

Alcohol drinking and cigarette smoking in a representative sample of English school pupils: Cross-sectional and longitudinal associations

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Alcohol drinking, age 11 to 15



- Prevalence of having drunk alcohol at least once increases
 - 11% at age 11, 74% by age 15
 - Peaks at age 21 and then declines (normative profile)
- Downward trend in ever having drunk alcohol
 - 45% in 2011, 61% in 2001
- Frequency of use also declining
 - 7% weekly in 2011, 20% in 2001
- Risk factors for alcohol drinking
 - Age, White (vs. Black or Asian) ethnic group, drug use, smoking, truancy, exclusion, higher socio-economic status (SES)

Cigarette smoking, age 11 to 15



- Reductions in the overall prevalence of smoking by English school pupils since the mid-1990s
 - From age 11 to 15, 25% smoke at least once (lowest since 1982)
- Prevalence of regular smoking increases
 - 0.5% at age 11, 11% by age 15
- Risk factors for regular smoking
 - Age, female, lower SES, not in black ethnic group (vs. any other ethnic group), alcohol use, drug use, truancy, school exclusion

Cigarette smoking and alcohol drinking

- Both behaviours are major public health issues
 - Smoking is addictive and strongly associated with later disease
 - Early alcohol use is a risk factor for later problem drinking
- Each behaviour is a risk factor for the other
 - Cross-sectionally (Donovan, 2004; Mathers et al., 2006)
- Longitudinal evidence is mixed
 - Repeated measurement in representative samples is rare
 - Is one behaviour a ‘gateway’ for the other?
 - Do both behaviours have common causes and ‘move together’?

Aim



- Examine cross-sectional and longitudinal associations between cigarette smoking and alcohol drinking in a representative sample of English school pupils
 - Covering early to late adolescence
- Identify bidirectional effects
- Identify risk factors
 - Having already engaged in either behaviour
 - Moving from non-smoker to smoker
 - Moving from non-drinker to drinker

Longitudinal Study of Young People in England (LSYPE)

- Commissioned by former Department for Education and Skills, now managed by Department for Education
- Began in 2004
 - Typical age 13/14, birth year 1989-1990
 - Year 9 of secondary school
 - Repeated visits in 2005, 2006, 2007
- Annual interviews with pupil and parent(s)
 - Computer-assisted self-completion element
 - Smoking (2004 to 2006), alcohol (2004 to 2007)

