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Adolescent substance use: Latent class and transition analysis

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Abstract

Background—The prevention and intervention of adolescent substance use is a public health priority. Most adolescents will engage in some form of substance use, and a sizeable minority will transition to using multiple substances. An emerging body of research takes a person-centered approach to model adolescent substance use over time; however, the findings have been equivocal. Our study modeled adolescent substance use transition patterns over three years based on a comprehensive list of substances and examined gender as a moderator.

Methods—We used three annual waves of data (Time 2, Time 3, and Time 4) from an ongoing longitudinal study of an ethnically diverse sample of 1,042 adolescents originally recruited from multiple high schools in southeast Texas. Participants were 56% female, 32% Hispanics, 30% Whites, 29% African Americans, and 9% other with an average of 16.1 years ($SD = .79$) at Time 2. Data were analyzed using latent transition analyses.

Results—The study identified three substance use statuses (Mild Alcohol Use, Alcohol and Moderate Marijuana Use, and Polysubstance Use) and suggested that adolescents generally remained in the same statuses over time. When they did transition, it was typically to a more harmful substance use status. Further, males were more likely than females to be polysubstance users and had higher probabilities of transiting to and remaining in a more harmful drug use status.

Conclusions—The study identifies overall and gender specific adolescent substance use transition patterns, which are vital to informing intervention development.

Keywords

substance use; adolescents; latent transition analysis; gender

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1. Introduction

Adolescent substance use is a significant public health concern that is linked to a range of mental and physical health consequences, as well as risky behaviors such as dating violence (Vagi et al., 2015), unsafe sexual practices (Ritchwood et al., 2015), and delinquency (Monahan et al., 2014). Moreover, adolescent substance use tends to co-occur, and teens who use one substance (e.g., alcohol) have an increased likelihood of using another substance (e.g., marijuana) (Moss et al., 2014; Tomczyk et al., 2016). Adolescent polysubstance users, that is, teens who use more than one substance within a specified period of time, either simultaneously or separately (Conway et al., 2013), are especially vulnerable to developing an addiction and to be involved in violence and other risky behaviors (Hopfer et al., 2014; Wanner et al., 2009).

Given the potentially severe consequences of polysubstance use, a number of studies have attempted to describe this pattern using person-centered approaches, such as latent class analysis (LCA) (see Tomczyk et al., 2016 for a review). LCA uses cross-sectional data to identify latent classes of substance use that reflect relatively distinct subgroups (Collins & Lanza, 2010). Using LCA, Connell and colleagues (2009) examined 13,953 adolescents aged 14–18 and based on their alcohol, tobacco, marijuana, heavy episodic drinking, cocaine, inhalants, and other drug use, identified four classes: non-users, alcohol experimenters, occasional polysubstance users, and frequent polysubstance users. Another study (Conway et al., 2013) examined 2,524 10th graders and identified four classes: non-users, predominant alcohol, predominant marijuana, and predominant polysubstance users.

Although identifying adolescent substance use patterns at a given time is a good first step, knowing how these patterns change over time is essential for designing prevention and intervention programs. The gateway hypothesis suggests that adolescents typically start with legal substances (e.g., alcohol, tobacco) and progress into illicit drugs (Kandel et al., 2006). A better understanding of transition patterns will inform intervention development and allow for more precise timing that aims to prevent transitions from nonuse to use, or from low-use to higher use profiles (Steinman & Schulenberg, 2003).

LTA, the longitudinal extension of LCA, is a statistical tool that can fulfill the needs of modeling adolescent substance use transitions over time (Collins & Lanza, 2010). It can be used to estimate the continuity of substance use at adjacent time points, whether the transition is forward (e.g., transition from using one substance to using two) or backward (e.g., transition from using one substance to nonuse). Mistry and colleagues (2015) examined 850 10th graders (Time 1) and followed them over 4-years (Time 2 at 24 months and Time 3 at 48 months). By examining the transition across the identified three statuses (non-users, alcohol and marijuana users, and alcohol, tobacco and marijuana users), the authors concluded that there was less stability between Time 1 and Time 2 than between Time 2 to Time 3. Despite the importance of identifying population groups for interventions, findings of substance use patterns have been equivocal due to methodological differences including sample age range, recruitment strategy, time frames used, and what was analyzed (e.g., types of substances) (Tomczyk et al., 2016). Most adolescent substance use LTA research focuses on the use of alcohol, marijuana, and cigarettes (Chung et al., 2013;

Maldonado-Molina & Lanza, 2010; Mistry et al., 2015). One study examined alcohol, cannabis, cocaine, and other hard drugs, but did not include marijuana or cigarette use (Shin, 2012). In general, relevant studies using LTA fail to include a comprehensive number of substances, and the misuse of prescription drugs has been absent. By examining the transition patterns of adolescent use of a comprehensive list of substances, including prescription drugs, the present study fills this literature gap.

