

DEVELOPMENTAL TRAJECTORIES OF COMORBID ALCOHOL AND TOBACCO USE AMONG YOUNG ADULTS

Charu Mathur, PhD¹, Traci L. Toomey, PhD¹, Kath M. Lenk, MPH¹, Lindsey E.A. Fabian, MPH¹, Darin J. Erickson, PhD¹, & Jean L. Forster, PhD¹

¹Division of Epidemiology and Community Health, University of Minnesota



BACKGROUND

- Substance use increases throughout adolescence, peaks in use in emerging adulthood, and declines in use after the mid-twenties
- These normative trends do not capture the underlying heterogeneity
- There is a high co-occurrence of alcohol use with tobacco use; it is important to identify trajectories of comorbidity to understand these behaviors

METHOD

Sample

- Stratified Random Sample of 60 Geopolitical Units (GPUs) in Minnesota (from 129 GPUs in state)
- Randomly sampled 12-16 year olds in each GPU
- N=3636 (~60 kids per GPU)
- Longitudinally surveyed every 6 months
- Current analyses use data from N= 2703 who were 16-19 years of age at wave 11 and were followed for 7 years

Measure of Alcohol Use

- Responses to a series of questions were used to create a 5-point index of alcohol use
 - 1 = Non-drinker, 2 = Non-binger, 3 = Binged 1-2 times in the last 30 days, 4 = Binged 3 times in the last 30 days, 5 = Binged ≥ 4 times in the last 30 days

