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Male solitary drinking and hazardous alcohol use in nine countries of the former Soviet Union

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ABSTRACT

Background: Despite evidence that many people engage in solitary drinking and that it might be associated with negative consequences, to date, little research has focused on this form of drinking behaviour. This study examined the prevalence and factors associated with solitary drinking, and assessed whether it is linked with hazardous alcohol use among males in nine countries of the former Soviet Union (fSU).
Methods: Data came from a cross-sectional population-based survey undertaken in 2010/11 in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Moldova, Russia, and Ukraine. Information was obtained on the frequency of solitary drinking among male regular drinkers (i.e., those consuming alcoholic drinks at least once a month), and on problem drinking (CAGE) and heavy episodic drinking (HED). Logistic regression analysis was used to examine associations between the variables.
Results: The prevalence of occasional and frequent solitary drinking ranged from 8.4% (Georgia) to 42.4% (Azerbaijan), and 3.1% (Kazakhstan) to 8.2% (Armenia), respectively. Solitary drinking was associated with being older, divorced/widowed, living alone, having a bad/very bad household financial situation, lower levels of social support, and poor self-rated health. Occasional solitary drinking was linked to problem drinking and HED, while frequent solitary alcohol use was related to problem drinking.
Conclusions: Solitary drinking is relatively common among male regular drinkers in the fSU and is linked to older age, social and economic disadvantage, and hazardous alcohol use.

1. Introduction

An important factor in the occurrence of drinking is the context or situation in which alcohol consumption takes place (Greenfield and Room, 1997), including whether drinking occurs in the presence of others or while alone (Cox and Klinger, 1988). It has been suggested that drinking while alone might be related to differences in drinking motives (Cooper et al., 1992), and drinking frequency (Demers and Bourgault, 1996), while some research has linked solitary drinking with negative alcohol-related behaviours and outcomes such as hazardous drinking and alcohol dependence (Assanangkornchai et al., 2000; Gaunekar et al., 2005). Despite this, to date, there has been very little research specifically focused on solitary drinking, possibly because alcohol consumption is regarded as a normative social activity. For example, little is known about the prevalence of solitary drinking within and between populations even though some research indicates that this practice might be widespread. A recent study has shown that in the period from 1968 to 2008, across six study time points, between 14–24% of men and 8–13% of women aged 15–69 years reported drinking alone at home in Finland (Mäkelä et al., 2012). Findings from other studies undertaken in North America have produced even higher figures, indicating that over 30% of adults (Bourgault and Demers, 1997) and adolescents (Creswell et al., 2014) may drink alone at some point in time.

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There is also little information about factors that are associated with solitary drinking among the general adult population as previous studies have tended to focus on specific groups such as college students (Christiansen et al., 2002; Gonzalez, 2012; Gonzalez et al., 2009). The limited research undertaken among broader age groups to date has produced conflicting findings, which is not surprising given that this behaviour is likely to be shaped by one's social context. Older individuals were more likely to drink alone at home in Denmark (Grønkjær et al., 2010), but no statistically significant associations between age and solitary drinking were found in Montreal, Canada (Demers and Bourgault, 1996). Information is also lacking on the extent to which social and/or economic factors are associated with solitary drinking. The study in Montreal linked factors such as employment status (looking for a job) and living alone to solitary drinking (Demers and Bourgault, 1996). However, the correlates of solitary drinking in different contexts remain unknown.

Data on the association between solitary drinking and harmful drinking and alcohol misuse are also comparatively scarce, especially in the general population. Given the perception of alcohol consumption as a social activity, there has been a tendency to regard solitary drinking as a more pathological (Bourgault and Demers, 1997) and problematic (Grønkjær et al., 2013) form of drinking behaviour. For example, in a study undertaken in seven European countries in 2010/11, becoming intoxicated when alone was more widely identified as a form of alcohol abuse than when doing so in the company of others (Nordlund and Østhus, 2013). The Montreal study found however, that for most of its adult participants, solitary drinking was associated with moderate alcohol use (Demers and Bourgault, 1996) and that only those solitary drinkers who engaged in heavy drinking (five or more drinks per occasion) were more likely to have alcohol-related problems (Bourgault and Demers, 1997). A study among college students also found that solitary heavy drinkers were more likely to have alcohol problems than social heavy drinkers (Gonzalez et al., 2009). Other studies have indicated that solitary drinking might be linked to higher alcohol consumption (Martin and Casswell, 1987), especially among some (e.g., ethnic) groups (Neff, 1997).

One area of the world where there has been almost no research on individual drinking situations is in the countries of the former Soviet Union (fSU), which have some of the highest levels of population alcohol consumption globally (World Health Organization, 2011). The detrimental effects of alcohol on population well-being have been extensively documented in this region in the past fifteen years (Leon et al., 2007; Stickley et al., 2007; Zaridze et al., 2014). Importantly, recent research has highlighted how aspects of the social environment such as social isolation and loneliness (Murphy et al., 2014a; Stickley et al., 2013) are linked to hazardous alcohol use in this setting. As earlier Western research has connected solitary drinking to similar social-environmental factors (i.e., living alone; Demers and Bourgault, 1996), it is possible that solitary drinking might also be important in this setting and/or linked to alcohol misuse.

