Patterns of Alcohol Use among Italian Young Adults before and during a COVID-19 lockdown: A Latent Class Analysis Study

Giovanni Aresi, Psychology Department, Università Cattolica del Sacro Cuore, Largo Gemelli 1, 20123, Milano, Italy. CERISVICO Research Centre on Community Development and Organisational Quality of Life, via Trieste 17, 25121, Brescia, Italy. Email: giovanni.aresi@unicatt.it ORCID ID: 0000-0002-5974-4106

Angela Sorgente, Psychology Department, Università Cattolica del Sacro Cuore, Largo Gemelli 1, 20123 Milano, Italy (angela.sorgente@unicatt.it). ORCID ID: 0000-0003-1046-0409

Michael J. Cleveland, Department of Human Development, Washington State University, 516 Johnson Tower, Pullman, WA, 99164, U.S.A. (michael.cleveland@wsu.edu). ORCID ID: 0000-0002-7649-1323

Elena Marta, Psychology Department, Università Cattolica del Sacro Cuore, Largo Gemelli 1, 20123, Milano, Italy. CERISVICO Research Centre on Community Development and Organisational Quality of Life, via Trieste 17, 25121, Brescia, Italy. Email: elena.marta@unicatt.it ORCID ID: 0000-0002-2119-5148

Correspondence should be addressed to Dr. Giovanni Aresi, Psychology Department, Università Cattolica del Sacro Cuore, Largo Gemelli 1, 20123 Milano, Italy (giovanni.aresi@unicatt.it). Tel. +39-02-7234.3048 Fax. +39-02-7234.2642

Conflict of interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article. In 2015-2017, Giovanni Aresi and Elena Marta received funding for a research project supported by the European Foundation for Alcohol Research (ERAB; EA 14 11).

This manuscript has been submitted for publication. The manuscript will undergo double blind peer-review and, if accepted, copyediting, typesetting, and review of resulting proof before it is published in its final form.

Abstract

Introduction: Two not mutually exclusive theories have been proposed to explain the effects of the COVID-19 pandemic on alcohol use: The *Availability hypothesis* contends that reduced opportunities to drink due to the closure of outlets and consumption sites should lead to decreases in alcohol use, whereas the *Stress and Coping hypothesis* argues that those exposed to stressful situations may increase drinking.

Aims: This study aimed to test such hypotheses by describing pre/during-COVID-19-pandemic changes in patterns of alcohol use among the Italian young adults (18–34 years).

Methods: This study involves the secondary analysis of data collected in 2015 and 2020 from nationally representative samples of Italian young adults. Latent class analysis (LCA) was used to identify common patterns of alcohol use.

Results: Five classes were found: *current non-drinker class* (CND), *weekend risky* (WRD) and *weekend non-risky drinkers* (WnRD), *daily non-risky* (DnRD) and *daily risky drinkers* (DRD). Results indicate gender-specific changes in the prevalence of the five drinker profiles from 2015 to 2020.

Conclusions: In support to the *Availability hypothesis*, increases in abstaining women and men were observed, however among men there were also increases in the prevalence of patterns characterized by risky drinking and related harm (*Stress and Coping hypothesis*).

Keywords: Drinking patterns; Young people; Lockdown; Person-centred approach.

Introduction

The COVID-19 outbreak has dramatically impacted the life of young people throughout the world, as nations implemented social distancing, isolation measures and restrictions to social life and to the operations of drinking venues in the attempt to reduce the spread of the virus. These measures are likely to have had an impact on several outcomes, including alcohol use. Alcohol use and misuse is one area of special concern for policymakers, practitioners and academics, and it is therefore important to develop a nuanced understanding of the ways in which patterns of alcohol consumption were affected by the health emergency. As the global pandemic continues, this knowledge is especially important as prevention scientists and other researchers develop targeted interventions to address the needs among high-risk groups. This repeated cross-sectional study examined changes in alcohol use among Italian young adults. To this end, we analysed data collected from nationally representative samples in 2015 and in 2020, during the November lockdown imposed to contain the COVID-19 second wave in Italy.

Changes in alcohol use during the COVID-19 health emergency

The association between alcohol use and the COVID-19 outbreak may not be univocal. There are indeed two not mutually exclusive mechanisms and accompanying hypotheses to understand the effects of this pandemic on alcohol use ([Rehm et al., 2020](#)). The *Availability hypothesis* contends that reduced opportunities to drink due to social distance measures and the closure of outlets and consumption sites should lead to decreases in alcohol use in the general population and especially among lighter drinkers. The *Stress and Coping hypothesis* argues that those exposed to stressful situations, such

as social isolation and socioeconomic insecurity, may experience mental health issues, which may contribute to increases in alcohol use as a dysfunctional coping strategy (i.e., self-medication), especially as the emergency continues for a long time ([Khantzian, 1997](#)). The tendency to self-medicate can be further exacerbated because traditional support mechanisms (i.e., social support and community services for treatment) around alcohol reduction may have become less accessible during the lockdown ([Nicholls & Conroy, 2021](#)).

Both hypotheses received empirical support across a number of studies. In [Sallie et al. \(2020\)](#) international study, drinking behaviours decreased overall during quarantine, though 36% of the sample reported an increase in alcohol use. [Garnett et al. \(2021\)](#) found about the same proportion of UK adults (25%) reporting drinking more and less alcohol than usual during the COVID-19 related lockdown with those younger, female, of high socioeconomic position, suffering from an anxiety disorder, and stressed about finances or COVID-19 to be at greater risk. Others studies in the UK and Norway indicate that increased alcohol use and misuse were associated with psychological, social and economic stress and vulnerability ([Alpers et al., 2021](#); [Naughton et al., 2021](#)). Globally, findings of studies on the adult population in Australia, Canada and the U.S.A offer further empirical support to each hypothesis ([Callinan et al., 2021](#); [Callinan et al., 2020](#); [Knell et al., 2020](#); [Tran et al., 2020](#); [Wardell et al., 2020](#); [Zajacova et al., 2020](#)).

Collectively, these studies provide evidence for non-univocal changes in drinking behaviour during the pandemic. However, there is currently limited evidence on the effects on the young adult population. It is likely that COVID-19 restrictions may have had a greater impact on younger drinkers who have a richer social life outside their home, which often includes drinking at parties and public venues ([White et al., 2020](#)).