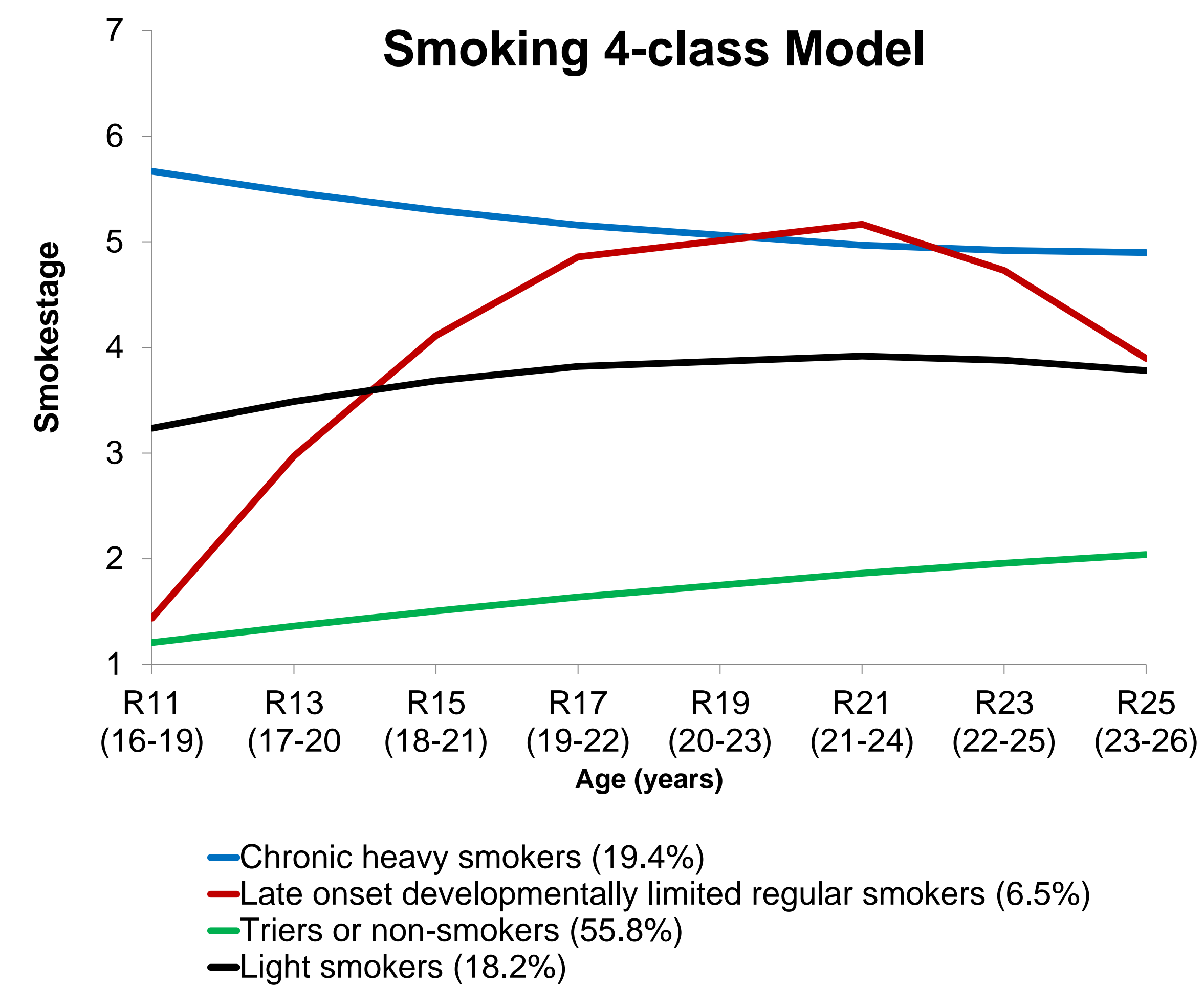
