

High-Risk Drinking in Midlife Before Versus During the COVID-19 Crisis: Longitudinal Evidence From the United Kingdom



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Introduction: Emerging evidence suggests that the COVID-19 pandemic and associated lockdown restrictions may have influenced alcohol consumption. This study examines changes in high-risk alcohol consumption from before to during the COVID-19 crisis in an established cohort of middle-aged British adults.

Methods: Participants consisted of 3,358 middle-aged adults from the 1970 British Cohort Study who completed the Alcohol Use Disorders Identification Test for detecting hazardous drinkers in primary care settings in 2016–2018 (when aged 46–48 years) and May 2020 (aged 50 years). Multivariable logistic regression analysis was used to examine changes in high-risk drinking (scores of ≥ 5), and multinomial regression was used to compare responses with individual test items in 2016–2018 and May 2020.

Results: Among middle-aged British adults, high-risk drinking increased by 5.2 percentage points from 19.4% to 24.6% ($p < 0.001$) between 2016–2018 and May 2020. The increase in high-risk drinking was not moderated by sex, marital status, educational attainment, the presence of a chronic illness, or the year the baseline survey was completed. The prevalence of drinking ≥ 4 times a week doubled from 12.5% to 26% from before to during the pandemic ($p < 0.001$), and there was also evidence of an increase in the frequency of being unable to stop drinking.

Conclusions: This study provides evidence linking the COVID-19 crisis and associated lockdown restrictions to an increase in high-risk drinking patterns and particularly frequent drinking in British adults. Potential long-term changes in drinking habits should be monitored following the emergence of the COVID-19 pandemic.

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INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic and stay-at-home orders and social distancing measures have dramatically changed daily life for much of the world's population. Although such containment strategies have been successful in reducing the impact of COVID-19 on mortality, they have also brought severe economic consequences and have been associated with a rise in isolation and psychological distress, which may contribute to increased alcohol consumption.¹

In the United Kingdom (UK), pubs, bars, and restaurants and other nonessential businesses were closed for >3

months between late March and early July 2020. During this period, retail sales of alcoholic beverages rose sharply raising concerns that alcohol misuse may have increased.^{2,3} This is particularly concerning because alcohol misuse is linked to subsequent polydrug use,⁴ can reduce immunity to viral infections, and may amplify the risk of severe illness

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for those infected by COVID-19.^{3,5} However, to date, evidence of the potential impact of the COVID-19 crisis on drinking behavior is limited.⁶

In initial studies, a substantial portion of sampled Chinese (32%), Australian (26.6%), German (34.7%), and UK (28%) adults reported drinking more alcohol during the COVID-19 pandemic and lockdown than previously,^{6–9} but these studies did not use validated measures of alcohol use and relied on retrospective recall. Furthermore, a cross-sectional survey of UK adults found a higher prevalence of high-risk drinking during lockdown than before the pandemic,¹⁰ and a longitudinal study of UK and U.S. adults identified a marked increase in drinking alcohol ≥ 4 times a week and heavy episodic drinking from before to during the COVID-19 crisis.¹¹

Although these studies are suggestive of an increase in problem drinking, there is a need for research that examines longitudinal changes in alcohol consumption using validated measures of high-risk drinking. This study examines drinking behavior among middle-aged adults in 2016–2018 and May 2020 when lockdown restrictions were in place throughout the UK.

METHODS

This study used data from the 1970 British Cohort Study (BCS), a prospective cohort study of 17,000 children born in Britain in 1970. In May 2020, a total of 10,458 BCS participants were invited to take part in a COVID-19 online survey and 4,223 participated (response rate of 40.4%). This study draws on data from those who took part in both the COVID-19 survey and the 2016–2018 wave of the BCS (N=3,358). The BCS study received ethical approval from the National Research Ethics Service. In all analyses, survey weights were applied to align the characteristics of the COVID-19 survey respondents with those of the representative sample of BCS participants born in 1970.¹²

The Alcohol Use Disorders Identification Test (AUDIT) for detecting hazardous drinkers in primary care settings (AUDIT-PC)¹³ was used to screen for potentially harmful alcohol consumption.¹⁴ The AUDIT-PC correlates very strongly with the 10-item AUDIT ($r \geq 0.95$)¹⁴ and has shown high levels of sensitivity and specificity in detecting alcohol use problems (0.84–0.94).^{13,15} For the COVID-19 survey, the AUDIT-PC was adapted by adding *Since the start of the Coronavirus outbreak* to the start of each item. Those who indicated that they did not consume an alcoholic drink in response to the first AUDIT-PC question (nondrinkers) were assigned a score of 0. Participants were classified into 2 groups: (1) nondrinkers and unproblematic drinkers (scores of 0–4 on the AUDIT-PC) and (2) high-risk drinkers (scores of ≥ 5).