For this reason, the *Availability hypothesis* may be particularly suitable for understanding the impact of the pandemic on this age cohort. For example, decreased alcohol use has been found among U.S. college student samples experiencing reduced opportunities to socialise and greater parental control as they moved back with parents ([Graupensperger et al., 2021](#)). On the other hand, young people may be stressed by the disruptions to their lives caused by the pandemic and the most vulnerable may acutely suffer as a result. In a U.S. study, symptoms of depression and anxiety due to university closings were linked to greater increases in alcohol consumption ([Lechner et al., 2020](#)). In Europe, a study of German young adults demonstrated that 24.4% reported a decrease in binge drinking while 5.4% reported an increase ([Busse et al., 2021](#)). These results suggest a rough estimate of the relative proportion of the young adult population who may respond to the pandemic consistent with either the *Availability* and *Stress and Coping hypotheses*.

Gender differences in alcohol use during the pandemic

Gender differences in alcohol use are well established and gender-specific analyses are almost always warranted. Despite convergence in the amount of alcohol consumed by men and women, women generally continue to report lower levels of alcohol use than men ([Kuntsche et al., 2011](#); [Wilsnack et al., 2009](#)). Theory and research suggest that lighter drinkers will consume less alcohol as an effect of the health emergency; thus, in general, one may expect that women responded to the pandemic by consuming even less alcohol than pre-pandemic. At the same time, the associations between stress and alcohol misuse may differ by gender such that women are more likely to drink to regulate negative affect and stress reactivity compared to men ([Peltier](#)

[et al., 2019](#)). Pandemic-related stressors may represent unique challenges to the life of early adults. To this date, the evidence for gender differences is mixed. While some studies suggest that women highly stressed by the pandemic increased their alcohol use and reported similar levels compared to men ([Rodriguez et al., 2020](#)), others did not confirm such effect ([Schmits & Glowacz, 2021](#)). In addition, the stress–alcohol misuse relation appears be mediated by coping and social drinking motives, which are more closely connected to binge drinking among men than women ([Temmen & Crockett, 2020](#)).

Current study

Results of the studies described in the previous section provide evidence on the mechanisms of change assumed by both the *Availability* and the *Stress and Coping hypotheses*. There are, however, important limitations to the state of art in regard to research design and sample representativeness. Most studies measured alcohol use cross-sectionally asking respondents to assess their alcohol consumption during and prior to the pandemic ([Busse et al., 2021](#)). This is a convenient strategy that offers insight on self-perceived changes in behaviours, but it is susceptible to distortion and recall bias, including greater underreporting of behaviour that was put in place in a more distant past ([Althubaiti, 2016](#)). Further, besides a few exceptions ([e.g., Garnett et al., 2021](#)), most studies used convenience samples, which put into question the generalizability of findings and may account for differences in results across studies ([e.g., in the proportion of individuals who transitioned to heavier or lighter drinking patterns](#)).

There are three key novel aspects to this study that addressed these limitations. First, the use of data collected prior and during the pandemic from nationally representative samples overcomes key methodological limitations of alcohol use measurement and to result generalizability. Second, we used a different approach to data analysis, the person-centred approach (e.g., Latent Class Analysis – LCA), which consists of a classification system that groups individuals into distinct subgroups or typologies (i.e., drinker profiles) ([see, among others, Collins & Lanza, 2010](#)). Once developed, these typologies can be used to examine changes in class prevalence and transition probabilities across time and cohorts ([Aresi et al., 2021](#); [Cleveland et al., 2012](#)). Analysing groups of individuals allows one to simultaneously test both the *Availability* and *Stress and Coping hypotheses* on different subgroups identified in the classification. Third, to our knowledge, this is the first published study that uses samples from a Southern European country. This is important because in these countries a "wet", non-intoxication-oriented drinking culture is still dominant among young people ([Aresi et al., 2018](#); [Aresi et al., 2020](#); [Beccaria, 2010](#); [Room, 2007](#)). Characteristics of these cultures, such as more frequent but moderate alcohol use, and the mild weather and relaxed alcohol policies (which in turn, make drinking in the open air in public places very common among youth) ([Aresi & Pedersen, 2016](#); [Calafat et al., 2011](#)), may determine different responses to the health emergency as compared to other countries. For these reasons, examining changes in alcohol use patterns among Italian young adults in response to the pandemic-related containment measures in Italy is of high interest for researchers and policymakers.

Italy's response to the COVID-19 health emergency in regard to alcohol outlets

Interventions to combat the spread of the first wave of the epidemic in Italy were introduced as early as February 2020, followed by a two-month strict national lockdown ([Governo Italiano, 2020a](#)). In November 2020, as the second wave was approaching, the Italian government established a three-tier scheme (yellow, orange, and red) in an attempt to avoid a second national lockdown ([Governo Italiano, 2020b](#)). Italy's 19 regions and two autonomous provinces were assigned to tiers on a weekly basis based on data related to the speed of spread of the infection (e.g., Rt transmission index) and the burden on the healthcare system (e.g., degree of saturation of intensive care units). Limitations to people's mobility (e.g., a 10 p.m. curfew was introduced) and business operations including of alcohol outlets (e.g., opening hours), were enforced across all tiers. However, all on-premise consumption was forbidden, except under the yellow tier between 5:00am and 6:00pm. Off-premise consumption and delivery were allowed at all times and under all tiers. Differently than in other countries ([Rehm et al., 2020](#)), alcoholic beverages were included in the list of essential goods and services that could be purchased during the lockdown period, and were therefore sold across a variety of sites including supermarkets as it is in usual times.

In sum, Italy's response to the pandemic in November 2020 may have at least in part determined differences in drinking patterns across regions depending on the tier they were assigned to. Despite reduced availability of on-premise offerings, alcohol use was available off-premise, including delivery, at all times and across all tiers.

Aims

This study compares patterns of alcohol use among Italian young adults in 2015 and during the November 2020 COVID-19 lockdown. The primary aim was to report changes in the prevalence of drinker profiles characterised by different weekly alcohol

use patterns and risk of harm. More specifically, by using LCA, our study aimed to (a) Identify distinct classes of individuals based on a set of alcohol use indicators, separately by gender; (b) Examine the consistency of the latent class solution and membership proportions across two cohorts (2015 and 2020); (c) Examine the associations among belonging to classes and lockdown tiers.