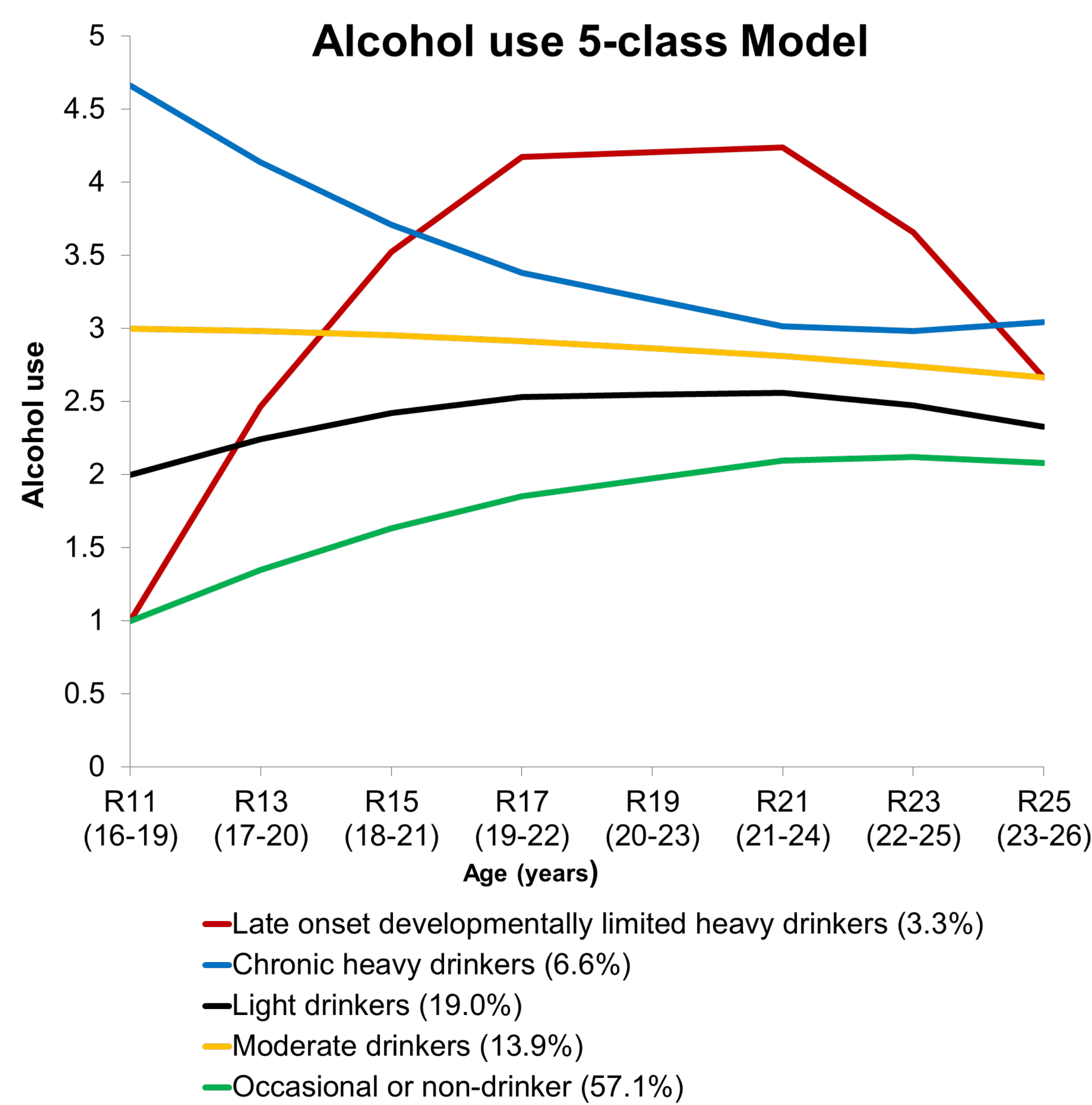
Theory-based Measure of Smoking Stage