All analyses were adjusted for baseline characteristics: sex, marital status (married versus not married), educational qualifications (third-level qualification such as a diploma, degree, or higher degree versus no third-level qualification), whether participants have been diagnosed with a chronic mental or physical health condition, and the year the 2016–2018 baseline survey was completed.

First, the change in high-risk drinking levels from 2016–2018 to May 2020 was examined in a logistic regression model with SEs clustered by the individual participant identifier. Next, the survey wave variable was interacted with each background characteristic to identify whether changes in high-risk drinking differed by subgroup. Finally, changes in individual AUDIT-PC item responses between 2016–2018 and May 2020 were examined using multinomial logistic regression.

RESULTS

Overall AUDIT-PC scores increased from 3.17 (SD=2.46) to 3.34 (SD=2.77) between baseline and follow-up ($p=0.003$). An increase in the prevalence of high-risk drinking from baseline to follow-up was observed across all examined groups (Table 1). Logistic regression analyses showed that high-risk drinking increased from 19.4% to 24.6% between 2016–2018 and May 2020, a statistically significant increase of 5.2 percentage points (95% CI=2.5, 8.0, $p<0.001$), which equates to a 27% increase. This increase was not moderated by participant's sex, marital status, and educational attainment, the presence of a chronic health condition, or the year the baseline survey was completed.

An examination of the individual AUDIT-PC items identified a 13.5 percentage point ($p<0.001$) increase in the prevalence of drinking ≥ 4 times per week (Table 2) from 12.5% to 26%, which equates to a 108% increase. There was also a small increase in the frequency of not being able to stop drinking on a weekly (1.9% increase) or daily (1.3%) basis and a shift toward consuming 1–2 alcoholic drinks (9.1%) (Table 2). When both the frequency of drinking and the number of alcoholic drinks typically consumed when drinking were considered simultaneously, there was an overall increase in alcohol consumption from baseline (mean=2.71) to follow-up (mean=2.82) ($b=0.11$, $SE=0.03$, $p<0.001$).

DISCUSSION

This study examined changes in high-risk alcohol consumption before versus during the COVID-19 crisis in a nationally representative cohort of middle-aged British adults. High-risk drinking increased between 2016–2018 and May 2020, as did the prevalence of drinking ≥ 4 times a week. Likewise, there was evidence of an increase in the frequency of being unable to stop drinking. Rises in high-risk drinking were observed to a similar degree among men and women and those with a lower versus higher education level as well as in married versus unmarried and those with versus those without chronic illness.

These longitudinal findings corroborate a body of largely cross-sectional research that has suggested that alcohol consumption may have increased because of the COVID-19

Table 1. Sample Characteristics and Changes in the Prevalence of High-Risk Drinking From Before (2016–2018) to During the COVID-19 Crisis (May 2020) in the 1970 British Cohort Study

Variable	Sample characteristics	High-risk drinking		Δ High-risk drinking
		2016–2018	May 2020	2016/2018–May 2020
	%	%	%	% (95% CI)
Overall sample	—	19.3	24.6	5.2*** (2.4, 8.0)
Male	50.0	24.7	29.9	5.2* (0.5, 10.0)
Female	50.0	14.0	19.2	5.2*** (2.3, 8.1)
Married	59.1	19.1	24.6	5.4*** (2.3, 8.6)
Not married	40.9	19.7	24.6	4.9 (–0.1, 9.9)
Third-level qualification	31.5	20.5	27.0	6.5*** (2.7, 10.3)
No third-level qualification	68.5	18.8	23.5	4.6* (1.0, 8.3)
Chronic illness	37.9	17.9	23.2	5.2* (0.4, 10.0)
No chronic illness	62.1	20.2	25.4	5.2** (1.8, 8.6)
Baseline survey year				
2016	27.3	21.8	26.6	4.8 (–0.2, 9.8)
2017	34.4	18.3	22.6	4.3 (–0.8, 9.5)
2018	38.3	18.5	24.8	6.3** (2.0, 10.6)

Note: Boldface indicates statistical significance (* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$).