Hypotheses

Based on findings of previous studies using LCA indicating that drinker class solutions tend to be relatively stable across gender and time ([Aresi et al., 2021](#); [Cleveland et al., 2012](#)), we expected the number and characteristics of the classes will be broadly the same across the 2015 and 2020 cohorts. In addition, we stated the following hypotheses:

Hp1. There has been an increase in the prevalence of both low- and high-risk drinking patterns along with a decrease in moderate drinking patterns;

Hp2. Living in stricter lockdown tiers would be associated to belonging to profiles that are characterised by abstention and moderate drinking.

Methods

Data

This study involves the secondary analysis of data collected by the Osservatorio Giovani of the Istituto Toniolo di Studi Superiori (Milan, Italy) from nationally representative samples of Italian young adults. Data were collected in two cohorts: December 2015 and November 2020 during the second COVID-19 lockdown in Italy.

Sampling and Computer Assisted Web Interview (CAWI) data collection was conducted by Ipsos s.r.l. Each cohort data is weighted to account for the non-random nature of the sample and guarantee sample representativeness of the Italian young adult (18 to 34 years old) population in respect to several socio-demographic characteristics including gender, age-range, educational level, occupation status, and geographic area. The Italian 18-34 year population was 10,374,465 and 10,630,814 in 2015 and in 2020, respectively ([Istituto Nazionale di Statistica, 2015, 2020](#)). In both samples, lifetime abstainers (2015: N = 521; 2020: N = 264) were excluded from the analyses, resulting in analytical samples of 5,950 and 1,736 participants in 2015 and 2020, respectively. Table 1 displays weighted socio-demographic characteristics of participants by cohort.

Table 1

This study was reviewed and approved by the Osservatorio Giovani of the Istituto Toniolo di Studi Superiori. The study was conducted in accordance with the Declaration of Helsinki. All participants provided their written informed consent to participate in this study.

Measures

Both surveys included data on gender, age, occupation, and region of residence. Participants were asked if they ever had any alcohol. Next, they indicated the number of drinks consumed each day of a typical week in the last month (three months in 2015), using the Daily Drinking Questionnaire ([Collins et al., 1985](#)), how many times during the past month they had gotten drunk, and the number of times they had consumed four

(females) or five (males) or more drinks within two hours. Examples of drinks (e.g., a 250ml beer) containing approximately 10g pure ethanol were presented.

In 2015, participants also completed seven dichotomous items (0 = no, 1 = yes) adapted from the Brief Young Adult Alcohol Consequences Questionnaire ([BYAACQ; Kahler et al., 2008](#)). The summed score of these items represented the total number of consequences experienced in the previous 30 days ([for a description of the items, see Aresi et al., 2018](#)).

Participants of the 2020 cohort were also assigned to lockdown tiers (0 = yellow; 1 = orange; 2 = red) depending on their region of residence allocation during the four weeks prior to data collection. In those cases when regions changed tier during that period, they were assigned to the tier they have been assigned the longest. Five, nine and seven regions were assigned to the yellow, orange and red tier, respectively (Table S1).

Data analysis

Similarly to previous studies ([e.g., Aresi et al., 2020](#)), ten dichotomous indicators of drinking were developed: (1) past month alcohol use; (2) past month drunkenness; (3) past month Heavy Episodic Drinking (HED); and (4–10) indicators of alcohol use for each day of a typical week. Based on these indicators, sub-groups of individuals characterized by common patterns of multiple alcohol use behaviours were identified using LCA. Because LCA does not allow to include weighting, non-weighted data were used. All analyses were conducted separately by gender.

Following established recommendations ([Lanza et al., 2011](#)), a series of statistical models were estimated first in the 2015-2020 combined sample and then

separately within each cohort, followed by examination of measurement invariance. For a description of the statistical (absolute and relative model fit indices) and conceptual standards used to compare the different profile solutions see [Sorgente et al. \(2019\)](#). To provide support to the validity of the classes, the pseudo-class method was used to test differences in rates of experiencing alcohol-related consequences by members of the 2015 classes. Lastly, the three-step procedure was used to test the effect of lockdown tiers on class membership probabilities ([Asparouhov & Muthén, 2014](#)). Analyses were performed in MPlus 7.11 ([Muthén & Muthén, 1998-2015](#)) using the robust maximum likelihood estimator.

Results

Descriptive statistics

Table 2 displays the proportion of participants who reported each alcohol use behaviour, separately by cohort. A greater proportion of 2015 participants reported having drunk in the past month as compared to 2020. Saturday and Sunday drinking were more prevalent in 2015, whereas a greater proportion of 2020 participants reported HED in the previous two weeks.

Table 2

Identification of latent classes of alcohol use behaviours

We compared models with two to six latent classes, separately by gender. As seen in Table 3 and 4, for both women and men, each of the relative fit indices (CAIC and

ssBIC) decreased with each additional solution. The other fit indices did not provide clear evidence to support either the five or six-class model, except that the six-class solution exhibited the highest value of cmP and presented a number of standardized residual lower than |3|. For these reasons, the six-model solution was examined first. Inspection of item probabilities of this model, however, revealed that latent classes were not clearly distinguished (Table S2). On the other hand, classes of the five-class model were relatively distinguishable and interpretable, and entropy was higher than the six-class model. Thus, this model was deemed the best-fitting, most interpretable and most parsimonious solution to the data. For this model, entropy was above acceptability thresholds for both the women and men sample (> 0.70).

Table 3

We first tested invariance of the five-class model item response probabilities across cohorts. As shown in Table 4, the model was fully invariant for women and partially invariant for men. We had to free (i.e., let it vary across cohorts) one parameter before obtaining a model statistically equal to the baseline ($p > .05$).

Table 5 presents the results of the final five-class model by gender. The numbers below each subgroup heading (item response probabilities) represent the likelihood that the participants in each latent class reported exhibiting a specific alcohol use behaviour. Examination of item response probabilities confirmed the profiles in large part reflected the drinking statuses found in previous studies¹ ([e.g., Aresi et al., 2020](#)). Three classes were confirmed: *current non-drinker class* (CND), *weekend risky* (WRD) and *weekend non-risky drinkers* (WnRD). However, we found that those characterized by high

probabilities of drinking on all seven days of the week were distinguished into two subgroups: *daily non-risky* (DnRD) and *daily risky drinkers* (DRD), depending on whether they were likely to report any of the two risky drinking behaviours (i.e., drunk in the past month or HED).

A one way analysis of variance [$F(4, 3,108) = 236.944, p < .001$] and post-hoc analyses showed that DRDs reported the greatest number of alcohol-related negative consequences as compared to WRDs and the other more moderate drinking patterns, thus adding to the conceptual validity of the classes (Figure 1).

