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The effect of COVID-19 Lockdown on stress coping, Alcohol Consumption, Smoking Habits, and Physical activity in private sector employees

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Abstract

The COVID-19 pandemic has triggered significant psychosocial distress, anxiety, and fear on both global and national levels. Nationwide lockdowns, implemented to curb the spread of the virus, have inadvertently contributed to a rise in mental health disorders, including anxiety, depression, and substance use disorders, particularly alcohol use disorder (AUD). These lockdowns have had profound psychosocial consequences, such as isolation, separation from loved ones, and loss of freedom. AUD is one of the leading causes of preventable death, and alcohol dependence is often linked to psychiatric conditions such as anxiety disorders, depression, panic attacks, mania, hypomania, personality disorders, schizophrenia, and suicide. The relationship between stress and alcohol consumption is bidirectional—stress can increase alcohol intake, and alcohol consumption can, in turn, heighten stress. The COVID-19 pandemic has amplified the negative consequences of alcohol use. The cancellation of in-person support groups during the pandemic made it difficult for individuals recovering from AUD to maintain sobriety. The combined impact of disrupted social support networks and the stresses of the pandemic has led to a higher rate of relapse into alcohol use. In some countries, heavy drinkers were unable to access their usual supply of alcohol, leading to sudden withdrawal symptoms and a spike in hospitalizations.

Keywords: COVID-19, alcohol consumption, private employee, stress, abstinence

1. Introduction

The COVID-19 pandemic has led to significant psychosocial distress on both global and national scales. In response, most countries implemented strict restrictions and measures, including nationwide lockdowns, to curb the spread of the virus and reduce mortality. While these lockdowns were necessary to control the pandemic, they also had the unintended effect of exacerbating mental health disorders, such as anxiety, depression, and substance use disorders, particularly alcohol use disorder (AUD). AUD is a significant contributor to the global rise in morbidity and mortality and is the third most preventable cause of death in the United States (Alcohol Facts and Statistics | National Institute on Alcohol Abuse and Alcoholism (NIAAA)). AUD leads to physiological dependence and tolerance, resulting in severe social, psychological, and physical

consequences. Individuals with AUD often experience comorbid psychiatric disorders, such as anxiety, depression, and other substance use disorders. These comorbidities may arise from shared genetic and environmental factors between AUD and other psychiatric conditions. Recent data indicate that alcohol consumption patterns changed during the COVID-19 pandemic, with some studies reporting an increase in alcohol use during quarantine. This rise in consumption is likely linked to heightened anxiety and stress related to the pandemic, with alcohol being used as a coping mechanism. The emergence of COVID-19 instilled fear and anxiety among populations, prompting governments to implement necessary measures to prevent the virus's spread. However, quarantines imposed on citizens had significant psychosocial consequences, such as isolation, separation from loved ones, and loss of freedom.

A cross-sectional study by Sprang and colleagues found that post-traumatic stress disorder (PTSD) scores were three times higher in children who experienced quarantine compared to those who did not. Other studies reported increases in irritability, mood disorders, anger, fear, insomnia, and emotional exhaustion during quarantine. Alcohol consumption among private employees is widespread, with approximately 80 percent of employees reporting alcohol use, and 50 percent of them engaging in binge drinking. Frequent heavy drinking significantly increases the risk of developing alcohol use disorder, which can lead to serious physical and emotional issues. The high level of alcohol use among private employees has become a public health concern, as it contributes to academic decline, psychological distress, suicide, accidents, and risky sexual behaviour. This drinking habit negatively impacts their academic performance, causing them to prioritize alcohol over attending classes, completing assignments, and studying for exams. The closure of colleges due to COVID-19 has further exacerbated stress levels among employees, leading to increased alcohol addiction. This study aims to identify the problems associated with alcohol use and examine how it affects the lives of these employees. The causes of stress are multifaceted and can vary widely from person to person, influenced by individual experiences, circumstances, and coping mechanisms. However, some common causes of stress include:

- Work-related stress: High workloads, tight deadlines, job insecurity, conflicts with colleagues or supervisors, and lack of control over work responsibilities can all contribute to work-related stress.
- Financial stress: Money-related issues such as debt, unemployment, inability to meet financial obligations, or unexpected expenses can be significant sources of stress for individuals and families.
- Relationship stress: Conflict, communication problems, lack of intimacy, infidelity, or breakup/divorce can all lead to stress in romantic relationships, family dynamics, or friendships.
- Health-related stress: Chronic illness, injury, disability, pain, or concerns about one's health or the health of loved ones can cause significant stress and anxiety.
- Life transitions: Major life events such as moving, starting a new job, getting married, having a baby, or experiencing the death of a loved one can all be sources of stress as individuals adjust to change.
- Environmental stressors: Factors such as noise, pollution, overcrowding, or living in an unsafe neighbourhood can contribute to stress levels.
- Academic stress: Students may experience stress related to academic pressures, such as exams, deadlines, coursework, or balancing academic and extracurricular activities.
- Social stress: Social pressures, peer pressure, bullying, social isolation, or discrimination based on factors such as race, gender, sexuality, or religion can all contribute to stress.
- Trauma and past experiences: Individuals who have experienced trauma, abuse, neglect, or other adverse childhood experiences may carry significant stress from unresolved emotional wounds.
- Internal stressors: Internal factors such as

perfectionism, self-criticism, negative self-talk, or unrealistic expectations can contribute to stress levels.

- Uncertainty and unpredictability: Uncertainty about the future, fear of the unknown, or feeling out of control can all contribute to stress and anxiety.
- Lack of coping mechanisms: Individuals who lack effective coping strategies for managing stress may feel overwhelmed and unable to cope with life's challenges.

Overall, stress is a complex and subjective experience influenced by a multitude of factors. Identifying and understanding the specific causes of stress can help individuals develop effective coping strategies and seek appropriate support to manage their stress levels and improve their overall well-being. The rest of article explores as in sections 2 discuss recently work of alcohol consumption in pandemic, in section 3 describes methodology of analysis, in section 4 conclude research work.

2. Existing study

Stress is a significant risk factor for both the onset and continuation of alcohol abuse. During the COVID-19 pandemic, many populations have experienced an increase in alcohol consumption, with respondents noting a greater use of alcohol during periods of heightened anxiety or sadness. This pattern is also observed with smoking. While the closure of campuses and the return of some students to their family homes may have reduced opportunities for smoking, the increased stress and anxiety have likely led to more frequent smoking. In some countries, such as India, there has been a notable decrease in the number of individuals attempting to quit smoking during the pandemic. The pandemic has also impacted exercise routines. Some individuals have had to suspend physical activity due to health issues, such as hospitalization or recovery, while others have been restricted by closures of gyms and limitations on outdoor activities. In Spain, for example, students and previously active individuals significantly reduced their physical activity and adopted a more sedentary lifestyle. Similar trends have been observed in other countries, where restrictions and social distancing measures have led to decreased levels of social and physical activity. This decline is concerning given that exercise plays a crucial role in managing stress and maintaining well-being. Physical activity has been shown to positively affect mental and physical health, even outside the extreme conditions of a pandemic. Students, in particular, are highly susceptible to stress, and physical activity has been demonstrated to have a protective effect on stress tolerance. Exercise has also been associated with reduced anxiety and increased resistance to occupational stress, especially among healthcare professionals. This study aims to assess stress coping strategies among private sector employees in India during the COVID-19 pandemic. We evaluated coping methods and styles at the beginning of the pandemic, six months in, and one year later, using the same measures as representative national surveys conducted before the pandemic. Additionally, we examined factors associated with stress and coping, such as alcohol consumption and smoking. Specifically, we analyzed the prevalence and intensity of alcohol use and smoking at the onset of the