Because existing research indicates differences in adolescent substance use between males and females, we will also examine the role of gender in transitioning substance use status. Lanza and colleagues (2010) compared male and female college freshmen and concluded that, although the underlying structures of substance use behaviors between males and females were similar, the prevalence of substance use differed across time. Thus, our study aims to identify the substance use patterns of both male and female adolescents, describe the prevalence of each status at each time point, and to examine and compare the transition patterns between males and females.

2. Materials and Methods

2.1. Procedure

Data were from *Dating it Safe*, an ongoing longitudinal study of adolescent health. Participants were recruited during attendance-mandated classes at seven public high schools in southeast Texas (response rate: 62%). Ninth or 10th graders at baseline ($N=1,042$) participated in annual surveys from Spring 2010 (Time 1) to Spring 2018 (Time 8). The current study used data from Times 2 (retention rate: 95%), 3 (retention rate: 85%) and 4 (retention rate: 75%) as these waves included all relevant measures. Well-trained project managers administered a paper/pencil survey to participants in their classrooms. When participants were not available at school (e.g., moved to different local area), they completed the survey online. Participants received a \$10 gift card at Times 2 and 3, and a \$20 gift card at Time 4. We received written parental consent and student assent. The Institutional Review Board at the last author's institution approved all study procedures.

2.2. Participants

Slightly over half of students were female (56%) and approximately one third of adolescences self-identified as Hispanic (32%), White (30%), or African American (29%), with 9% reporting "other." At baseline, the mean age of participants was 15.1 years ($SD=.79$); they reported highest parental education (either parent) as finished college (37%), some college/training school (28%), finished high school (19%), or did not graduate from high school (16%).

2.3. Measurements

Past-year substance use (Time 2, 3, & 4)—Participants reported their past-year substance use with a yes/no format. Each substance was asked using the following stem: "Since your last survey (about 1 year ago), did you use any: 1) alcohol (more than just a few sips), 2) cigarettes (more than just a puff), 3) marijuana, 4) cocaine (power, crack, or freebase), 5) amphetamines (speed, crystal, crank, ice), 6) inhalants (sniffed glue, huffing),

7) over the counter cold or cough medicine with the intent of getting high, 8) Ecstasy (MDMA, X, XTC, E), and 9) prescription drugs that weren't prescribed by a health professional?" Because of the relatively low prevalence of cocaine, amphetamines, inhalants, over the counter medicine, and ecstasy, they were collapsed into a single "other drug" variable.

2.4. Analytical plan

Five substance use indicators included alcohol, tobacco, marijuana, prescription drugs, and other drugs. We first performed LCA at each time point. To identify the optimal number of statuses, the following were used (Yang, 2006; Tofighi & Enders, 2008): 1) the Bayesian Information Criterion (BIC) and adjusted BIC (Nylund et al., 2007) and 2) the adjusted Lo-Mendell-Rubin likelihood ratio test (LMR; Lo et al., 2001). Smaller values in the adjusted BIC indicates a better fitting model. LMR test indicates a significant model fit improvement from k-1 to k class. We also considered conceptual interpretations of classes based on existing literature (e.g., Tomczyk, et al., 2016).