Table 4

Table 5

Figure 1

Assessing changes in class prevalence across cohorts

We proceeded with the next test to compare class prevalence rates across 2015 and 2020 cohorts, separately by gender. First, we compared the fully constrained model (all prevalence rates equal across cohorts) to the freely estimated model. Results indicated non equivalence neither for female ($p < 0.01$) nor male ($p < 0.001$) participants. We then saved participants' most likely class membership and calculated 2015 and 2020 weighted class prevalence rates, separately by gender. Ninety-five per cent confidence intervals were used to determine any variation across cohort (Figure 2). Among women, CNDs substantially increased from 15.5% in 2015 to 23.5% in 2020, whereas WnRDs decreased from 53.9% to 45.5%. However, prevalence rates of the other three classes did not vary significantly across cohorts. Similarly, the proportion of men assigned to

the CND class increased from 9.2% in 2015 to 15.7% in 2020, and membership in the WnRD class decreased from 55.3% to 44.2%. However, there were also differences in the prevalence of the other three classes. DnRDs decreased by about half from 11.6% to 6.4%, whereas both WRDs and DRDs increased from 15.0% to 21.3% and 8.9% to 12.4%, respectively. Even though the increase in the prevalence of DRDs was not marked, the absence of overlap among confidence intervals indicates the difference is significant.

Figure 2

Association between lockdown tiers and latent class membership

Lockdown tier allocation (yellow vs. orange and red tiers where bars and other drinking venues were closed) was included in the model to test its impact on 2020 class membership, separately by gender (Table 6). The DRD class was selected as the reference category because members of this class display the greatest alcohol-related risk. For both genders, no significant association between latent class membership and lockdown tiers was found (all p s > .05).

Table 6

Discussion

This study used a person-centred approach to compare patterns of alcohol use among Italian young adults in 2015 and during the November 2020 COVID-19 lockdown. The use of LCA to identify subgroups of different patterns of alcohol users allowed us to

simultaneously test the *Availability* and *Stress and Coping hypotheses* on the effects of this pandemic on alcohol use ([Rehm et al., 2020](#)). Our findings are broadly consistent with results of other studies ([Busse et al., 2021](#); [Garnett et al., 2021](#); [Sallie et al., 2020](#)) and indicate there have been changes in the prevalence of drinking patterns before and during the pandemic, though these changes are different across genders.

Among both men and women, we found substantial increases in the proportion of individuals who were almost entirely abstaining from alcohol (i.e., *Current non-drinkers*) paired with decreases in the proportion of those who drink moderately over the weekend (i.e., *Weekend non-risky drinkers*). These results offer support to the *Availability hypothesis*: it appears reduced opportunities to drink during the lockdown led to decreases in alcohol use among some members of the general population and namely among lighter drinkers ([Rehm et al., 2020](#)). Contrary to our expectations, increasingly restrictive lockdown tiers were not associated with increased likelihood to belong to lighter drinking patterns. We speculate this result may be related to all tiers being fairly restrictive to the operation of alcohol outlets (i.e., the least restrictive tier meant drinking outlets would close at 6 p.m.) and by the fact that other sources of alcoholic beverages (e.g., off-premise and delivery) were easily accessible across all tiers.

Among men only, our results suggest a polarization effect whereby the proportion of moderate drinkers (i.e., *Weekend and Daily non-risky drinkers*) decreased, whereas the proportion of risky drinkers (i.e., *Weekend and Daily risky drinkers*) increased. This result may provide support to a self-medication use of alcohol under the *Stress and Coping hypothesis* among a relatively small but more numerous group of men ([Khantzian, 1997](#)). The prevalence of the two profiles characterized by risky

drinking behaviours (i.e., drunk in the past month or HED) increased from 2015 to during the pandemic in 2020. Importantly, the increase in those drinking on all seven days of the week and engaging in risky drinking (DRD) is particularly alarming. This relatively small and high-risk subgroup of drinkers increased by almost 40% from almost 9 to 12.5 per cent. This group also displayed a disproportionate number of alcohol-related negative consequences as compared to any other group. Previous studies have demonstrated that, among young Italians, extending consumption beyond the typical Thursday – Sunday pattern does not denote problematic alcohol use per se, as it is in other countries ([Aresi et al., 2020](#); [Cleveland et al., 2012](#); [Piumatti et al., 2018](#)). However, this pattern becomes concerning and is socially censored when paired with episodes of drunkenness and heavy drinking sessions ([Aresi & Pedersen, 2016](#); [Hoeppner et al., 2012](#)).

Limitations of the current study suggest avenues for future research. First, the repeated cross-sectional design constrains the interpretation of causal effects nor allows to determine the direction of the transitions from and to drinking patterns. In addition, because the two cohorts were five years apart, secular trends of reduced alcohol intake among young people may at least in part explain the differences we found. Further longitudinal and mixed-method research is needed to better examine causal relationships, assess changes in further waves and restrictions, and get a deeper understanding of these issues. A second limitation is that the present study employed only self-report measures, which might be susceptible to response bias.

Conclusions and implications for research and practice

This study contributes to the literature on alcohol use during the COVID-19 health emergency. Results indicate gender-specific changes in the prevalence of the five drinker profiles. In support to the *Availability hypothesis*, increases in abstaining women and men were observed, however among men there were also increases in the prevalence of patterns characterized by risky drinking and related harm (*Stress and Coping hypothesis*). Accordingly, it is important for policy makers, preventive interventions and health services to focus on the small but significant groups of those who drink daily and heavily. Finally, we suggest that our study makes an important methodological contribution to the field. Our use of LCA allowed developing a multifaceted and thorough portrait of alcohol use patterns during health emergencies. We recommend LCA as an important tool for future studies in this field.

Notes

¹ The four drinking classes were: those who have not been drinking recently (Current Non-Drinkers - CND), two classes of weekend drinkers distinguished by the probability of engaging in risky drinking (Weekend Non-Risky Drinkers – WNRD, and Weekend Risky Drinkers - WRD), and one class of Daily Drinkers (DD).

