STASH Vol. 1(1) – Substance use in adolescence and midlife: Does history repeat itself?

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According to the syndrome model of addiction (Shaffer et al., 2004; see also The WAGER 10(1)), addiction to any substance or behavior is the result of interactions among several factors: neurobiological (e.g., genetic), psychological, and social risk factors; in addition, exposure to and (repeated) interaction with a particular object that shifts subjective states in a desirable direction influence the likelihood of addiction. To date, the BASIS has focused its publications and resources on just a few substances and activities with potential for addiction: alcohol, tobacco and gambling. However, there are a variety of substances commonly linked to addictive behavior not covered by these journals, such as marijuana, cocaine, heroin, LSD, pharmaceuticals, and caffeine, among others.

This week the BASIS launches its fifth online journal, Science Threads on Addiction, Substance Use and Health (STASH). The goal of this journal is similar to ASHES, The DRAM, and The WAGER: to gather, distill, and share resources relating to addiction, thereby providing BASIS readers with direct access to the latest information available in this field. STASH will focus on issues related to the use of substances other than alcohol and tobacco, and their effects. This first issue of STASH reviews a study by Merline, O'Malley, Schulenberg, Bachman, and Johnston (2004) that examined the impact of (1) adolescent substance use and (2) demographic factors in adulthood (e.g. level of education, employment, marital status, etc.) on the likelihood of substance use during midlife.

Monitoring the Future (MF) recruited the participants in this study. Each year MF surveys a nationally representative sample of 17,000 high school seniors, from 135 high schools. In this study, authors used information collected from seven high school cohorts originally surveyed between 1977 and 1983. MF interviews a sample of 2,400 participants from each cohort every other year until participants reach the age of 30. Follow-up participants complete an additional survey at age of 35. This survey measured past 30-day cigarette and marijuana smoking, past 2-week heavy drinking (5 drinks or more) as well as use of cocaine and prescription

drugs without a doctor’s recommendation during the past 12 months. The interviews given at age 35 were completed between 1994 and 2000. The unweighted sample included 10,225 participants, 61% of those originally selected for follow-up. After weighting the sample for sex, high school performance and attendance, and parental educational level, the research sample had 7,541 subjects.

As shown in Table 1, most demographic factors that predicted any substance use behavior at age 35 also predicted substance use for several substances. For example, having a college degree and being married were associated with lower levels of cigarette smoking, heavy drinking, and use of marijuana, cocaine and prescription drugs. Similarly, being female and being a custodial parent were associated with lower levels of smoking, heavy drinking, use of marijuana, and cocaine. The only exception was being a non-custodial parent, which was associated only with being a cigarette smoker. The strongest predictors, however, were substance-related. People who reported that they used, or tried a substance in high school were from three to eight times more likely to report using that substance at age
35.

Table 1:

	%	Cigarette Smoking	Heavy Drinking	Marijuana Use	Cocaine Use	Prescription Drug Use
Gender						
Men[a]	45	1.00	1.00	1.00	1.00	1.00
Women	55	**0.74**	**0.41**	**0.56**	**0.49**	1.14
Race/ethnicity						
White[a]	86	1.00	1.00	1.00	1.00	1.00
African Am.	8	1.05	0.77	**0.55**	1.00	**0.33**
Other	6	1.00	0.94	0.98	1.47	0.96
Employment Stability						
Employed[a]	91	1.00	1.00	1.00	1.00	1.00
Unemployed	9	**1.49**	1.15	**1.45**	1.37	**1.52**
Education						
No college[a]	29	1.00	1.00	1.00	1.00	1.00
Some college	32	1.03	0.90	0.94	1.00	1.01
College degree	39	**0.53**	**0.74**	**0.57**	**0.53**	**0.45**
Marital status						
Not married[a]	29	1.00	1.00	1.00	1.00	1.00
Married	71	**0.40**	**0.64**	**0.50**	**0.42**	**0.50**
Parental status						
No children	28	1.00	1.00	1.00	1.00	1.00
Noncustodial parent	4	**1.62**	1.02	0.87	1.03	1.15
Custodial parent	68	1.08	**0.79**	**0.69**	**0.64**	0.96
Job classification[f]						
I[a]	12	1.00	1.00	1.00	1.00	1.00
II	28	0.87	1.13	0.90	0.74	0.77
III	20	0.99	1.28	1.02	0.78	0.89
IV	33	0.80	0.84	0.79	0.68	0.87
Homemaker	7	0.85	0.70	0.64	1.05	0.72
Base-year						
No[a]		1.00	1.00	1.00	1.00	1.00
Yes			**3.11**	**8.30**	**5.24**	**3.06**
Tried		**3.27**				
Past mo.		**12.51**				

Figure. Multivariate (MV) Odds Ratios Predicting Substance Use at Age 35 (adapted from Merline et al., 2004). Significantly different from referent category, $p < .01$; a Referent category in logistic regressions. Click image to enlarge.

The findings of Merline et al. are consistent with results of other national studies, including the 1999 National Household Survey on Drug Abuse (Office of Applied Studies, 2000). There are a few limitations to this study. Though Monitoring the Future carefully selects a nationally representative participant population, it does not include surveys from adolescents who dropped out of high school before the 12th grade or those absent on the day the survey was given; irregular attrition among various groupings of students could skew the results both at baseline and consequently at age 35. Further, varying rates of attrition among different gender and ethnic groups could skew results. It also would have been interesting to examine whether using a substance as a teenager was predictive of all substance use at age 35, or whether that predictive relationship was restricted to the same

substance used. The authors did not report conducting that analysis.

Despite this limitation, this study does show that certain experiences and demographic factors increase the likelihood a person will use psychoactive substances during midlife. This finding is important as we try to determine the causes of long-term substance use and its consequences. The findings of this study also support the syndrome model of addiction: the study shows that common antecedents influence a variety of similar substance using behavior patterns.

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[1] I = Laborer, service worker, operative or semiskilled worker; II = sales clerk in retail store, clerical or office worker, protective service military service, craftsman or skilled worker, farm worker or farm manager; III = owner of small business, sales representative, manager or administrator; IV = professional with or without doctoral degree; V = homemaker.

References

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