Estimates are derived from weighted data. $N = 3,358$, observations = 6,716.

pandemic^{6–10} and one other longitudinal study examining both UK and U.S. adults.¹¹ Given that drinking is often driven by coping motives¹⁶ and middle-aged adults are already at increased risk of adopting high-risk drinking patterns^{17,18} but often fail to identify these practices as health damaging,¹⁸ the stress of the COVID-19 pandemic may be exacerbating problem drinking in this group.¹⁹ As such, investment in both mental health treatment programs and the provision of support for alcohol reduction is crucial. This need is highlighted by recent evidence

indicating that despite an increase in high-risk drinking during the lockdown in the UK, there has been a decline in the use of evidence-based support for alcohol reduction and no compensatory uptake of remote supports (telephone support, websites, smartphone applications).¹⁰

Limitations

Strengths of the present study were the use of representative longitudinal data and a widely used and validated measure of problem drinking. Limitations are (1) the reliance on a

Table 2. Regression Estimates of Percentage Point Changes in Responses to AUDIT-PC Items From Before (2016–2018) to During the COVID-19 Crisis in the 1970 British Cohort Study

AUDIT item refers to	Response to AUDIT-PC item				
	0 B (SE)	1 B (SE)	2 B (SE)	3 B (SE)	4 B (SE)
How often consumed alcohol ^a	4.3** (1.6)	–7.6*** (1.3)	–8.7*** (1.6)	–1.5 (1.6)	13.5*** (1.3)
Number of standard drinks ^b	9.1*** (1.8)	–5.3** (1.6)	–2.9** (1.1)	–0.6 (0.4)	0.2 (0.4)
How often unable to stop ^c	0.3 (1.1)	–2.9*** (0.7)	–0.6 (0.6)	1.9*** (0.5)	1.3* (0.5)
How often failed to do what was expected ^c	3.0*** (0.6)	–3.0*** (0.6)	0.0 (0.2)	0.0 (0.2)	0.0 (0.0)
Others concerned about drinking ^d	–1.6 (1.1)	—	2.0* (1.0)	—	–0.4 (0.7)

Note: Boldface indicates statistical significance (* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$).

Estimates are from marginal effects calculated after a multinomial logistic regression clustered by the individual participant identifier and controlling for covariates. Positive/negative coefficients indicate the percentage point increase/decrease in endorsements of the response category from 2016–2018 to May 2020.

^aResponses: 0=Never, 1=Monthly or less, 2=2–4 times per month, 3=2–3 times per week, 4=4+ times per week.

^bResponses: 0=1–2 drinks, 1=3–4 drinks, 2=5–6 drinks, 3=7–9 drinks, 4=10+ drinks.

^cResponses: 0=Never, 1=Less than monthly, 2=Monthly, 3=Weekly, 4=Daily/almost daily.

^dResponses: 0=No, 2=Yes, but not in the past year (Note: this second response option was omitted from the COVID-19 survey, so responses to this question from 2016 to 2018 were used to capture whether participants had experienced such concerns), 4=Yes, during the past year (2016–2018 survey)/Yes, since the start of the coronavirus outbreak (2020 survey).

AUDIT, Alcohol Use Disorders Identification Test; AUDIT-PC, Alcohol Use Disorders Identification Test for detecting hazardous drinkers in primary care settings.

single cohort (born in 1970) that may affect the generalizability of the study results, (2) the reliance on self-reported data, and (3) the time gap between baseline (2016–2018) and COVID-19 follow-up (May 2020). However, high-risk drinking has been declining in the UK in recent years (e.g., 2006–2016)²⁰ and has been shown to be highly stable across the months of the year in the UK.¹⁷ This suggests that the size of the change in drinking observed in this study (e.g., doubling of the prevalence of drinking ≥ 4 times a week) is unlikely to be explained by anticipated year-to-year trends or seasonality effects associated with the gap between baseline and follow-up or the assessment month, respectively. In line with this, there was no evidence that the size of the increase in high-risk drinking was related to the year baseline survey was completed (2016/2017/2018).

CONCLUSIONS

In a large sample of middle-aged British adults, the initial period of the COVID-19 crisis and lockdown restrictions was associated with an increase in high-risk drinking patterns and especially frequent drinking. It is important that potential long-term changes in drinking habits are monitored throughout the COVID-19 pandemic.

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