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Does the familial transmission of drinking patterns persist into young adulthood? A 10-year follow up

Patrik Karlsson[a,*], Charlotta Magnusson[b], Johan Svensson[c,d]

[a] Department of Social Work, Stockholm University, 106 91 Stockholm, Sweden
[b] Swedish Institute for Social Research (SOFI), Stockholm University, 106 91 Stockholm, Sweden
[c] Swedish Council for Information on Alcohol and Drugs (CAN), Box 70412, Klara Norra, Kyrkogata 34, 107 25 Stockholm, Sweden
[d] Department of Clinical Neuroscience, Karolinska Institutet, Administration, Tomtebodavägen 18A, 5th floor, 171 77 Stockholm, Sweden

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ABSTRACT

Background: Parental drinking has been shown to be associated with offspring drinking. However, the relationship appears to be more complex than often assumed and few studies have tracked it over longer time periods.
Aims: To explore the long-term (10-year) transmission of familial drinking during adolescence to offspring drinking patterns in young adulthood.
Design: Swedish longitudinal study, assessing the relationship between familial drinking in 2000 and offspring drinking in 2010 using simultaneous quantile regression analysis (n = 744).
Data: Data on familial drinking was gathered from the Swedish level-of-living surveys (LNU) and from partner LNU in 2000 while data on offspring drinking in young adulthood was gathered from LNU 2010. Drinking among offspring, parents and potential stepparents was measured through identical quantity-frequency indices referring to the past 12 months in 2010 and 2000 respectively.
Results: Young adults whose families were abstainers in 2000 drank substantially less across quintiles in 2010 than offspring of non-abstaining families. The difference, however, was not statistically significant between quintiles of the conditional distribution. Actual drinking levels in drinking families were not at all or weakly associated with drinking in offspring. Supplementary analyses confirmed these patterns.
Conclusion: The association between familial drinking and offspring drinking in young adulthood exhibits clear non-linear trends. Changes in the lower part of the familial drinking distribution are strongly related to drinking in young adults, but the actual levels of drinking in drinking families appear less important in shaping the drinking patterns of the offspring in young adulthood.

1. Introduction

This paper explores the association between familial drinking and subsequent drinking patterns in offspring, drawing upon a 10-year panel study of Swedish adults and their children. Addressing familial drinking as a vehicle for preventing drinking among adolescents is a common policy solution in many countries. Supporting this, longitudinal studies show an association between familial drinking and drinking/other substance use among adolescents (e.g., Alati et al., 2014; Kendler et al., 2013; Latendresse et al., 2008; Poelen et al., 2007). Putative mechanisms for the association include modelling of familial behaviour and a negative influence of familial drinking on parenting practices (Latendresse et al., 2008). Both alcohol consumption and alcohol problems are thought to be influenced by genetic factors (Agrawal and Lynskey, 2008; Dick et al., 2011; Hopfer et al., 2005; Verhulst et al., 2015) and research also suggests that the intergenerational transmission of drinking motives (Mares et al., 2013) and alcohol-related cognitions (Campbell and Oei, 2010) may play a role in explaining the relationship.

However, the long-term transmission of familial drinking on offspring drinking outcomes is less known and the relationship appears to be more complex than commonly perceived (Schmidt and Tauchmann, 2011; Vermeulen-Smit et al., 2012). Evidence from twin-studies suggests that different alcohol consumption outcomes may be associated with different factors (Fowler et al., 2007; Heath et al., 1991; Poelen et al., 2008), further underscoring the complexity. For example, Poelen et al. (2008) found that whereas

* Corresponding author.
E-mail addresses: patrik.karlsson@socarb.su.se (P. Karlsson), charlotta.magnusson@sofi.su.se (C. Magnusson), johan.svensson@can.se (J. Svensson).

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genetic factors explained much more of the variation in early initiation to drinking in adolescents than what environmental factors did, the reverse held true for the variation in drinking frequency. Fowler et al. (2007) showed that shared environmental factors was more important than genetic factors for drinking initiation but that genetic factors were more crucial for number of drinks per week.

While adolescent drinking has frequently been linked to familial drinking, the association may not persist into adulthood or at least not be of the same magnitude. Some family factors (e.g., familial monitoring) are directly related to substance use in early adolescence but not in young adulthood (Van Ryzin et al., 2012). Poelen et al. (2007) showed that there were fewer significant associations between different measures of familial and adolescent drinking in a longer follow up (7 years) than in a shorter follow up (2 years). However, a handful of studies suggest that there are associations between familial drinking and drinking in offspring in young adulthood (Casswell et al., 2002; Englund et al., 2008; Merline et al., 2008; White et al., 2000). For example, White et al. (2000) showed that both maternal and paternal drinking during adolescence were associated with drinking trajectories in offspring (at 28) and that these variables were potentially more strongly related to consumption outcomes than familial practices. Casswell et al. (2002) found that familial drinking at the age of 9 was related to drinking trajectories in both male and female offspring, although there were some exceptions. Also, measuring familial drinking through respondents' perceptions, Merline et al. (2008) found familial drinking to be related to drinking in all follow ups (at 22, 26 and 35).