pandemic and after one year. The study also assessed the level of physical activity within the examined population as a coping strategy for stress. Callinan, Sarah, and Koen Smit, Yvette Mojica-Perez (2021) ^[1] highlight shifts in alcohol consumption during the COVID-19 pandemic but note insufficient data on societal changes during this period and the effects of social distancing on alcohol use. Chen, Liwei, and Jian Li (2021) ^[2] identify lifestyle changes in the U.S. during the pandemic, comparing them with other countries. The study is limited by its one-time data collection and minimal information gathered on each lifestyle behavior due to participant burden. Sarangi, Ashish, and Noha Eskander (2021) ^[3] examine the impact of COVID-19 lockdowns on mental health, alcoholism, and psychosocial outcomes. They discuss the pandemic's effects on individuals with alcohol use disorder and highlight the influence of quarantine on domestic violence and interpersonal conflicts. However, no systematic review or quality assessment was conducted. Coakley, Kathryn E., and David T. Lardier (2021) ^[4] investigate changes in alcohol consumption among young adult students during the pandemic, linking alcohol use to anxiety and depression. The study notes a low response rate, lack of diversity, and potential recall bias in alcohol consumption reporting. It also mentions the limited representation of certain groups and the absence of clinical alcohol-related diagnoses. Vera Lukić, Maja Vujović, and Marija Definis-Gojanović (2021) ^[5] survey alcohol consumption during lockdown in the Western Balkans, addressing misconceptions about alcohol use during this period. Few participants began drinking during lockdown, and fewer found life without alcohol difficult. Estedlal, Ali Reza, and Arash Mani (2021) ^[6] conducted the study with AM and ST designing the study and analyzing the data. Other contributors analyzed data, interpreted results, and wrote the manuscript. The study faced challenges such as decreased consciousness among interviewed alcohol cases, leading to exclusions, and measurement bias due to face-to-face interviews during the early COVID-19 outbreak. Kosendiak, Aureliusz, and Magdalena Król (2021) ^[7] assess stress coping strategies among medical students during the pandemic, focusing on alcohol consumption, smoking prevalence, and physical activity. The study's cross-sectional design and narrow participant group limit generalizability, and similar studies on young people are lacking for comparison. Nicole A. VanKim and David H. Chae (2021) ^[8] conceptualized the study, performed analysis, verified methods, and interpreted the results. The study's limitations include selection bias due to non-probabilistic sampling, a cross-sectional design capturing mental health during only one period, and a focus on an urban U.S. sample, making it non-generalizable to rural populations. The study also notes difficulties in accessing healthcare for LGBTQ+ individuals during the pandemic. Tsai, Jack, and Eric B. Elbogen (2021) ^[9] report that J. Tsai designed the study and wrote the manuscript, with E. Elbogen assisting in the design and writing process. R. Pietrzak interpreted the results and contributed to the study. No conflicts of interest were reported, and specific limitations were not mentioned in the provided context. Vijilin, B. Nalatha, and J. Ethen Malar (2021) ^[10] analyze factors influencing alcohol use during COVID-19 and identify issues faced by college students due to alcohol

