fergusson & Horwood, 1997; Labouvie, Bates, & Pandina, 1997; Lewinsohn, Rohde, & Brown, 1999; Lo, 2000).

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