After determining the optimal number of classes at each time point, we performed LTA to examine the measurement invariance across time. Two models were tested, one restricted item-response probabilities across waves (BIC=10438.615) and the other did not restrict item-response probabilities across waves (BIC=12175.349). The smaller BIC value of the restricted model indicated better model fit, suggesting that there were three equivalent substance use classes at Times 2, 3 and 4. Separately tested LCA models in females and males resulted in the same optimal numbers of classes (i.e., 3 classes) across time. We also tested whether females and males had different item-response probabilities by comparing two models at each time point: 1) constraining item-response probabilities to be equal in both females and males; and 2) varying item-response probabilities in males and females at Time 2 (Model 1: BIC=5372.92 vs. Model 2: BIC=5452.09), at Time 3 (Model 1: BIC=5128.68 vs. Model 2: BIC=5295.27) and Time 4 (Model 1: BIC=4614.57 vs. Model 2: BIC=4670.20). Furthermore, we compared two LTA models to examine if female and male had equivalent classes across time by 1) constraining item-response probabilities to be equal to females and males (BIC=11853.00) simultaneously across all time points and 2) varying estimation of item-response probabilities in males and female (BIC=12020.94). These comparisons indicated that males and females were statistically equivalent in the three substance use classes across time. Thus, gender was included in the final model as a moderator to examine the different transition probabilities between females and males instead of testing LTA models separately by gender. We also examined whether age significantly predicted membership in latent classes by conducting LCA with age as a covariate. Furthermore, we tested if age influenced transitions in LTA. Because these analyses demonstrated that age was not a significant predictor of membership in LCA or transitions in LTA, we did not investigate this variable further. In all of the aforementioned analyses, we employed full information maximum likelihood method to handle missing data resulting from the nature of a longitudinal study (Graham, Cumsille, & Elek-Fisk. 2003).

3. Results

3.1. Descriptive statistics

As shown in Table 1, the prevalence of alcohol, tobacco, and marijuana use increased over time, while other drug and prescription drug use slightly decreased or remained steady.

3.2. Latent substance use status and prevalence

Model fit indices are shown in Table 2. Three latent substance use statuses were identified: 1) Mild Alcohol Use; 2) Alcohol and Moderate Marijuana Use; and 3) Polysubstance Use (see Table 3). The largest status at Time 2 (45.0%) was labeled Mild Alcohol Use because of low item-probabilities of any type of substance use (.005–.03), except for a small probability of alcohol use (.22). The second largest status at Time 2 (37.2%) was labeled Alcohol and Moderate Marijuana Use because these adolescents had a high probability of endorsing alcohol (0.87) and a relatively moderate probability of endorsing marijuana use (0.46). The third latent status was labeled Polysubstance Use because youth in this class had high item-probabilities endorsing use of alcohol (0.95), tobacco (0.68), marijuana (0.90), prescription drugs (0.56), and other drugs (0.59).

The prevalence of Mild Alcohol Use status decreased, whereas the Alcohol and Moderate Marijuana Use status increased over time. That is, the prevalence of Mild Alcohol Use status was greatest at Time 2, yet the prevalence of Alcohol and Moderate Marijuana Use status became greatest at Time 4. The prevalence of Polysubstance Use status increased from Time 2 to Time 3 but remained stable from Time 3 to Time 4.

3.2.1. Prevalence of female latent substance class—The prevalence of Mild Alcohol Use status decreased from Time 2 to Time 3 (−4.2%) and from Time 3 to Time 4 (−2.2%). However, the prevalence of Alcohol and Moderate Marijuana Use status increased in similar rates across time (T2→T3: +4.4%, T3→T4: +3.5%). The prevalence of Polysubstance Use status slightly decreased over time (T2→T3: −0.2%, T3→T4: −1.3%).

3.2.2. Prevalence of male latent substance class—The prevalence of Mild Alcohol Use status decreased from Time 2 to Time 3 (−7.1%) and from Time 3 to Time 4 (−2.5%). Conversely, the prevalence of alcohol and marijuana use status increased from Time 2 to Time 3 (+5.1%) and from Time 3 to Time 4 (+1.4%). Similarly, and unlike females, the prevalence of Polysubstance Use status increased from Time 2 to Time 3 (+4.8%) and from Time 3 to Time 4 (+1.1%).

3.3. Latent transition probability

Based on the transition probabilities (see Table 4) to stay in a specific latent status in the pooled model (i.e., not including gender as a moderator), youth were more likely to remain in the same status over time. If youth in the Polysubstance Use status moved to a different status, they were more likely to move to the Alcohol and Moderate Marijuana Use status. If youth in the Alcohol and Moderate Marijuana Use status moved to a different status, they were more likely to move to the Polysubstance Use status across time. Finally, if youth in

the Mild Alcohol Use status moved, they were more likely to move to the Alcohol and Moderate Marijuana Use status.