References

- Alpers, S. E., Skogen, J. C., Mæland, S., Pallesen, S., Rabben, Å. K., Lunde, L.-H., & Fadnes, L. T. (2021). Alcohol Consumption during a Pandemic Lockdown Period and Change in Alcohol Consumption Related to Worries and Pandemic Measures. *International Journal of Environmental Research and Public Health*, 18(3), 1220. <https://www.mdpi.com/1660-4601/18/3/1220>

- Althubaiti, A. (2016). Information bias in health research: definition, pitfalls, and adjustment methods. *Journal of multidisciplinary healthcare*, 9, 211-217.
<https://doi.org/10.2147/JMDH.S104807>
- Aresi, G., Cleveland, M. J., Marta, E., & Alfieri, S. (2018). Patterns of Alcohol Use in Italian Emerging Adults: A Latent Class Analysis Study. *Alcohol and Alcoholism*, 53(3), 294–301. <https://doi.org/10.1093/alcalc/agx109>
- Aresi, G., Cleveland, M. J., Vieno, A., Beccaria, F., Turrise, R., & Marta, E. (2020). A Mixed Methods Cross-Cultural Study to Compare Youth Drinking Cultures in Italy and the USA. *Applied Psychology: Health and Well-Being*, 12, 231-255.
<https://doi.org/10.1111/aphw.12181>
- Aresi, G., & Pedersen, E. R. (2016). ‘That right level of intoxication’: A Grounded Theory study on young adults’ drinking in nightlife settings. *Journal of Youth Studies*, 19(2), 204-220. <https://doi.org/10.1080/13676261.2015.1059931>
- Aresi, G., Sorgente, A., Moore, S. C., & Marta, E. (2021). Analysing change among study abroad students. A novel application of the person-centred approach to alcohol use patterns. *International Journal of Intercultural Relations*, 82, 220-231. <https://doi.org/10.1016/j.ijintrel.2021.04.006>
- Asparouhov, T., & Muthén, B. (2014). Auxiliary variables in mixture modeling: Three-step approaches using Mplus. *Structural Equation Modeling: A Multidisciplinary Journal*, 21(3), 329-341.
<https://doi.org/10.1080/10705511.2014.915181>
- Beccaria, F. (2010). *Alcohol and Generations. Changes in Style and Changing Styles in Italy and Finland*. Carocci editore.

Busse, H., Buck, C., Stock, C., Zeeb, H., Pischke, C. R., Fialho, P. M. M., Wendt, C., & Helmer, S. M. (2021). Engagement in Health Risk Behaviours before and during the COVID-19 Pandemic in German University Students: Results of a Cross-Sectional Study. *Int J Environ Res Public Health*, 18(4).

<https://doi.org/10.3390/ijerph18041410>

Calafat, A., Blay, N. T., Hughes, K., Bellis, M., Juan, M., Duch, M., & Kokkevi, A. (2011). Nightlife young risk behaviours in Mediterranean versus other European cities: are stereotypes true? *Eur J Public Health*, 21(3), 311-315.

<https://doi.org/10.1093/eurpub/ckq141>

Callinan, S., Mojica-Perez, Y., Wright, C. J. C., Livingston, M., Kuntsche, S., Laslett, A.-M., Room, R., & Kuntsche, E. (2021). Purchasing, consumption, demographic and socioeconomic variables associated with shifts in alcohol consumption during the COVID-19 pandemic. *Drug and Alcohol Review*, 40(2), 183-191. <https://doi.org/https://doi.org/10.1111/dar.13200>

Callinan, S., Smit, K., Mojica-Perez, Y., D'Aquino, S., Moore, D., & Kuntsche, E. (2020). Shifts in alcohol consumption during the COVID-19 pandemic: early indications from Australia [<https://doi.org/10.1111/add.15275>]. *Addiction*, n/a(n/a). <https://doi.org/https://doi.org/10.1111/add.15275>

Cleveland, M. J., Lanza, S. T., Ray, A. E., Turrissi, R., & Mallett, K. A. (2012). Transitions in first-year college student drinking behaviors: does pre-college drinking moderate the effects of parent- and peer-based intervention components? *Psychol Addict Behav*, 26(3), 440-450.

<https://doi.org/10.1037/a0026130>

Collins, L. M., & Lanza, S. T. (2010). *Latent class and latent transition analysis: With applications in the social, behavioral, and health sciences*. Wiley.

Collins, R. L., Parks, G. A., & Marlatt, G. A. (1985). Social determinants of alcohol consumption: the effects of social interaction and model status on the self-administration of alcohol. *Journal of Consulting and Clinical Psychology*, 53, 189-200. <https://doi.org/10.1037/0022-006X.53.2.189>

Cooper, M. L. (1994). Motivations for alcohol use among adolescents: development and validation of a four-factor-model. *Psychological Assessment* 6, 6: 117–128.

Garnett, C., Jackson, S., Oldham, M., Brown, J., Steptoe, A., & Fancourt, D. (2021). Factors associated with drinking behaviour during COVID-19 social distancing and lockdown among adults in the UK. *Drug Alcohol Depend*, 219, 108461. <https://doi.org/10.1016/j.drugalcdep.2020.108461>

Governo Italiano. (2020a). Decreto del presidente del consiglio dei ministri. March the 8th. In. Rome, Italy: Gazzetta ufficiale della repubblica italiana.

Governo Italiano. (2020b). Decreto del presidente del consiglio dei ministri. November the 4th. In. Rome, Italy: Gazzetta ufficiale della repubblica italiana.

Graupensperger, S., Jaffe, A. E., Fleming, C. N. B., Kilmer, J. R., Lee, C. M., & Larimer, M. E. (2021). Changes in College Student Alcohol Use During the COVID-19 Pandemic: Are Perceived Drinking Norms Still Relevant? *Emerging Adulthood*, 0(0), 2167696820986742. <https://doi.org/10.1177/2167696820986742>

Hoeppner, B. B., Barnett, N. P., Jackson, K. M., Colby, S. M., Kahler, C. W., Monti, P. M., Read, J., Tevyaw, T., Wood, M., Corriveau, D., & Fingeret, A. (2012). Daily college student drinking patterns across the first year of college. *Journal*

of Studies on Alcohol and Drugs, 73(4), 613-624.

<https://www.ncbi.nlm.nih.gov/pubmed/22630800>

<https://www.ncbi.nlm.nih.gov/pmc/PMC3364328/>

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3364328/pdf/jsad613.pdf>

Istituto Nazionale di Statistica. (2015). *Istat, Popolazione residente al 1° gennaio 2015*.