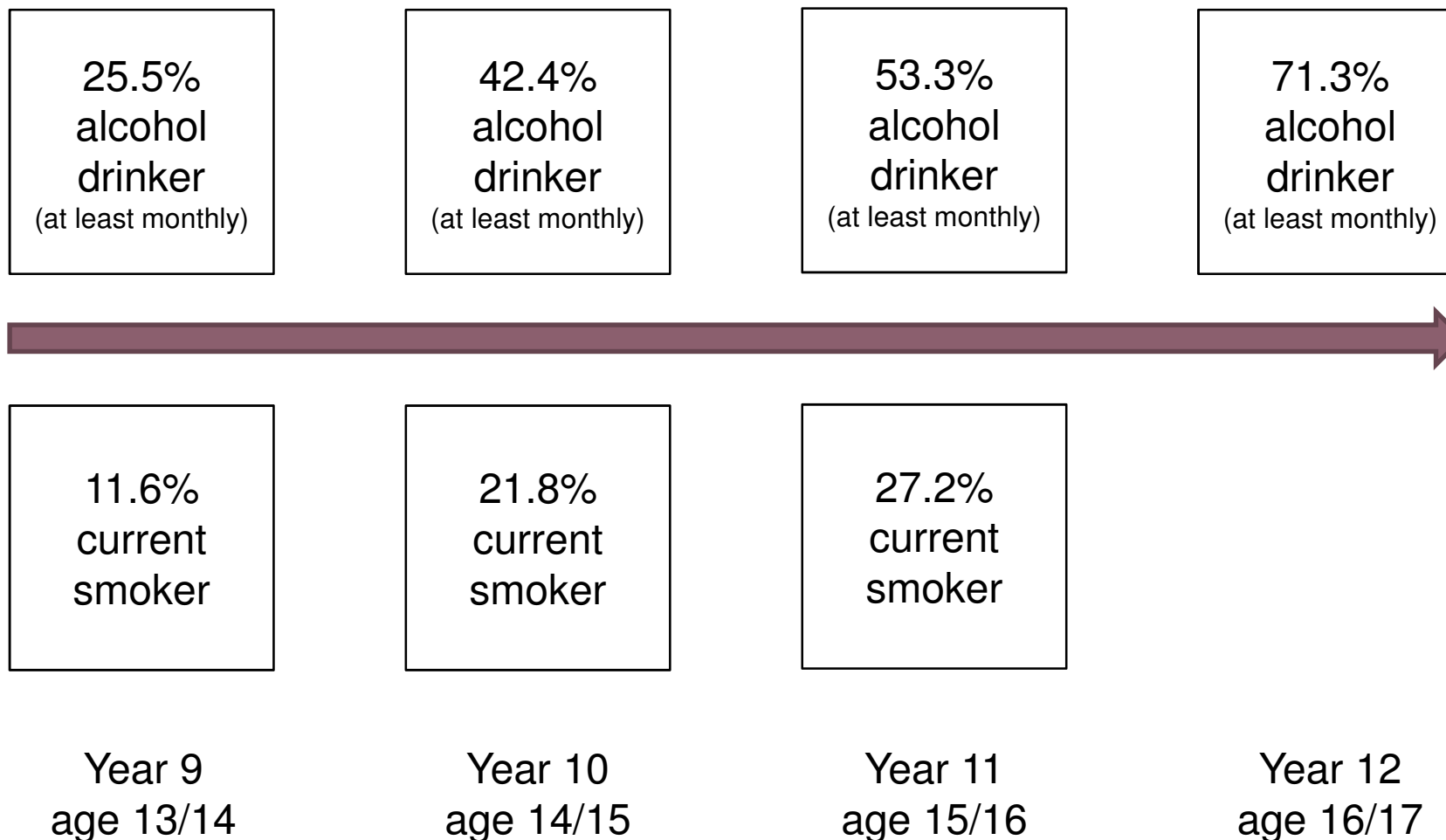


Statistical analysis



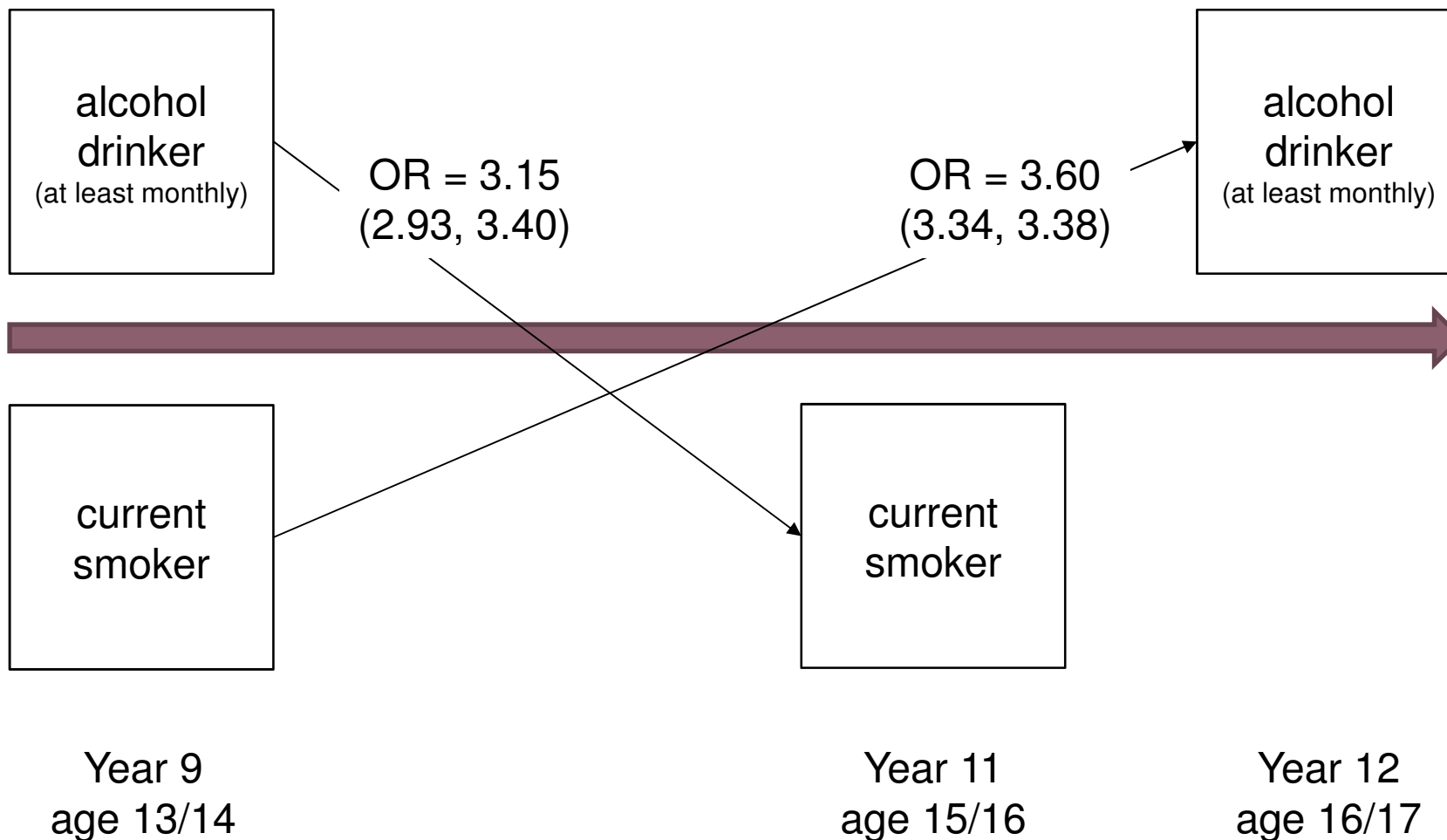
- Small proportion of pupils (<4%) ‘recanting’ either behaviour removed before analysis
- Results are weighted to represent entire population of English school pupils
 - Y9 in 2004
- Logistic regression to predict behaviour over follow-up
 - Smoker by 2006, regular alcohol drinker by 2007
- Path model to examine change over time
 - and reciprocal effects