3.3.1. Females vs. Males from Time 2 to Time 3—Most female and male youth remained in the same statuses over time. Females in the Mild Alcohol Use status (.86) and the Alcohol and Moderate Marijuana Use status (.98) at Time 2 were more likely to stay in the same statuses at Time 3 compared to males in the Mild Alcohol Use status (.76) and Alcohol and Moderate Marijuana Use status (.85) at Time 3. However, males in the Polysubstance Use status (.96) at Time 2 were more likely to remain in the same status at Time 3, relative to their female counterparts (.92). Male youth in the Mild Alcohol Use status were more likely to move to the Alcohol and Moderate Marijuana Use status (.24) compared to female youth (.13). In addition, male youth in the Alcohol and Moderate Marijuana Use were more likely to move to the Polysubstance Use status (.15) compared with female youth (.02). However, females in the Polysubstance Use were more likely to move to the Alcohol and Moderate Marijuana Use status (.08) compared to their male counterparts (.04).

3.3.2. Females vs. Males from Time 3 to Time 4—Female (.78) and male (.77) youth in the Mild Alcohol Use status at Time 3 had similar transition probabilities in remaining in the same statuses at Time 4. Although females in the Alcohol and Moderate Marijuana Use status (1.00) were more likely to remain in the same status at Time 4 relative to their male counterparts (.91), males in the Polysubstance Use status (.95) at Time 3 were more likely to stay in the same status compared to their female counterparts (.85). If male and female youth in the Mild Alcohol Use status at Time 3 moved to a different status, they were more likely to move to the Alcohol and Moderate Marijuana Use status (Female: .22 and Male: .21) at Time 4. Males in the Alcohol and Moderate Marijuana Use status were more likely to move to the Polysubstance Use status (.09) compared to their counterparts (.00). In addition, males in the Polysubstance Use status were more likely to move to the Alcohol and Moderate Marijuana Use status (.04), whereas females in the Polysubstance Use status were more likely to move to either the Mild Alcohol Use status (.08) or the Alcohol and Moderate Marijuana Use status (.07).

4. Discussion

Using longitudinal data from a large ethnically diverse sample, this study identified three latent substance use statuses of adolescents (i.e., Mild Alcohol Use, Alcohol and Moderate Marijuana Use, and Polysubstance Use) and examined the status prevalence and transitions over three years. We found that adolescents had high probabilities of remaining in the same status over time, especially if they were in the Alcohol and Moderate Marijuana Use and Polysubstance Use statuses. That is, Alcohol and Moderate Marijuana Users were likely to remain Alcohol and Moderate Marijuana Users, and Polysubstance Users were likely to continue their polysubstance use. When transitions did occur, Mild Alcohol Users were likely to transition to Alcohol and Moderate Marijuana Use only; Alcohol and Moderate Marijuana Users were likely to transition to Polysubstance Use, and unlikely to transition to Mild Alcohol Use; Polysubstance Users were most likely to transition to Alcohol and Moderate Marijuana Use. Notably, both the Alcohol and Moderate Marijuana Use and

Polysubstance Use statuses describe adolescents who used more than one substance. Thus, the overall transition pattern is that, when there was a change, Mild Alcohol Users were likely to begin using marijuana and other substances over time, and once adolescents started using more than one substance (i.e., in the Alcohol and Moderate Marijuana Use status or Polysubstance Use status), they were most likely to continue their multiple substance use pattern as opposed to transitioning to a single substance.

The identified substance use status and transition probabilities provide additional support for the gateway hypothesis (Kandel et al., 2006) in that adolescent typically start with legal substances (e.g., alcohol) and then potentially progress to illicit drug use. During this progression process, rather than quitting the initial legal substance, some adolescents may use additional substances over time. This overall use trend was also reflected in the status prevalence: by Time 2, 55% of adolescents were either Polysubstance Users or Alcohol and Moderate Marijuana Users and the prevalence increased to 61.7% at Time 3 and 64% at Time 4. These findings highlight the urgent need for interventions to target substance use among younger adolescents to prevent mild/moderate users from transiting into more harmful substance use classes, and to promote transitions from polysubstance use to a less harmful use or nonuse.