Thus, the objective of this study was to gain knowledge on solitary drinking in nine countries of the fSU. While conceiving of solitary drinking as "a specific drinking context, characterised by the lack of a companion and therefore the lack of social control when drinking" (Bourgault and Demers, 1997), the study had three aims: (1) to determine the prevalence of solitary drinking; (2) to examine what factors are associated with solitary drinking; and (3) to explore whether solitary drinking is associated with hazardous alcohol use. Information on the prevalence of solitary drinking, its correlates, and whether it is associated with hazardous alcohol use may be important in future public health efforts to reduce alcohol's detrimental effects on population health and well-being in these countries.

2. Methods

2.1. Study participants

The data in this study came from the Health in Times of Transition (HITT) survey. This was a nine country cross-sectional survey undertaken in Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Moldova, Russia, and Ukraine in 2010 and in Kyrgyzstan in early 2011 (due to political instability). In each country, stratified multi-stage random sampling was employed to obtain a nationally representative household sample. Households were selected by random route procedures from within each primary sampling unit (about 100–200 per country). From within each household, one person aged 18 or above was randomly chosen to participate (determined by the nearest birthday). Trained interviewers conducted face-to-face interviews in the respondents' homes using a standard questionnaire. Except for in Russia and Belarus where Russian language was used, all respondents had the choice of answering in either their country languages or Russian.

In total, information was collected from 18,000 respondents. In six of the nine countries, the sample size was 1800 respondents. The exceptions were in Russia ($N = 3000$) and Ukraine ($N = 2000$) which had larger sample sizes to reflect their larger and more regionally diverse populations. Georgia also had a larger sample size ($N = 2200$) as a result of a booster survey of 400 additional interviews which was undertaken in late 2010 to ensure a more representative sample. Response rates varied across the countries from 47% in Kazakhstan to 83% in Georgia (Roberts et al., 2013). This study was approved by the ethics committee of the London School of Hygiene and Tropical Medicine and was carried out in accordance with the Helsinki Declaration.

2.2. Measures

Frequency of solitary drinking was assessed by the question "How often do you drink alone?". Those who answered never, sometimes and often were classified as never, occasional, and frequent solitary drinkers, respectively. The HITT survey employed a filter option for the first alcohol consumption question which meant that the information collected on solitary drinking refers to those who drank alcohol at least once per month.

Demographic and socioeconomic variables: Respondents were divided into five *age* categories: 18–29, 30–39, 40–49, 50–59 and ≥60 years. For *education*, respondents were classified as having either a 'tertiary education' (complete and incomplete higher education), a 'secondary education' (different forms of secondary education had been completed), or 'less than a secondary education' (incomplete secondary education/primary education/no education). *Marital status* was categorised as 'married/cohabiting', 'never married' and 'divorced/widowed'. Following the lead of an earlier study that used HITT survey data (Footman et al., 2013), respondents' *household economic situation* was assessed by the question "How would you describe the economic situation of your household at the present time?" where responses were categorised as 'good/very good', 'average' or 'bad/very bad'. In terms of living arrangements, respondents who reported that they were the only person constantly living in their household were categorised as *living alone*. Information on the level of respondents' *social support* was obtained from five questions which enquired if the respondent had anyone who would 'listen to them when they needed to talk', who they could 'count on to help them out in a crisis,' etc. For each of the questions, respondents could answer 'yes' (scored 1) or 'no' (scored 0). The scores from the five questions were summed to create a score running from 0 to 5. The scores were then categorised as 'high' (a score of 4–5), 'moderate (2–3) and 'low' (0–1). For *self-rated health*, respondents were asked, "In general would you say your health is. . ." with five response categories that ranged from 'very good' to 'very poor'. Responses were divided into three categories, 'good/very good', 'fair' and 'poor/very poor'. Finally, for *location*, respondents were categorised as living in either urban or rural areas.

Hazardous drinking: Following the lead of recent studies that have used HITT data (Murphy et al., 2014a,b), hazardous drinking was measured using two variables. The first was a measure of problematic drinking derived from the CAGE questionnaire. This asks four questions about the degree to which respondents feel the need to cut down on drinking, feel annoyance at being criticised for drinking too much, feel guilty about drinking too much or have had a drink first thing in the morning to steady nerves or get rid of a hangover. Yes (scored 1) and no (scored 0) answers were summed to generate a score running from 0 to 4 (Cronbach's alpha = 0.75). A score of 2 or more is employed as a marker of alcohol dependence (Murphy et al., 2014b) and was used as the cut-off score to denote problematic alcohol use. The second measure was heavy episodic drinking (HED). The rapid ingestion of a large quantity of alcohol in a single sitting is a drinking pattern that has a long history in the countries in this region and has been associated with alcohol-related harm (Andreev et al., 2013; Stickley et al., 2009). In the current study, we adopted the definition used by Pomerleau et al. (2008) who, when previously examining HED in