Retrieved 10 October from

http://dati.istat.it/Index.aspx?DataSetCode=DCIS_POPRES1

Istituto Nazionale di Statistica. (2020). *Istat, Popolazione residente al 1° gennaio 2020*.

http://dati.istat.it/Index.aspx?DataSetCode=DCIS_POPRES1

Kahler, C. W., Hustad, J., Barnett, N. P., Strong, D. R., & Borsari, B. (2008). Validation of the 30-Day Version of the Brief Young Adult Alcohol Consequences

Questionnaire for Use in Longitudinal Studies. *Journal of Studies on Alcohol and Drugs*, 69(4), 611-615. <https://doi.org/doi:10.15288/jsad.2008.69.611>

Khantzian, E. J. (1997). The Self-Medication Hypothesis of Substance Use Disorders: A Reconsideration and Recent Applications. *Harvard Review of Psychiatry*, 4(5), 231-244. <https://doi.org/10.3109/10673229709030550>

Knell, G., Robertson, M. C., Dooley, E. E., Burford, K., & Mendez, K. S. (2020).

Health Behavior Changes During COVID-19 Pandemic and Subsequent "Stay-at-Home" Orders. *International Journal of Environmental Research and Public Health*, 17(17), 6268. <https://doi.org/10.3390/ijerph17176268>

Kuntsche, E., Kuntsche, S., Knibbe, R., Simons-Morton, B., Farhat, T., Hublet, A.,

Bendtsen, P., Godeau, E., & Demetrovics, Z. (2011). Cultural and Gender Convergence in Adolescent Drunkenness: Evidence From 23 European and North American Countries Culture and Gender in Adolescent Drunkenness.

JAMA Pediatrics, 165(2), 152-158.

<https://doi.org/10.1001/archpediatrics.2010.191>

Lanza, S. T., Dziak, J. J., Huang, L., Xu, S., & Collins, L. M. (2011). *PROC LCA & PROC LTA users' guide (Version 1.2. 7)*. The Methodology Center, Penn State.

Lechner, W. V., Laurene, K. R., Patel, S., Anderson, M., Grega, C., & Kenne, D. R.

(2020). Changes in alcohol use as a function of psychological distress and social support following COVID-19 related University closings. *Addictive Behaviors*, 110, 106527. <https://doi.org/https://doi.org/10.1016/j.addbeh.2020.106527>

Mazzardis, S., Vieno, A., Kuntsche, E., & Santinello, M. (2010). Italian validation of the drinking motives questionnaire revised short form (DMQ-R SF). *Addict Behav*, 35(10), 905-908. <https://doi.org/10.1016/j.addbeh.2010.05.002>

Muthén, L. K., & Muthén, B. O. (1998-2015). *Mplus User's Guide* (Seventh ed.).

Muthén & Muthén

Naughton, F., Ward, E., Khondoker, M., Belderson, P., Marie Minihane, A., Dainty, J., Hanson, S., Holland, R., Brown, T., & Notley, C. (2021). Health behaviour change during the UK COVID-19 lockdown: Findings from the first wave of the C-19 health behaviour and well-being daily tracker study. *British Journal of Health Psychology*, n/a(n/a). <https://doi.org/https://doi.org/10.1111/bjhp.12500>

Nicholls, E., & Conroy, D. (2021). Possibilities and pitfalls? Moderate drinking and alcohol abstinence at home since the COVID-19 lockdown. *International Journal of Drug Policy*, 88, 103025.

<https://doi.org/https://doi.org/10.1016/j.drugpo.2020.103025>

Peltier, M. R., Verplaetse, T. L., Mineur, Y. S., Petrakis, I. L., Cosgrove, K. P.,

Picciotto, M. R., & McKee, S. A. (2019). Sex differences in stress-related

alcohol use. *Neurobiology of Stress*, 10, 100149.

<https://doi.org/https://doi.org/10.1016/j.ynstr.2019.100149>

Piumatti, G., Lietz, F., Aresi, G., & Bjegovic-Mikanovic, V. (2018). Alcohol use, psychological distress, and subjective well-being among young adult university students: A cross-national study between Serbia and Italy. *Journal of Ethnicity in Substance Abuse*, 1-19. <https://doi.org/10.1080/15332640.2017.1417186>

Rehm, J., Kilian, C., Ferreira-Borges, C., Jernigan, D., Monteiro, M., Parry, C. D. H., Sanchez, Z. M., & Manthey, J. (2020). Alcohol use in times of the COVID 19: Implications for monitoring and policy. *Drug and Alcohol Review*, 39(4), 301-304. <https://doi.org/https://doi.org/10.1111/dar.13074>

Rodriguez, L. M., Litt, D. M., & Stewart, S. H. (2020). Drinking to cope with the pandemic: The unique associations of COVID-19-related perceived threat and psychological distress to drinking behaviors in American men and women. *Addictive Behaviors*, 110, 106532-106532.

<https://doi.org/10.1016/j.addbeh.2020.106532>

Room, R. (2007). Understanding cultural differences in young people's drinking. In M. Järvinen & R. Room (Eds.), *Youth Drinking Cultures: European Perspectives* (pp. 17-40). Ashgate.

Sallie, S. N., Ritou, V., Bowden-Jones, H., & Voon, V. (2020). Assessing international alcohol consumption patterns during isolation from the COVID-19 pandemic using an online survey: highlighting negative emotionality mechanisms. *BMJ Open*, 10(11), e044276. <https://doi.org/10.1136/bmjopen-2020-044276>

Schmits, E., & Glowacz, F. (2021). Changes in Alcohol Use During the COVID-19 Pandemic: Impact of the Lockdown Conditions and Mental Health Factors.

International Journal of Mental Health and Addiction.

