Causal effects of transitions to adult roles on early adult smoking and drinking: Evidence from three cohorts

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Transitions into work and family roles have become increasingly delayed as participation in tertiary education widens. Such transitions may have adverse or beneficial effects on health behaviours such as smoking and drinking (alcohol). Role socialisation effects may reduce smoking or drinking, but clustering of transitions may lead to role overload, weakening or reversing any role socialisation effects. Effects of transitions were examined in three UK cohorts: the 1958 National Child Development Study, the 1970 British Birth Cohort Study, and the West of Scotland: Twenty-07 Youth Cohort (from around Glasgow, growing up in the same time period as the 1970 cohort). Latent class analysis was employed to identify heterogeneous patterns of transition timing for leaving education, entering employment, starting cohabitation, having a first child, and leaving the parental home. Propensity weighting was then used to estimate causal effects of transition patterns (relative to tertiary education) on smoking and heavy drinking in early adulthood (ages 22–26), adjusting for background confounders (gender, parental socioeconomic position, family structure, parental and adolescent health behaviours, adolescent distress and school performance). Three groups made early (age 16) transitions from education to employment and then either delayed other transitions, made other transitions quickly, or staggered transitions with cohabitation beginning around ages 19–21; a fourth group transitioned from education to employment around ages 17–18. Compared to those in tertiary education with similar background characteristics, those in these groups generally had higher levels of smoking, especially where transitions were more clustered, but less heavy drinking (except those who delayed other transitions after moving into employment). Results partially supported role socialisation effects for drinking, and role overload effects for smoking. Wider participation in tertiary education could have helped reduce smoking levels in these cohorts, but might also have increased risk for heavy drinking.

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1. Introduction

Participation in tertiary education has been growing in the UK since the 1960s (Machin and Vignoles, 2004), and it is important to understand the health effects of this expansion. Many of these may be long term, with education leading to accumulated advantages in socioeconomic and health terms over the lifecourse (Graham, 2007). However, tertiary education primarily occurs as young people transition from adolescence to adulthood, which is an important phase of life for the development of health behaviours (Arnett, 2005; Staff et al., 2016). Young people not in education experience heterogeneous patterns of life transitions such as entering employment, starting cohabiting relationships, or having children; these transitions tend to be delayed by those who participate in tertiary education (Cohen et al., 2003; Côté and Bynner, 2008; Schulenberg and Maggs, 2002). Regardless, this period is characterised by movement into new social environments and networks, where the social functions of smoking and drinking may be particularly valued (Pavis et al., 1998; Schulenberg and Maggs, 2002). New and unfamiliar demands may be experienced as stressful and over-whelming and smoking and drinking behaviours may be used as coping mechanisms (Arnett, 2005; Kuntsche et al., 2005; Schulenberg and Maggs, 2002). Participants in
tertiary education often leave the parental home, and associated reductions in parental monitoring of behaviour, along with the delay of responsible adult social roles (like employee, partner or parent; Arnett, 2000, 2005) may result in more freedom to smoke and drink. We investigate the impact of late adolescent transitions on young people’s smoking and drinking behaviours, comparing those following a range of different non-educational pathways with those who remain in education. We draw below on theories of role socialisation and role overload to set forth specific hypotheses.

1.1. Role socialisation

The idea of ‘role socialisation’ is that smoking and drinking behaviours conflict with social expectations attached to responsible roles such as employee, partner or parent leading to reductions in those who participate in tertiary education. However, transitions into the role of employee should be distinguished from those into family roles such as partner or parent. Heightened expectations of responsibility after moving into employment may be mitigated by other similarities with the transition into tertiary education, such as smoking and drinking behaviours being an important part of social interaction in a new and unfamiliar environment (Pavis et al., 1998; Schulenberg and Maggs, 2002). On the other hand, transitions into family roles may amplify social control and leave less time for socialising with substance-using peers (Arnett, 2005; Staff et al., 2010). Thus, we hypothesise that early transitions into employment or family roles will both lead to less smoking and drinking in early adulthood than remaining in education, but that effects of family role transitions will be stronger than for transitions into work.

