



Full length article

Transitions in the use of multiple substances from adolescence to young adulthood



Gabriel J. Merrin^{a,*}, Kara Thompson^b, Bonnie J. Leadbeater^a

^a University of Victoria, 3800 Finnerty Rd., Victoria, BC, V8P 5C2, Canada

^b St. Francis Xavier University, 5005 Chapel Square, Antigonish, NS, B2G 2W5, Canada

ARTICLE INFO

Keywords:

Polysubstance use
Cigarette
Alcohol
Marijuana
Illicit drugs
Latent transition analysis

ABSTRACT

Background: Research indicates that many adolescents frequently use multiple substances. This study examines stability and transitions in the use and co-use of multiple substances (cigarette, alcohol, marijuana, illicit drugs) from adolescence to young adulthood.

Methods: Data were collected biennially from 662 youth in six assessments across ten years (2003–2013). We used latent class analysis (LCA) to classify youth by substances used at each wave and used latent transition analysis (LTA) to examine transition probabilities across waves.

Results: At each wave, a three-class model best fit the data. Classes included a *poly-use* class, that had the highest probabilities of use among all substances, a *co-use* class, that had high probabilities of use of alcohol and marijuana, and an *alcohol-dominant* class that started with low probabilities of use among all substances but showed increasing probabilities of alcohol use, at later ages. LTA showed that the probability of remaining in the *poly-use* class was the most stable from one wave to the next, followed by the *alcohol-dominant* class, and the *co-use* class. The most transitions occurred for the *co-use* class, with more individuals transitioning to the *poly-use* class than to the *alcohol-dominant* class.

Conclusions: Strong stability among adolescent substance use classes was found between waves. Transitions were typically to classes using more substances, although, transitions to use fewer substances was evident for some individuals. Distinguishing stable and transitioning classes of substance use and co-use provides opportunities for prevention and intervention to disrupt high-risk use classes.

1. Introduction

The use of multiple substances during adolescence is a consistent predictor of substance use problems and adverse health and social outcomes in adulthood (Moss et al., 2014; Nelson et al., 2015). Research suggests that consumption of a single type of substance is rare, and many adolescents use multiple substances, referred to as polysubstance use (Moss et al., 2014; Tomczyk et al., 2016a). The heterogeneity in the types of substances used during adolescence has been documented in several cross-sectional studies (for review see Tomczyk et al., 2016a). While adolescence and young adulthood is a time of considerable experimentation and instability in the types of substances used, little research has examined transitions between different classes of substance use across this developmental period. A better understanding of transitions between classes of substance use and co-use across adolescence and young adulthood can inform the identification of high-risk use classes. The current study examines stability and change in substance use classes across six biennial assessments

spanning ten years from adolescence to young adulthood.

Research consistently reports that levels of tobacco, marijuana, and heavy drinking increase across adolescence, peak in late adolescence and early young adulthood, and subsequently decline (Nelson et al., 2015). However, the types of substances used by an individual can vary over time, carry different levels of risk, and are differentially associated with short- and long-term health and social outcomes. Researchers using person-centered approaches like finite mixture models (e.g., Latent Class Analysis) have identified three to four substance use classes evident in adolescence (for review see Tomczyk et al., 2016a). Past studies of classes of use are typically cross-sectional and focus on tobacco, alcohol (or binge drinking), marijuana, and illicit drug use (Conway et al., 2013; Gilreath et al., 2015; Morean et al., 2016). Some studies have also examined classes of longitudinal use from adolescence to young adulthood using Growth Mixture Models (GMM), although these studies are limited to one or two substances (Jackson et al., 2008; Schweizer et al., 2014). A better understanding of the transitions in adolescent substance use and co-use could provide insight into the

* Corresponding author.

E-mail address: gmerrin@uvic.ca (G.J. Merrin).

extent to which substance use classes that begin in adolescence become entrenched or change in young adulthood.

Strong stability for each substance use class is expected based on previous research using Latent Transition Analysis (LTA; Chung et al., 2013; Lanza et al., 2010; Maldonado-Molina et al., 2011; Mistry et al., 2015). For example, Lanza et al. (2010) examined substance use transitions among first-year college students (mean age of 18.5 years) across two weeks, and identified four classes *non-use*, *cigarette use*, *binge drinking*, and *binge and marijuana use*. There was considerable stability in class membership in this short period. The *binge and marijuana use* class had the highest stability, followed by *non-use*, *binge drinking*, and *cigarette use*. Chung et al. (2013) also examined the transitions between three substance use classes for cigarettes, alcohol, and marijuana use for black and white females ages 13–17 (*no use*, *alcohol only*, and *poly-substance use*) annually across five waves. Findings also showed stability within substance use classes, and the polysubstance use class had the highest stability. Additionally, Mistry et al. (2015) examined transitions among three substance use classes (*non-users*, *alcohol and marijuana use*, and *alcohol, tobacco, and marijuana use*) across three waves of data spanning five years collected from youth in 10th grade (mean age of 15.9), and found higher rates of transitions during earlier waves compared to later waves. Taken together, these short-term studies show considerable stability in substance use class membership within adolescence. Identifying patterns of change in classes of substance use from adolescence to young adulthood can increase understanding of the number of youth that transition to use fewer or more types of substances. This provides evidence of the proportion of individuals who recover from adolescent experimentation with different substances and the proportion who evolve towards a high-risk use pattern by young adulthood.