<https://doi.org/10.1007/s11469-020-00432-8>

Sorgente, A., Lanz, M., Serido, J., Tagliabue, S., & Shim, S. (2019). Latent Transition Analysis: Guidelines and an Application to Emerging Adults' Social Development. *TPM: Testing, Psychometrics, Methodology in Applied Psychology*, 26(1), 39-72. <https://doi.org/10.4473/TPM26.1.3>

Temmen, C. D., & Crockett, L. J. (2020). Relations of Stress and Drinking Motives to Young Adult Alcohol Misuse: Variations by Gender. *Journal of Youth and Adolescence*, 49(4), 907-920. <https://doi.org/10.1007/s10964-019-01144-6>

Tran, T. D., Hammarberg, K., Kirkman, M., Nguyen, H. T. M., & Fisher, J. (2020). Alcohol use and mental health status during the first months of COVID-19 pandemic in Australia. *Journal of Affective Disorders*, 277, 810-813. <https://doi.org/https://doi.org/10.1016/j.jad.2020.09.012>

Wardell, J. D., Kempe, T., Rapinda, K. K., Single, A., Bilevicius, E., Frohlich, J. R., Hendershot, C. S., & Keough, M. T. (2020). Drinking to Cope During COVID-19 Pandemic: The Role of External and Internal Factors in Coping Motive Pathways to Alcohol Use, Solitary Drinking, and Alcohol Problems. *Alcoholism: Clinical and Experimental Research*, 44(10), 2073-2083. <https://doi.org/https://doi.org/10.1111/acer.14425>

White, H. R., Stevens, A. K., Hayes, K., & Jackson, K. M. (2020). Changes in Alcohol Consumption Among College Students Due to COVID-19: Effects of Campus Closure and Residential Change. *Journal of Studies on Alcohol and Drugs*, 81(6), 725-730. <https://doi.org/10.15288/jsad.2020.81.725>

Wilsnack, R. W., Wilsnack, S. C., Kristjanson, A. F., Vogeltanz-Holm, N. D., & Gmel, G. (2009). Gender and alcohol consumption: patterns from the multinational GENACIS project. *Addiction*, *104*(9), 1487-1500.

<https://doi.org/10.1111/j.1360-0443.2009.02696.x>

Zajacova, A., Jehn, A., Stackhouse, M., Denice, P., & Ramos, H. (2020). Changes in health behaviours during early COVID-19 and socio-demographic disparities: a cross-sectional analysis. *Canadian Journal of Public Health*, *111*(6), 953-962.

<https://doi.org/10.17269/s41997-020-00434-y>

Table 1. *Participants' characteristics by cohort (weighted).*

	Proportion [*]	
	2015	2020
Gender (female)	51.5	48.7
Mean age (<i>SD</i>)	25.7 (4.740)	26.9 (4.743)
Occupation		
Student	38.3	34.8
Worker	42.0	47.8
Unemployed/NEET**	19.2	17.4
Education		
University degree	18.5	22.2
High school diploma	50.5	50.6
Other	31.0	27.2
Residence		
Northwest	25.0	24.8
Northeast	17.0	17.8
Centre	19.0	19.2
South***	38.8	38.2

* Only proportions are displayed because data are weighted; ** Not in Education, employment or training; ***Includes Sicily and Sardinia.

Table 2. *Proportion of respondents reporting drinking behaviours, by cohort and gender.*

Alcohol behaviour	2015 (N = 5,950)	2020 (N = 1,736)	χ^2
Drink in last month	87.9	83.4	23.965***
Typically drink on Monday	15.9	17.8	3.423
Typically drink on Tuesday	16.6	17.4	0.602
Typically drink on Wednesday	19.4	20.7	1.531
Typically drink on Thursday	20.2	20.6	0.099
Typically drink on Friday	46.7	48.4	1.663
Typically drink on Saturday	82.3	78.0	16.833***
Typically drink on Sunday	54.2	51.2	4.859*
Been drunk in last month	19.6	19.4	0.034
HED in last two weeks	17.4	23.6	32.680***

Note: Values indicate % reporting the behaviour, N = sample size; HED, heavy episodic drinking; BAC, blood alcohol content. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 3. *Model fit statistics by gender for Latent Class Analysis models with two to six latent classes (both cohorts).*

Model	-LL	SCF	χ^2 LRT (p value)	Stdres	LMR- LRT (p value)	BLRT	CAIC	ssBIC	BF	cmP	SSS	Entropy
Women												
Two-class	-18486.365	1.30	15478.245 (p > .001)	19.71%	7,284.164 (p<.001)	< .001	37014.731	37149.763	0.00	0.000	615	0.944
Three-class	-16114.820	1.05	4212.802 (p > .001)	20.19%	4,692.487 (p<.001)	< .001	32293.640	32499.404	0.00	0.000	498	0.986
Four-class	-15536.334	1.03	1947.927 (p > .001)	9.62%	1,144.629 (p<.001)	< .001	31158.668	31435.162	0.00	0.000	437	0.887
Five-class	-15441.485	1.07	1723.971 (p > .001)	7.21%	187.674 (p<.001)	< .001	30990.970	31338.196	0.00	0.000	138	0.884
Six-class	-15358.161	1.10	1527.773 (p > .001)	2.88%	164.869 (p<.05)	< .001	30846.323	31264.280	Na	1.000	129	0.862
Men												
Two-class	-13003.030	1.08	13371.401 (p < .001)	24.87%	7,481.301 (p<.001)	< .001	26048.061	26174.903	0.00	0.000	657	0.971
Three-class	-11815.458	1.02	3842.066 (p < .001)	20.30%	2,348.590 (p<.001)	< .001	23694.915	23888.199	0.00	0.000	305	0.991
Four-class	-11433.833	1.03	1792.755 (p < .001)	10.15%	754.716 (p<.001)	< .001	22953.665	23213.391	0.00	0.000	305	0.907
Five-class	-11298.985	1.04	1550.583 (p < .001)	7.61%	266.680 (p<.001)	< .001	22705.970	23032.137	0.00	0.000	289	0.905
Six-class	-11183.159	1.04	1091.158 (p <.01)	3.05%	164.869 (p<.05)	< .001	22496.319	22888.927	Na	1.000	288	0.851

Note. LL = log likelihood; SCF = scaling correction factor of the robust maximum likelihood estimator; χ^2 LRT = likelihood ratio chi square goodness-of-fit; Stdres = standardized residuals; LMR-LRT = Lo-Mendell-Rubin likelihood ratio test; BLRT = bootstrapped likelihood ratio test; CAIC = Consistent Akaike information criterion; ssBIC = sample-size adjusted Bayesian information criterion; BF = Bayesian factor; cmP = approximate correct model probability. SSS = smaller class numerosity

Table 4. *Chi-square difference tests based on log likelihood values.*

	-LL	SCF	<i>d</i>	Δ	<i>df</i>	<i>p-value</i>
Women						
Baseline model	-17,607.41	1.04	109			
Full invariance	-17,633.33	1.06	59	25.92	50	0.441
Men						
Baseline model	-13,083.84	1.03	109			
Full invariance	-13,133.47	1.06	59	49.64	50	< 0.001
Partial invariance	-13,129.61	1.06	60	3.87	49	0.999

Note. -LL = model log likelihood; SCF = scaling correction factor of the robust maximum likelihood estimator; d = number of free parameters; Δ = difference test value; df = degree of freedom of the difference test.