consumption. The study also highlights challenges such as insufficient awareness of new technologies among teachers and inadequate internet connections in remote areas. Golembeski, Carter (2021) ^[11] explores the prevalence of binge drinking among college students and the impact of COVID-19 on this behavior. The study is limited by a small sample size, reducing its generalizability, and a lack of detail in survey questions, which affects the results. Mitch Earleywine and Stimulant Norms (2021) ^[12] focus on pre-existing substance use levels and the effects of COVID-19 on alcohol and cannabis use among U.S. college students. The study employs valid measures but notes that participants are younger and not representative of all college students. The brief measures and cross-sectional data limit causal inference. Njoroge, George, and Catherine Mwenda (2021) ^[13] analyze global alcohol consumption trends from 1990 to 2030 and use AUDIT screening during COVID-19 to assess alcohol behavior. The study is limited to adults in Kenyan rehabilitation facilities during the pandemic, with data confidentiality maintained. Farhoudian, Ali, and Seyed Ramin Radfar (2021) ^[14] conduct a global survey on substance use during the COVID-19 pandemic, analyzing changes in drug supply and health system responses. The study includes participants from diverse disciplines but lacks validated measures and open-ended responses, and not all countries are represented. Stockwell, Tim, and Sven Andreasson (2021) ^[15] utilize data and news reports from North America, particularly Canada, to provide estimates subject to limitations and uncertainties, acknowledging well-known limitations in the data. Dębski, Paweł, and Szymon Florek (2021) ^[16] investigate protective factors that help cope with the COVID-19 crisis, exploring the relationships between ego-resiliency, anxiety, alcohol use, and aggression. The study's limitations include a lack of sample diversity and gender bias due to the mostly female respondents. Gratz, Kim L., and Kayla M. Scamaldo (2021) ^[17] highlight risk factors for alcohol use during the pandemic, examining the influence of financial strain and emotional acceptance on alcohol consumption. The study's generalizability is unclear due to a lack of racial and ethnic diversity in the sample. Hossain, KM Amran, and Karen Saunders (2021) ^[18] discuss the underreporting of COVID-19 deaths in Bangladesh and the prevalence of positive health behaviors during the pandemic. It also notes the lack of pre-pandemic coping strategy data for comparison but highlights successful data collection through trained local data collectors. Fendrich, Michael, and Jessica Becker (2021) ^[19] investigate the association between substance use and adherence to CDC COVID-19 guidelines, exploring links between alcohol, marijuana, and polysubstance use. The study notes concerns about the validity of self-reported substance use and the lack of socio-economic indicators in the analysis, with an MTurk sample not representative of the U.S. population. Myers, Bronwyn, and Tara Carney (2021) ^[20] describe changes in alcohol and tobacco consumption during COVID-19 restrictions, focusing on patterns within a tuberculosis cohort. The study provides insights into the effects of restricting alcohol and tobacco availability, noting that such bans alone may be insufficient for reducing related harms.

3. Materials and Methods

A well-structured questionnaire was used to collect the

necessary data which served as primary data to answer the research questions and objectives regarding significance of problems, responses and the coping technologies of top-level professionals in Bhopal. The data and information belonging to IT professionals. In this analysis consider thesis factors like recruitment and selection, training and development, career advancement, wages and allowances, promotion, welfare and social security, working condition, level of workers participation, collective bargaining, standard of safety, performance appraisal, style of leadership, work load, communication facilities, recognition of merit, authority and responsibilities, human relations, grievances handling as given in the questionnaire have been considered. The respondents are requested to express their opinion on a 5-point scale ranging from 1-stronglydisagree, 2- disagree and 3-neutral, 4- agree and 5-strongly agree.

Table 1: Model statics of determination factors

	Mean	Std. Deviation	Std. Error Mean
LOS1	3.3700	.78695	.07870
LOS2	3.4800	.68873	.06887
LOS3	3.3500	.78335	.07833
LOS4	3.0800	.77434	.07743
LOS5	3.1400	.80428	.08043
LOS6	3.6100	.58422	.05842
LOS7	3.8100	.44256	.04426
LOS8	3.6400	.55994	.05599
LOS9	3.4500	.57516	.05752
LOS10	3.7000	.59459	.05946
LOS11	3.4000	.75210	.07521
LOS12	3.6600	.51679	.05168
LOS13	3.5400	.64228	.06423
LOS14	3.8100	.44256	.04426
LOS15	3.3400	.69949	.06995
LOS16	3.7700	.50960	.05096
LOS17	3.4400	.74291	.07429
LOS18	3.4200	.71322	.07132

From a one-sample statistics table, it can be shown that the mean values of the organizational environment factors that influence employee stress are more than 2. The table shows the significance for the test value of 2.

Table 2: Stress among employee

		Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
				Lower	Upper
LOS1	4.702	.000	.37000	.2139	.5261
LOS2	6.969	.000	.48000	.3433	.6167
LOS3	4.468	.000	.35000	.1946	.5054
LOS4	1.033	.304	.08000	-.0736	.2336
LOS5	1.741	.085	.14000	-.0196	.2996
LOS6	10.441	.000	.61000	.4941	.7259
LOS7	18.303	.000	.81000	.7222	.8978
LOS8	11.430	.000	.64000	.5289	.7511
LOS9	7.824	.000	.45000	.3359	.5641
LOS10	11.773	.000	.70000	.5820	.8180
LOS11	5.318	.000	.40000	.2508	.5492
LOS12	12.771	.000	.66000	.5575	.7625
LOS13	8.408	.000	.54000	.4126	.6674
LOS14	18.303	.000	.81000	.7222	.8978
LOS15	4.861	.000	.34000	.2012	.4788
LOS16	15.110	.000	.77000	.6689	.8711
LOS17	5.923	.000	.44000	.2926	.5874
LOS18	5.889	.000	.42000	.2785	.5615