In this study, we add to this literature by examining transitions among classes of four substances (i.e., cigarettes, binge drinking, marijuana, and illicit drugs) in a large sample followed for a decade from adolescence (ages 12–18) to young adulthood (ages 22–28). No study, to our knowledge, has examined latent transitions among use of these four substances from adolescence to young adulthood. Including illicit drug use will help to differentiate individuals who are characterized by a high-risk use pattern that may need more directed and individualized treatment options. Specifically, we examine the short- and long-term stability and changes in classes of substance use in adolescence and young adulthood. Most LTA studies are short term; an examination of substance use transitions across ten years will provide information on the stability or instability within and across classes of use. For example, stability may decrease in years leading into young adulthood for certain classes and may remain stable for others. We addressed the following questions: (1) What are the different classes of substance use among youth from adolescence to young adulthood? (2) To what extent do classes of substance use remain the same (stability) or change (transition) from wave to wave across a decade, spanning adolescence to young adulthood? (3) Are youth who change their substance use classes more likely to transition to a higher-risk use pattern or a lower-risk use pattern, and when is this transition most likely to occur? Finally, looking across ten years (from wave 1 to wave 6), we asked, (4) What is the probability of youth remaining in the same substance use class that they showed in adolescence?

2. Methods

2.1. Participants and procedures

Data are from the Victoria Healthy Youth Survey (V-HYS), a 10-year prospective longitudinal study of youth who were ages 12 to 18 in 2003 (W1; $N = 662$; 48% male $M_{\text{age}} = 15.5$, $SD = 1.9$). The sample was randomly recruited and represent the adolescent population in Victoria, BC (see Leadbeater et al., 2012 for details). In 2003, adolescents were recruited from a random community sample of 9500 telephone listings.

From this 1036 households with adolescents ages 12–18 were identified. Of the eligible households, 662 agreed to participate in the study. Youth were followed biennially across a decade (i.e., for six assessments; W6; $N = 478$; 45% male; $M_{\text{age}} = 26.8$, $SD = 2.0$). Retention rates were good at each wave: 87% (W2), 81% (W3), 69% (W4), 70% (W5), and 72% (W6). Males were slightly more likely to be lost to follow-up compared to females (i.e., males comprised 48% of the sample at W1 and 45% at W6; $\chi^2(1, 662) = 8.77$, $p = .003$). Participants from higher socioeconomic status (SES) families (W1: $M = 6.79$, $SD = 1.66$; $F(1, 636) = 19.39$, $p < .001$) were more likely to be retained in the study compared to participants from lower SES families ($M = 6.05$, $SD = 1.94$).

Youth and the parent or guardian for those under age 18 gave written consent for participation at each wave, and participants received a gift certificate at each interview. A trained interviewer administered the V-HYS individually in the youth's home or another private place. To enhance privacy, the portion of the V-HYS questionnaire dealing with drug and alcohol use was self-administered and placed in a sealed envelope not accessible to the interviewer. The university's research ethics board approved the research protocol.

2.2. Measures

2.2.1. Demographic variables

Sex was coded such that males were the reference group. The age variables measured age in years. The Hollingshead Occupational Status Scale was used to assess socioeconomic status (Bornstein et al., 2003). Participants reported their parent occupations which were coded from 1 to 9 and the highest level of occupational prestige for either parent was used as the measure of SES.

2.2.2. Cigarette use

Youth indicated how many cigarettes they smoked in the past week. Response items included: 0 = none, 1 = 1 per week, 2 = less than half a pack, 3 = less than a full pack, 4 = more than a full pack.

2.2.3. Heavy episodic drinking

Heavy episodic drinking (HED) was assessed using a single item that asked, "How often they had five or more drinks on one occasion in the past year." Response options included: 0 = never, 1 = a few times a year, 2 = a few times a month, 3 = once a week, and 4 = more than once a week. The definition of a standard drink was provided and states "When we use the word 'drink,' it means: (1) one glass, bottle or can of beer, (2) one glass of wine or a wine cooler, or (3) one drink or cocktail with liquor" (see Evans-Polce et al., 2015).

2.2.4. Marijuana use

Youth indicated their frequency of marijuana use over the past year. Response items ranged from 0 = never, 1 = a few times per year, 2 = a few times per month, 3 = once a week, and 4 = more than once a week.

2.2.5. Illicit drug use

Using both formal and street names, participants were asked how often they used each of the following six illicit drugs in the past year: hallucinogens, amphetamines, club drugs, inhalants, cocaine, and heroin as 0 = never, 1 = a few times a year, 2 = a few times a month, 3 = once a week, and 4 = more than once a week. Responses were dichotomized. Due to low use rates across the six illicit drug types, we combined drug types into one dichotomized variable that captured whether adolescents had used any illicit drug over the past year.

2.3. Analysis plan

Latent Class Analysis (LCA) was used to identify the number of substance use classes that best fit the data at each of the six waves based

Download English Version:

<https://daneshyari.com/en/article/7502814>

Download Persian Version:

<https://daneshyari.com/article/7502814>

[Daneshyari.com](https://daneshyari.com)