Table 5. *Item-response probabilities and class prevalence rates for five-class LCA model, by gender (both cohorts).*

	Latent Class				
	Women				
	CND	WnRD	WRD	DnRD	DRD
Any drink in past month	0.00	1.00	1.00	1.00	1.00
Any drink Monday	0.00	0.01	0.08	0.99	0.95
Any drink Tuesday	0.00	0.01	0.12	0.99	0.98
Any drink Wednesday	0.00	0.04	0.15	0.99	0.97
Any drink Thursday	0.00	0.03	0.22	1.00	1.00
Any drink Friday	0.00	0.35	0.66	1.00	0.99
Any drink Saturday	0.00	0.92	0.94	1.00	0.99
Any drink Sunday	0.00	0.49	0.64	0.97	0.94
Drunk in past month	0.01	0.01	0.54	0.12	0.80
Past month HED	0.02	0.01	0.54	0.06	1.00
	Men				
Any drink in past month	0.00	1.00	1.00	1.00	1.00
Any drink Monday	0.00	0.03	0.18	0.97	0.98
Any drink Tuesday	0.00	0.04	0.09	1.00	0.99
Any drink Wednesday	0.00	0.09	0.17	0.98	0.99
Any drink Thursday	0.00	0.08	0.20	1.00	0.99
Any drink Friday	0.00	0.44	0.62	1.00	0.99
Any drink Saturday	0.00	0.94	0.90	1.00	1.00
Any drink Sunday	0.00	0.54	0.70	0.98	0.96
Drunk in past month	0.04	0.05	0.77	0.00	0.77
Past month HED	0.03	0.02	0.69*	0.00	0.80

Note. * Parameter let free in invariance tests across cohorts.

Table 6. *Associations between latent class membership and lockdown tiers by gender.*

	Women				Men			
	CND OR (95% CI)**	WnRD OR (95% CI)**	DnRD OR (95% CI)**	WRD OR (95% CI)**	CND OR (95% CI)**	WnRD OR (95% CI)**	DnRD OR (95% CI)**	WRD OR (95% CI)**
Lockdown tier (orange and red)	1.52 (0.58, 4.00)	1.71 (0.68, 4.32)	1.26 (0.43, 3.74)	1.33 (0.51, 3.45)	1.20 (0.63, 2.29)	1.59 (0.90, 2.79)	1.48 (0.73, 3.01)	1.25 (0.63, 2.47)

Note. All comparisons are with reference class DRD. Bold indicates statistical significance.

**Odds ratios with 95% confidence limits that do not include 1 can be considered to reflect a significant group difference.

Figure captions

Figure 1. *Mean number of reported alcohol-related consequences by gender and drinker class.*

Note: Results of pairwise post-hoc analyses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Figure 2. Variation in class prevalences (95% C.I.) from 2015 to 2020, by gender.

Note. Ns represent weighted sample numerosity. 95% confidence intervals are displayed.

Table S1. Tier assignment of the 19 Italian regions and two autonomous provinces.

Region/autonomous province	Week			Assigned tier
	06-13/11/2020	14-20/11/2020	21-27/11/2020	
Lombardy	Red	Red	Red	Red
Piedmont	Red	Red	Red	Red
Calabria	Red	Red	Red	Red
Valle d'Aosta	Red	Red	Red	Red
Puglia	Orange	Orange	Orange	Orange
Sicily	Orange	Orange	Orange	Orange
Abruzzo	Yellow	Orange	Red	Orange
Basilicata	Yellow	Orange	Orange	Orange
Campania	Yellow	Red	Red	Red
Emilia-Romagna	Yellow	Orange	Orange	Orange
Friuli-Venezia Giulia	Yellow	Orange	Orange	Orange
Lazio	Yellow	Yellow	Yellow	Yellow
Liguria	Yellow	Orange	Orange	Orange
Marche	Yellow	Orange	Orange	Orange
Molise	Yellow	Yellow	Yellow	Yellow
Trento a.p.	Yellow	Yellow	Yellow	Yellow
Bolzano a.p.	Yellow	Red	Red	Red
Sardinia	Yellow	Yellow	Yellow	Yellow
Tuscany	Yellow	Red	Red	Red
Umbria	Yellow	Orange	Orange	Orange
Veneto	Yellow	Yellow	Yellow	Yellow

Note. a.p. = autonomous province.

Table S2. *Item-response probabilities and class prevalence rates for six-class LCA model, by gender (both cohorts).*

		Latent Class					
		Women					
		1	2	3	4	5	6
Any drink in past month		1.00	1.00	1.00	0.00	1.00	1.00
Any drink Monday		0.96	1.00	0.16	0.00	0.02	0.01
Any drink Tuesday		0.98	1.00	0.26	0.00	0.00	0.01
Any drink Wednesday		0.97	1.00	0.30	0.00	0.02	0.04
Any drink Thursday		1.00	1.00	0.41	0.00	0.04	0.02
Any drink Friday		0.99	1.00	0.79	0.00	0.51	0.35
Any drink Saturday		0.99	1.00	0.92	0.00	0.95	0.92
Any drink Sunday		0.93	0.98	0.66	0.00	0.61	0.49
Drunk in past month		0.95	0.11	0.43	0.01	0.63	0.00
Past month HED		1.00	0.14	0.42	0.02	0.64	0.00
	Estimated Prevalence	2.8%	6.4%	12.4%	15.3%	12.6%	50.5%
		Men					
		1	2	3	4	5	6
Any drink in past month		1.00	1.00	1.00	1.00	1.00	0.00
Any drink Monday		0.14	0.98	0.01	0.99	0.19	0.00
Any drink Tuesday		0.17	0.99	0.00	1.00	0.07	0.00
Any drink Wednesday		0.26	0.99	0.04	0.99	0.16	0.00
Any drink Thursday		0.34	0.99	0.00	1.00	0.17	0.00
Any drink Friday		0.75	1.00	0.36	1.00	0.55	0.00
Any drink Saturday		0.94	1.00	0.94	1.00	0.88	0.00
Any drink Sunday		0.67	0.95	0.51	0.99	0.71	0.00
Drunk in past month		0.21	0.85	0.07	0.04	0.85	0.04
Past month HED		0.06	0.84	0.04	0.07	1.00	0.03
	Estimated Prevalence	12.4%	9.3%	48.4%	10.0%	9.9%	9.8%