Consistent with previous research (Lanza et al., 2010), the same substance use pattern was identified for male and female adolescents. However, the prevalence of statuses differed, with a higher percentage of males identified as Polysubstance Users. LTA with gender as a moderator also identified transition pattern differences between female and male adolescents. Specifically, we found that males had higher probabilities of transiting from licit statuses to more illicit statuses compared to their female counterparts, and male Polysubstance Users had smaller probabilities than females to transition to a less harmful status. This finding is consistent with previous research that female adolescents are more likely to transition out of polysubstance use over time (Shin, 2012). One possible explanation is that females are more likely than males to be influenced by peer attitudes toward substances (Mason et al., 2014) and the general disapproval of substance use among youth is increasing (Johnston et al., 2017). Overall, findings suggest that, although male and female adolescents exhibit similar substance use patterns, male adolescents face greater risk of substance abuse given their higher prevalence and decreased likelihood of transiting to less harmful or no forms of substance use. These findings are consistent with national data that identifies significant gender difference in substance use disorders (Lev-Ran et al., 2013), and extend the literature by suggesting that this gender based substance use disparity begins in adolescence. These findings highlight the importance of targeted interventions for male adolescents to prevent polysubstance use and to promote cessation of illicit drug use.

An additional important contribution of the present study is the inclusion of prescription drug misuse as most previous research was limited to examining alcohol, cigarettes, and marijuana (Lanza et al., 2010; Mistry et al., 2015). As our findings support, prescription drug misuse is a growing public health crisis. By middle adolescence, teens have established a relatively stable prescription drug use pattern (i.e., the prevalence rate remained stable over three years). It is possible that prescription drugs are not viewed serious or as harmful as other illicit drugs (DeSantis & Hane, 2010) because they are often obtained legally or given

by friends or family members. The current study identified Polysubstance Users who abuse prescription drugs in addition to a range of other substances, and highlights the importance of studying prescription medication in substance abuse research. Furthermore, our study identified the increased marijuana use over time among adolescents and the small likelihood of transitioning to nonuse. One possible explanation is the decline in perceived risk and personal disapproval of marijuana use among adolescents (Johnston et al., 2017). Although marijuana is an illicit drug in Texas, where the participants were recruited, the national zeitgeist and legalization of marijuana in other states may have softened adolescents' views on this drug, which may decrease the likelihood of adolescents ceasing its use. Additional research is needed to examine the elevated use of marijuana among adolescents and potential mechanisms underlying this pattern.

Several limitations should be noted. First, the frequency and amount of each substance was not assessed. Second, the other drugs category was created by combining cocaine, amphetamines, inhalants, over the counter medicine, and ecstasy, due to their relatively low prevalence. However, different substances can have very different detrimental effects in adolescents (Mitchell et al., 2014). Third, the age range of the participants included in this analysis was 16 (average age at Time 2) to 18 (average age at Time 4). Although examining the transition pattern during these three years still provided valuable information about adolescent substance use pattern, our data did not cover the time when adolescents were initiating substance use. Finally, the study focused on identifying adolescent substance use patterns and gender variation. Despite the significant implications of the findings, factors that contributed to the elevated risks of adolescent substance use, particularly among males, were not tested. Future research should identify and test contributing factors to inform intervention strategies.

5. Conclusions

Overall, this study identified three distinct statuses of adolescents based on their substance use, examined the status transition over three years, and compared the statuses and transition patterns by gender. We found that adolescents were most likely to remain in the same statuses over time. When they did transition to a different status, it was typically to a more severe substance use status. Furthermore, male adolescents were more likely than females to be stable polysubstance users. Collectively, our findings identify adolescents at risk for transitioning to and remaining in harmful substance use statuses, and have important implications for prevention and intervention development, especially with respect to the timing and target population of programs. To further aid intervention efforts, the next step in this line of research is to identify factors that predict substance use transitions.

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Highlights

- The study identified three adolescent substance use statuses.
- Longitudinal analysis showed that youth generally remained in the same statuses.
- If youth transitioned, they moved to a more harmful substance use status.
- Males were more likely than females to be polysubstance users.