Both behaviours increase over time



Results: Logistic regression

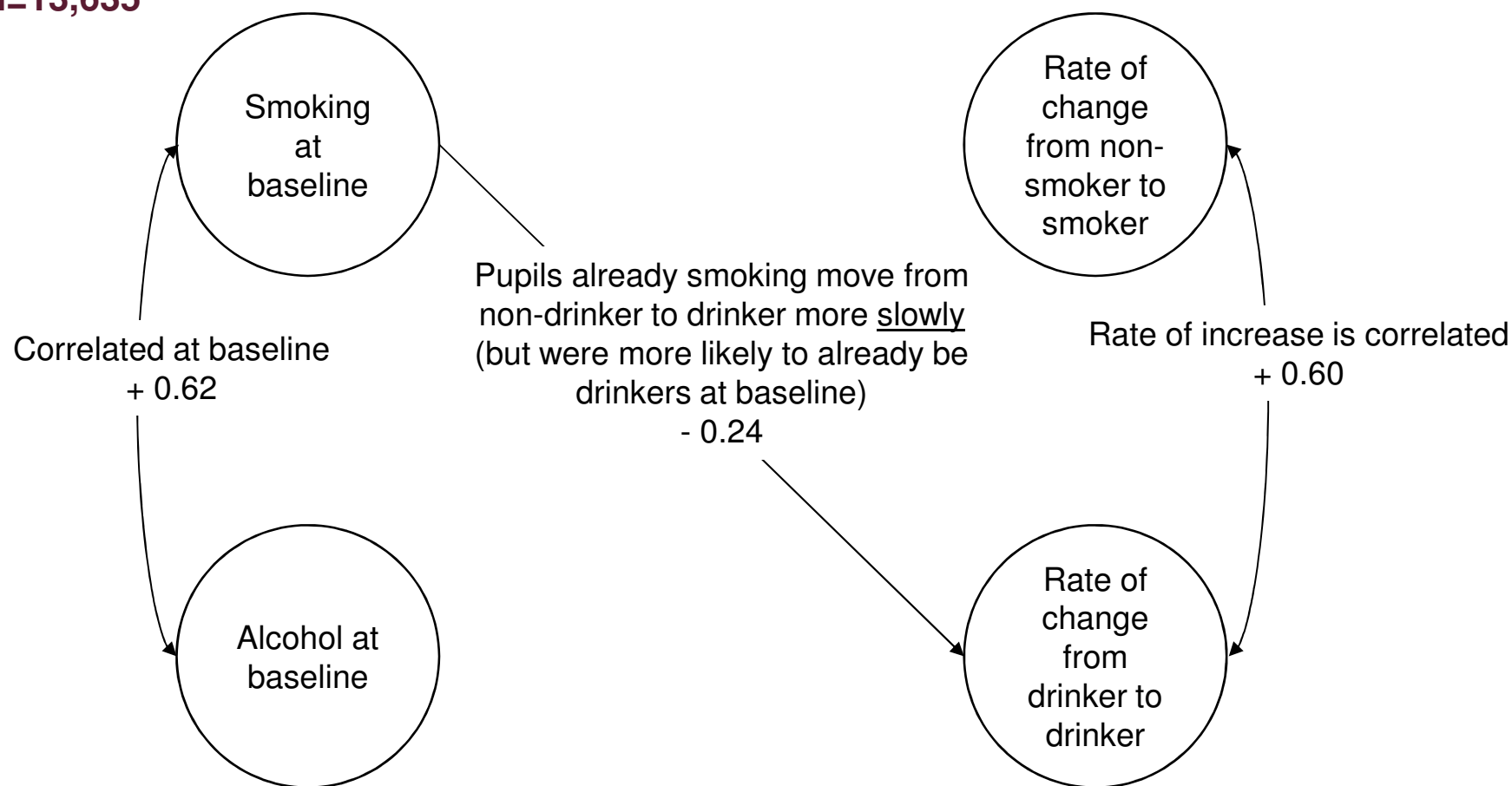
Two separate GEE models, N = 10,516: adjusting for age, sex, ethnic minority status, parental occupation, parental education, smoking/alcohol at baseline



Results: Path model

Adjusting for age, sex, ethnic minority status, parental occupation, parental education