1.2. Role overload

‘Role overload’ is the notion that early transitions into adult roles can be overwhelming, creating stressful demands young people do not feel ready for (Burton, 2007; Schulenberg and Maggs, 2002). This overload may lead to smoking and drinking behaviours being used as coping mechanisms (Arnett, 2005; Kuntsche et al., 2005). While there may also be transitional stresses associated with participation in tertiary education, overload could be particularly likely if transitions are clustered together so that young people are dealing with many new things at the same time (Schulenberg and Maggs, 2002). Indeed for this reason it is important to take a holistic view of transitions, considering their spacing and timing. Where transitions into multiple roles occur very quickly over a short space of time, we might hypothesis that stress mechanisms would negate or overtake the benefits of transitions into responsible roles, leading to either comparable or higher levels of smoking and drinking than in tertiary education.

1.3. Estimating causal effects of transitions

It is important to acknowledge that transitional experiences do not occur randomly: they are associated with young people’s background experiences. For example, those from more disadvantaged backgrounds, and those who already smoke or drink, have poorer mental health or are disengaged from school in adolescence, may be less likely to participate in tertiary education, and may make adulthood transitions at earlier ages (Cohen et al., 2003; Green et al., 2016; Sacker and Cable, 2010; Staff et al., 2010; Wickrama et al., 2010). Associations between smoking and drinking in early adulthood and transitional experiences may therefore be conflated with the influences of these background characteristics.

Our analyses use a propensity weighting procedure to adjust for background confounding and estimate causal effects of life transition patterns in comparison to tertiary education (Austin, 2011; Oakes and Johnson, 2006). The aim is to mimic a randomised experiment: we position participation in tertiary education a priori as a ‘control’ condition, and different patterns of life transitions as various alternative ‘exposures’. Weighting balances observed background characteristics across the exposure and control groups (whereas randomisation in an experiment balances both observed and unobserved characteristics across the groups). Specifically, we create a series of weights for those who participate in tertiary education so that, in terms of their background characteristics, they more closely resemble each of the different groups of people who do not participate. Such weighting enables estimation of the causal effect among the exposed (Austin, 2011), i.e. the effect that alternative patterns of life transitions had on those who experienced them, compared to if those same people had remained in education.

Propensity weighting does not remove the problem of unobserved confounding, so we may still question whether estimated effects are causal. Consistent evidence from different contexts strengthens the case for causality, whereas associations that are specific to particular populations are more likely to be spurious or local (Bradford Hill, 1965). Thus, we estimate effects of life transition patterns in three different cohorts. The 1958 National Child Development Study (NCDSS58) and the 1970 British Birth Cohort Study (BCS70) both followed UK-wide cohorts over the transition to adulthood, separated by 12 years in time. The BCS70 cohort made their transition to adulthood during a rapid expansion of tertiary education (Bolton, 2012), and relative to NCDSS58, a period in which smoking was less and alcohol consumption was more prevalent (British Beer and Pub Association, 2013; Office for National Statistics, 2016). We also examine the youth cohort of the West of Scotland: Twenty-07 Study (T07), who were making transitions to adulthood around the same time as the BCS70 but in the area in and around Glasgow: a large urban city, which underwent rapid deindustrialisation in the latter part of the Twentieth century, and had particularly poor employment prospects for those without tertiary education. Within these different contexts, both the background characteristics (observed or not) of those not in education, and the life transitions they made, may differ. If we can consistently observe the predicted patterns relating to the social roles inhabited and the timing and spacing of transitions, then the case for these as causal mechanisms is stronger.

1.4. Aims and hypotheses

Our main aims were to:

1) identify groups of young people with similar patterns of life transitions;
2) examine differences between the early adult smoking and drinking behaviours of those who made early transitions and those who participated in tertiary education;
3) compare these with estimates of the causal effects of each early transition pattern, using propensity weighting to create comparison groups who had remained in education but had similar background characteristics; and
4) see whether estimated effects were consistent across cohorts making the transition to adulthood in different contexts.

We hypothesised that, after adjusting for background confounding with propensity weighting, early transitions into
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