Table 1

Prevalence of substance use each Time

Indicators		Time2	Time3	Time4
Alcohol use	NO	408(43%)	339(38%)	243(31%)
	YES	551(57%)	550(62%)	531(69%)
Tobacco use	NO	781(82%)	703(79%)	591(77%)
	YES	175(18%)	186(21%)	181(23%)
Marijuana use	NO	664(69%)	548(62%)	451(58%)
	YES	294(31%)	341(38%)	322(42%)
Prescription drug use	NO	844(88%)	780(88%)	687(89%)
	YES	112(12%)	108(12%)	85(11%)
Other drug use	NO	837(87%)	769(86%)	675(87%)
	YES	120(13%)	120(14%)	97(13%)

Table 2

LCA fit index each Time

Time 2			
Model	BIC	Adjust BIC	LMR
1-Class solution	4847.12	4831.24	N/A
2-Class solution	4077.93	3597.07	791.18 ***
3-Class solution	4048.78	3587.33	68.68 ***
4-Class solution	4081.87	3598.40	7.92
5-Class solution	4116.26	3615.27	6.66 ***
Time 3			
1-Class solution	4672.59	4656.71	N/A
2-Class solution	4050.89	4015.96	646.58 ***
3-Class solution	3986.51	3932.52	102.61 ***
4-Class solution	4015.73	3942.69	11.25 *
5-Class solution	4051.89	3959.80	4.48
Time 4			
1-Class solution	4006.34	3990.47	N/A
2-Class solution	3576.45	3541.52	458.32 ***
3-Class solution	3552.38	3498.40	62.41 ***
4-Class solution	3581.48	3508.45	10.54
5-Class solution	3614.65	3522.56	6.58 *

* *Note.* $p < .05$

*** $p < .001$ Model selection was performed before we compared with female and male only model. That is, these fit statistics refer to an unconstrained model regarding gender in LCA.

Table 3

Prevalence and item-response probabilities in Latent Substance Use Status

	Mild Alcohol Use	Alcohol and Moderate Marijuana Use	Polysubstance Use
Prevalence of statuses			
2011(Time2)			
Total Sample	443 (45.0%)	366 (37.2%)	175 (17.8%)
Female	260 (47.3%)	212 (38.5%)	78 (14.2%)
Male	183 (39.4%)	154 (35.5%)	97 (22.4%)
2012(Time3)			
Total Sample	377 (38.3%)	412 (41.9%)	195 (19.8%)
Female	237 (43.1%)	236 (42.9%)	77 (14.0%)
Male	140 (32.2%)	176 (40.6%)	118 (27.2%)
2013(Time4)			
Total Sample	354 (36.0%)	437 (44.4%)	193 (19.6%)
Female	225 (40.9%)	255 (46.4%)	70 (12.7%)
Male	129 (29.7%)	182 (42.0%)	123 (28.3%)
Item-response probabilities each latent class			
Alcohol use			
1=No	0.778	0.126	0.051
2=YES	0.222	0.874	0.949
Tobacco use			
1=No	0.990	0.809	0.323
2=YES	0.010	0.191	0.677
Marijuana use			
1=No	0.972	0.542	0.099
2=YES	0.028	0.458	0.901
Prescription drugs			
1=No	0.995	0.973	0.440
2=YES	0.005	0.027	0.560
Other drugs			
1=No	0.990	0.961	0.413
2=YES	0.010	0.039	0.587

Note: Boldface numbers represent moderate to high probabilities.

Table 4

Transition Probabilities in Latent Substance Use Status by Gender across Times

T2 to T3	Pooled*			Male			Female		
	Mild Alcohol Use	Alcohol and Moderate Marijuana Use	Polysubstance Use	Mild Alcohol Use	Alcohol and Moderate Marijuana Use	Polysubstance Use	Mild Alcohol Use	Alcohol and Moderate Marijuana Use	Polysubstance Use
Mild Alcohol Use	0.82	0.18	0.00	0.76	0.24	0.00	0.86	0.13	0.01
Alcohol and Moderate Marijuana Use	0.00	0.92	0.08	0.00	0.85	0.15	0.00	0.98	0.02
Polysubstance Use	0.00	0.06	0.94	0.00	0.04	0.96	0.00	0.08	0.92
T3 to T4									
Mild Alcohol Use	0.78	0.21	0.01	0.77	0.21	0.02	0.78	0.22	0.00
Alcohol and Moderate Marijuana Use	0.00	0.96	0.04	0.00	0.91	0.09	0.00	1.00	0.00
Polysubstance Use	0.04	0.05	0.91	0.01	0.04	0.95	0.08	0.07	0.85

* Pooled transition probabilities are based on LTA model not including gender as a moderator.