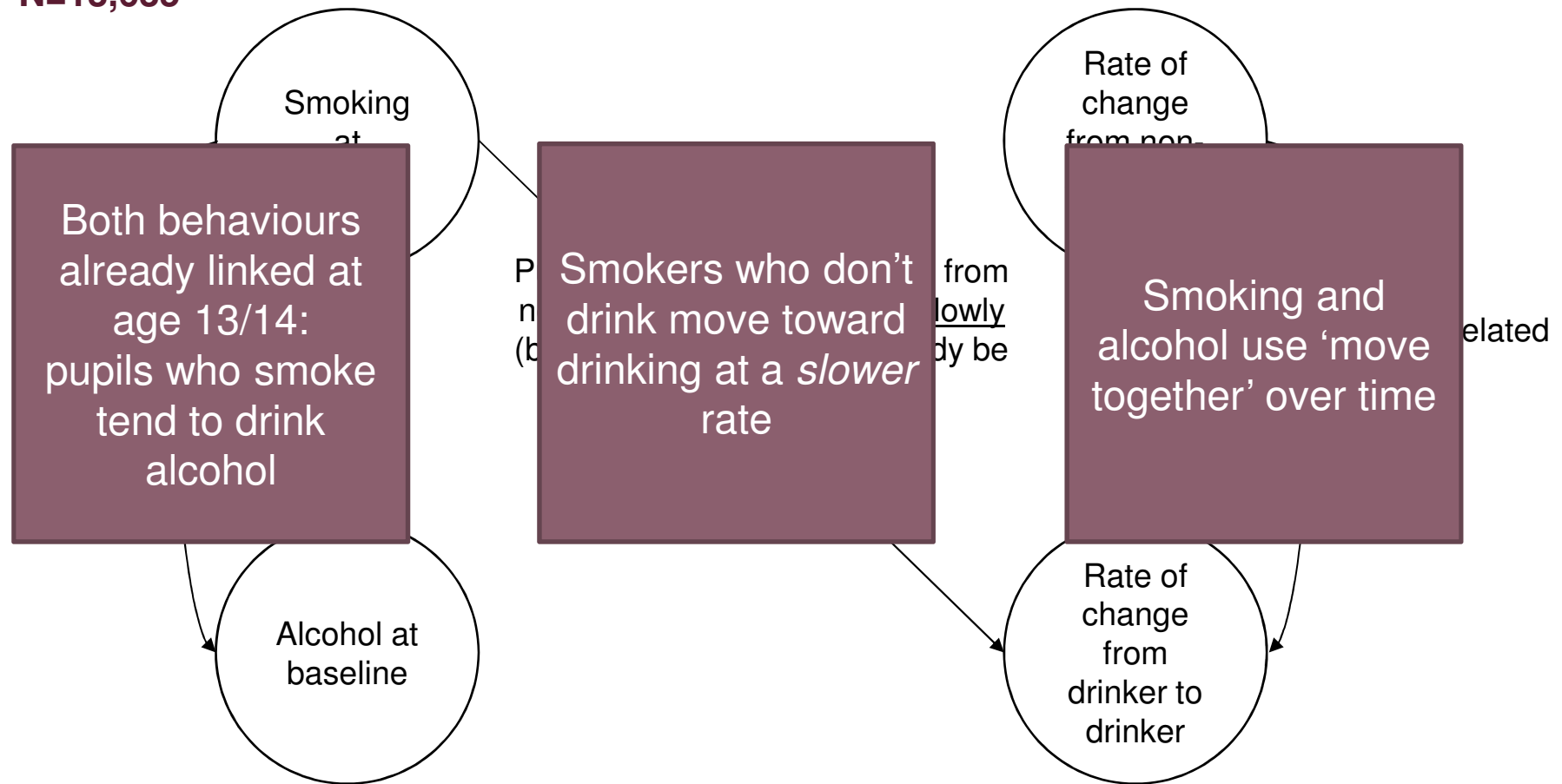
N=13,635



Results: Path model

Adjusting for age, sex, ethnic minority status, parental occupation, parental education

N=13,635



Discussion

- Representative sample of over 13000 English school pupils in year 9 in 2004
- Smoking and alcohol drinking already linked by age 14
- Adjusting for age, sex, ethnic group, socio-economic status of parents
- No dominant causal sequence: common causes?
- Individual behaviours socially patterned (cf. ALSPAC)
 - High SES with more frequent alcohol use
 - Low SES with cigarette smoking





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ABSTRACT

Objective. The aim of our study was to examine cross-sectional and longitudinal associations between cigarette smoking and alcohol drinking in a representative sample of English pupils.

Method. Data from 13,635 school pupils in the Longitudinal Study of Young People in England (LSYPE) on usage of cigarettes from 2004 (typical age 14) to 2006 (age 16) and alcohol from 2004 to 2007 (age 17), analyzed with latent growth curve models.

Results. The weighted percentage of pupils drinking alcohol increased from 26% at age 14 to 71% by age 17, smoking from 12% to 27% by age 16. Pupils with lower socio-economic status were more likely to smoke but less likely to drink alcohol regularly. Both behaviors were positively correlated at age 14, adjusted for several confounding factors. The rate of increase over time was also positively correlated.

Conclusion. Cigarette smoking and alcohol drinking are already correlated by age 14, are socio-economically patterned, and 'move together' during adolescence. Future studies and interventions should be targeted at a younger age range, to identify early smoking and potentially hazardous alcohol drinking patterns.

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