- Responses to a series of questions were used to create a 6-point index of tobacco use
 - 1 = Never smoker, 2 = Trier, 3 = Less than a monthly smoker, 4 = Experimental smoker, 5 = Regular smoker, 6 = Established smoker

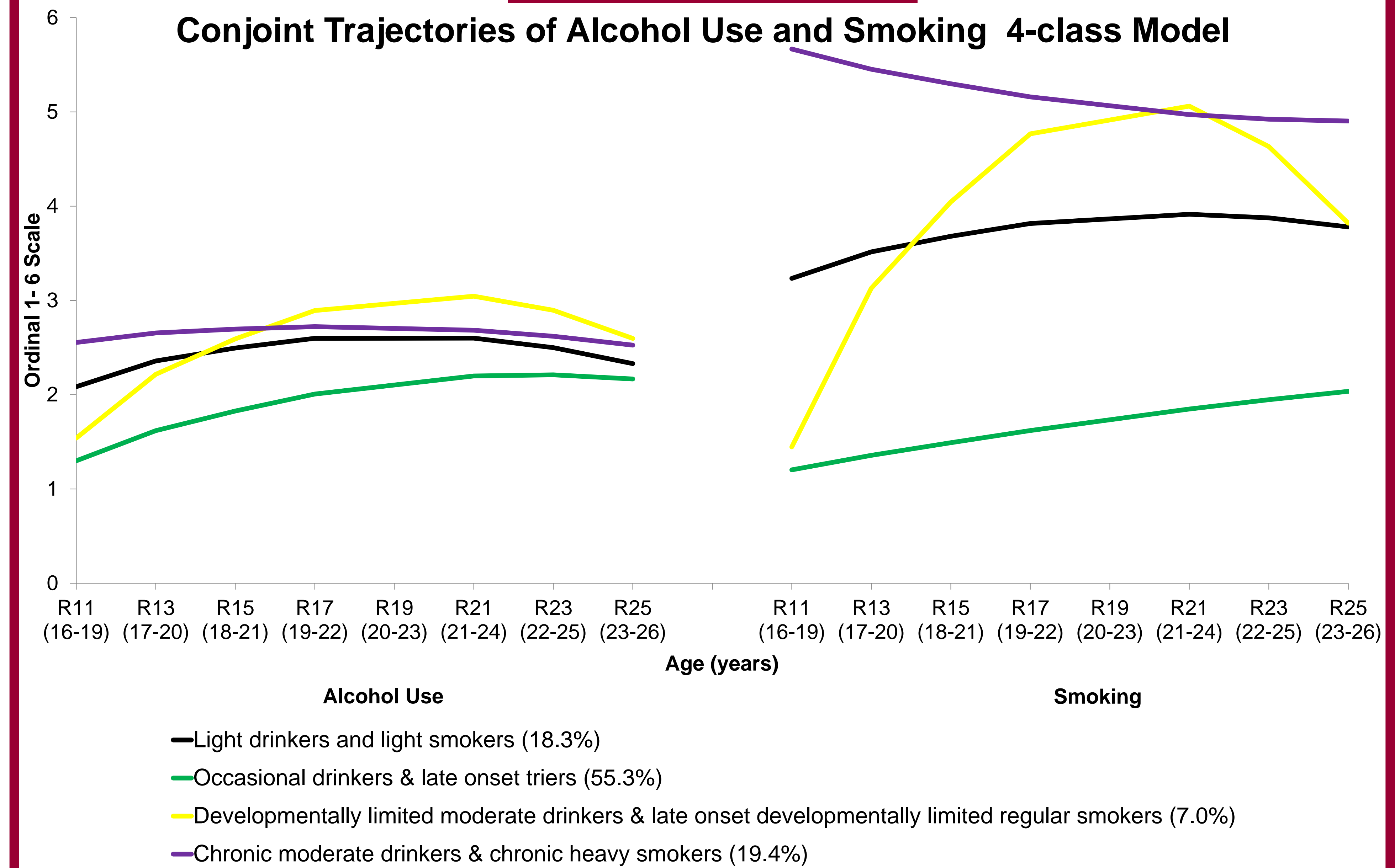
Analytic Model

- General growth mixture modeling was used to identify trajectories of alcohol and tobacco use individually
- A dual trajectory model was used to examine alcohol-tobacco comorbidity
- Although alcohol use and smoking measures are ordinal in nature, they were approximated as continuous variables
- 7 waves of data
- Number of groups were specified, and AIC and BIC used to compare models – model with lowest AIC and BIC were retained as the final models
- Multivariate logit models were used to assess the association between risk factors and trajectory group membership
- All models were estimated using Mplus v 7.3 (Muthen & Muthen, 2014), and SAS v 9.3 (Cary, NC, 2012)

RESULTS



RESULTS



Conjoint Trajectory groups by baseline variables

Characteristic	Occasional drinkers & late onset triers (55.3%) versus		
	Light drinkers & light smokers (18.3%)	Developmentally limited moderate drinkers & late onset developmentally limited regular smokers (7.0%)	Chronic moderate drinkers & chronic heavy smokers (19.4%)
Community type	0.94 (0.75,1.18)	1.06 (0.74,1.50)	0.87 (0.70,1.08)
College type 2-year	1.95 (1.53,2.49)*	2.08 (1.43,3.01)*	3.70 (2.88,4.76)*
Race White	1.03 (0.76,1.39)	1.62 (0.92,2.85)	1.03 (0.76,1.39)
Gender Female	1.16 (0.94,1.43)	0.49 (0.35,0.70)*	0.96 (0.79,1.20)
Socioeconomic status Low SES	1.28 (1.03,1.58)*	0.97 (0.69,1.37)	1.82 (1.48,2.25)*

CONCLUSIONS

Findings from the current study:

- 4 distinct conjoint trajectories of alcohol use and smoking
 - Although most predictors were associated with both drinking and smoking, most predictors were differentially related to the use of alcohol versus tobacco
 - College type, gender, and SES were significant predictors of conjoint trajectory group membership revealing the extent to which these factors contribute to divergent developmental courses
- Overall, results support positive comorbidity between alcohol and tobacco trajectories through young adulthood. Additionally, identification of common drinking and smoking clusters might provide information for targeted prevention or treatment initiatives.

ACKNOWLEDGMENT

This research was supported by grant CA86191 (Jean L. Forster, PI) from the National Cancer Institute, National Institutes of Health