The limited number of studies on the long-term consequences of familial drinking necessitates further research. Moreover, it has been claimed that the strength of the general association between familial and adolescent drinking is quite modest and that more detailed analyses are needed (Schmidt and Tauchmann, 2011). Schmidt and Tauchmann (2011) found that there was a stronger association of perceived daily familial drinking to adolescent drinking in the upper parts of the consumption distribution, which "would remain hidden if the analysis were to have its focus on the mean of the distribution alone" (p. 40). This suggests that the association between familial and adolescent drinking should be estimated with other approaches than techniques focusing on the mean distribution.

Using ten-year follow up data from the Swedish level-of-living surveys (LNU) for the years 2000 and 2010, we add to the literature on the relationship between familial drinking during adolescence and the drinking patterns of the youngsters when in adulthood themselves. We explore the transmission of alcohol consumption in terms of self-reported total volumes consumed and by using data from a nationally representative sample. While it constitutes one of the measures of drinking in alcohol epidemiology most employed, prior research has not addressed similarities in the total volume consumed by parents and by young adults. Measures of familial drinking are typically derived from the adolescent's own assessment, which is presumably prone to reporter bias, and few studies have tracked the intergenerational transmission of drinking patterns over the longer run, while simultaneously taking account of the complexities in the relationship shown recently (Schmidt and Tauchmann, 2011). Ours is, to our knowledge, one of the few studies that explore the long-term intergenerational transmission of drinking using identical measures of familial and offspring drinking (both self-reported).

2. Methods

2.1. Data and sample

The LNU surveys are based on a sample of Swedish adults between 18 and 75 years of age (0.1 per cent of the population is sampled) and they comprise both cross-sectional and panel data. The surveys have been conducted since 1968 and the aim is to map out living conditions in Sweden. Children (aged 10–18) to parents in the LNU surveys have also been interviewed since 2000 through the child LNU surveys. In 2010, adolescents from the first wave of child LNU surveys were interviewed as young adults, aged 20–28 (Young-LNU). By utilizing data from the LNU surveys in 2000 and 2010 and the extension of young adults, we have obtained longitudinal information on the parents' drinking in 2000 and that of the children when grown up (i.e., in 2010). Furthermore, since LNU2000, partners to respondents are interviewed in the Partner LNU survey, and so we also have data on alcohol consumption among potential partners (the other parent or a step-parent). Accordingly, the measure of familial drinking is based on information on the total household consumption of alcohol and not only that of one parent.

Of the 1290 children who participated in Child-LNU 2000 and who were available for follow-up, 929 (72%) participated in LNU 2010. Of these, 813 individuals participated in the longer interview, which contained questions of drinking patterns. The shorter survey did not include questions on drinking patterns. Of the remaining 813 individuals, 116 had missing information on some of the variables (i.e., these respondents did not answer all questions or we do not have complete information from theirs parents or stepparents). This leaves a final study sample of 744 individuals which we follow from 2000 to 2010. Only respondents that participated in LNU both in 2000 and 2010 are included. When comparing the sample of Child-LNU (2000) with the follow-up sample (2010) older youths and individuals with working class background were somewhat underrepresented in the follow-up study. The attrition was also somewhat higher among children with divorced parents. For detailed information of the LNU data see Östberg et al. (2014).

2.2. Measures

2.2.1. Drinking patterns in young adulthood. Our measure of drinking patterns in young adulthood (in 2010) is the estimated glasses of alcohol consumed during the past 12 months. This measure was constructed through a simple multiplication of drinking frequency (numerical information calculated for the last 12-month period) and number of drinks on a typical drinking day, yielding a summary measure of the total number of drinks consumed during the past 12 months. Drinking frequency was measured by the question "During the last 12 months, about how often have you consumed some amount of alcoholic beverage, that is, wine, strong beer or liquor?" Response alternatives ranged from 1) *daily or almost daily (at least 5 days a week)* to 8) *never*. These responses were recalculated to the approximate number of drinking days during the past year. For instance, *daily or almost daily* were taken to mean 6 drinking days per week and thus yielded a value of 312 (6×52). When response alternatives included a range (e.g., 2–4 times a week) we chose the mid category value (in this case 3) and then this value was converted to number of drinking days the past 12 month (in this case $3 \times 52 = 156$). Number of drinks on a typical drinking day was measured by the question "On such occasions, how many glasses do you usually drink? One glass can be 1 glass of wine, 1 bottle or can of beer, or 1 schnapps or drink". Respondents then provided numerical information to this question.

Similar to the corresponding measures described below, the number of drinks had on a typical drinking day was before analyses truncated at 10 glasses. Higher values indicate a larger drinking volume.

2.2.2. Familial drinking patterns. Using information on the parents' alcohol consumption in LNU2000, this measure was constructed in an identical way to the dependent variable. Data on the drinking patterns of parents (parents or stepparents) were obtained