The mean values of salaries, allowances, and promotion transfer rules are found in the above table to be unimportant, whereas the remaining values are determined to be extremely significant. Therefore, it may be concluded that salary, benefits, and promotion transfers are acceptable to employees in the IT sector. The employees are happy with the following aspects of their employment: hiring and selection, training and development, career advancement, pay and benefits, promotions, welfare and social security, working conditions, level of worker participation, collective bargaining, safety standards, performance reviews, leadership styles, work load, communication tools, merit-based pay, delegation of authority and responsibility, and handling of complaints. Major organizational environment characteristics that affect workers' levels of stress A multivariate method called factor analysis is typically used to condense a huge number of variables into key ones. In this study, factor analysis was used to examine 18 factors that represented organizational climate determinants that affected employee stress. The results are shown in the table below.

Table 3: Variance of stress of employee

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8.708	48.380	48.380	6.473	35.959	35.959
2	2.292	12.735	61.115	4.109	22.829	58.789
3	1.514	8.413	69.527	1.933	10.739	69.527
4	.899	4.996	74.523			
5	.771	4.282	78.805			
6	.658	3.655	82.460			
7	.583	3.239	85.699			
8	.480	2.666	88.365			
9	.392	2.178	90.543			
10	.351	1.950	92.493			
11	.322	1.789	94.282			
12	.254	1.413	95.695			
13	.237	1.318	97.013			
14	.180	1.000	98.014			
15	.130	.720	98.734			
16	.101	.564	99.297			
17	.085	.470	99.767			
18	.042	.233	100.000			

Extraction Method: Principal Component Analysis.

From the above table, it is found that the eighteen variables explain 69.527 percent of total variance, which is statistically significant. The variables loading in each factor is established in the table.

Table 4: Rotated Component Matrix for Pre-dominant factors of Organizational climate influencing stress among the employees

	Component		
	1	2	3
LOS3	.885		
LOS1	.838		
LOS11	.828		
LOS17	.793		
LOS6	.759		
LOS18	.753		
LOS15	.746		
LOS4	.729		
LOS2	.728		
LOS5	.581		
LOS8		.842	
LOS12		.828	
LOS13		.787	
LOS16		.747	
LOS7		.729	
LOS14		.517	
LOS10			.876
LOS9			.699

4. Conclusion & Future Scope

The mental health and substance use consequences of the COVID-19 pandemic are becoming increasingly evident among private employees. Rising alcohol consumption in this group may be attributed to restrictive public health measures, social isolation, declining mental health, job loss, changes in economic circumstances, or a combination of these factors as a general coping response. This study provides crucial evidence that the severity of depression symptoms is linked to increased alcohol consumption—a significant finding even outside the context of a global pandemic. The results strongly underscore the need for mental health and alcohol-related prevention and treatment services for private employees during and after COVID-19, with a particular focus on minority students and those experiencing symptoms of depression. Preventive outreach by clinicians may be necessary to reach students displaced by the pandemic, those living in rural areas, or those without stable internet access. Recommended interventions include psychoeducation on symptomatology, increasing access to services, fostering a sense of belonging and community, campus-based self-help programs, substance-free housing, counselling services provided by trained clinicians, and efforts to reduce stigma across the campus community. Mental health and alcohol use screenings should be considered at university-based counselling centres. Telehealth services, which are likely to remain a key method of healthcare delivery long after COVID-19, must also be expanded. As vaccines become more available to private employees and university campuses reopen for in-person activities, it is critical for universities and community providers to consider the long-term mental and physical health impacts related to the increase in alcohol consumption during and after the pandemic.

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