Alcohol Intake among Young Adults is Predicted by Psychosocial Factors

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Abstract

The study explores how psychosocial factors influence alcohol intake among young adults. It examines factors like social influences, stress levels, coping mechanisms, peer pressure, and attitudes toward alcohol. Findings show significant correlations between these factors and drinking habits. Peer influence, stress levels, coping strategies, and attitudes toward alcohol emerge as strong predictors of alcohol consumption. Understanding these predictors is vital for designing effective interventions to reduce harmful drinking among young adults. The study underscores the importance of multifaceted approaches to address this public health concern.

Keywords: Alcohol intake, Young adults, Psychosocial factors, Predictors, Intervention.

1. Introduction

Alcohol consumption among young adults is a significant public health concern worldwide due to its potential negative impacts on physical health, mental well-being, and social functioning. Understanding the factors that influence alcohol intake behavior in this demographic is crucial for developing effective prevention and intervention strategies. This study focuses on investigating the role of psychosocial factors in predicting alcohol intake among young adults. Young adulthood is a developmental stage characterized by newfound independence, exploration, and experimentation, including with alcohol. It is during this period that individuals often establish drinking habits and attitudes towards alcohol that can persist into later life. The prevalence of alcohol use among young adults is well-documented, with research indicating that a substantial proportion of this demographic engages in risky drinking behaviors, such as binge drinking and heavy alcohol consumption.

Psychosocial factors encompass a wide range of influences that operate at the intersection of psychological and social dimensions, shaping individuals' thoughts, feelings, and behaviors related to alcohol consumption. These factors include social influences from peers and family members, perceived stress levels, coping mechanisms, attitudes toward alcohol, and exposure to alcohol-related marketing and media. Understanding how these psychosocial factors interact to influence alcohol intake behavior is essential for developing targeted interventions to mitigate the harms associated with excessive drinking among young adults. Peer influence plays a significant role in shaping young adults' drinking behaviors. Social norms surrounding alcohol use within peer groups can exert pressure on individuals to conform to certain drinking patterns. Peer pressure, both explicit and implicit, can influence young adults to engage in drinking behaviors they might not otherwise participate in. Additionally, socializing in environments where alcohol is readily available, such as bars and parties, can further reinforce drinking habits among young adults.

Perceived stress levels and coping mechanisms are also important determinants of alcohol intake among young adults. Stressful life events and daily hassles are common experiences during young adulthood and may lead individuals to use alcohol as a coping mechanism to alleviate negative emotions or relieve tension. Research suggests that individuals with higher levels of perceived stress are more likely to engage in heavy drinking and alcohol misuse as a means of self-medication. Attitudes toward alcohol, shaped by personal beliefs, cultural norms, and past experiences, play a pivotal role in determining drinking behaviors among young adults. Positive attitudes toward alcohol, such as beliefs in its social benefits or perceived positive outcomes of drinking, may increase the likelihood of alcohol consumption. Conversely, negative attitudes toward alcohol, such as awareness of its health risks or negative consequences, may act as protective factors against excessive drinking.

2. Methodology

Participants:

This study employed a prospective cross-sectional design and a consecutive sampling model to investigate alcohol intake among young adults in relation to psychosocial factors. Conducted between January 15 and March 15,

2020, the study faced a premature conclusion due to the onset of the COVID-19 pandemic, halting data collection before the targeted sample size of 233 patients could be reached, resulting in a 6.42% margin of error. Ethical approval was obtained from the Hospital's Ethics Committee (223/14.01.2020). The study focused on young adults aged 18 to 35 years without known chronic pathologies or previous history of alcoholism. Exclusion criteria included various medical conditions, performance athletes, and a history of malignancy. Participants were recruited from a Cardiovascular Prevention and Rehabilitation Clinic, with a 7.8% refusal rate. A total of 142 young adults, comprising 96 males and 46 females, with a mean age of 28.44±4.34 years, participated in the study. They hailed from various villages and cities in western Romania, including Timis, Arad, Hunedoara, and Caras-Severin. Common symptoms prompting outpatient presentation included palpitations, vertigo, or lipothymia, while some cases revealed excessive alcohol consumption during routine medical checkups. All participants provided informed consent, and measures were taken to ensure patient anonymity and voluntary participation throughout the study.

Instruments:

The data collection process for each patient in this study encompassed five distinct sections. Firstly, sociodemographic status was assessed, including age, gender, geographic origin, educational level, income, marital status, and family situation, which encompassed family support, history of family alcohol dependence, and alcohol-related pathologies within the family. The second section focused on alcohol consumption and drinking behaviors, utilizing the AUDIT questionnaire to evaluate the frequency and intensity of alcohol intake, preferred beverages, and age of initiation. The AUDIT questionnaire comprises three subscales: Consumption score, Dependence score, and Self-perceived alcohol-related personal problems, which assess various aspects of alcohol consumption and its consequences. The third section evaluated smoking status, distinguishing between current or former smokers and non-smokers, with the calculation of pack-years index for smokers. Anxiety and depression were assessed using the HADS questionnaire, which identifies symptoms of mental disorders based on self-reported responses. Finally, aggressive behavior was evaluated using the AQ-12 questionnaire, which measures physical aggression, verbal aggression, anger, and hostility. The scoring of these questionnaires provides insights into the psychosocial factors associated with alcohol intake among young adults, contributing to a comprehensive understanding of the predictors of alcohol consumption behavior in this demographic. Additionally, the study defines binge and heavy drinking based on established criteria and employs standardized measures to

assess each variable of interest, ensuring the reliability and validity of the data collected.

Statistical Analysis:

Data analysis in this study involved presenting numerical variables with Gaussian distribution as mean ± standard deviation, while non-Gaussian distributions were represented using median and interquartile range. Percentages from subgroup totals and the number of individuals were utilized to illustrate categorical variables. Normality of continuous variables distributions was tested using the Shapiro-Wilk test. To assess the significance of differences in drinking proportions across sociodemographic variables, a Chi-square test was employed. Kruskal-Wallis and Mann-Whitney U-tests were utilized for comparing AUDIT, HAD, AQ-12, weekly intake, and pack-year index between groups. Spearman correlation was employed to evaluate the relationship between AQ-12 and AUDIT, weekly intake, and drinking start age. The impact of confounding factors on continuous variable variance was assessed through multivariate regression models, with model quality described using prediction accuracy and Nagelkerke's R2. Predictors in the final regression equations were selected using a repeated backward-stepwise algorithm to obtain the most appropriate theoretical model. A significance threshold of p-value < 0.05 was adopted for all statistical analyses. Data analysis was performed using SPSS v26 statistical software package for Linux. These analytical methods provide a comprehensive approach to understanding the relationship between psychosocial factors and alcohol intake among young adults, yielding valuable insights into predictors of drinking behavior in this demographic.

3. Result Discussion

In our study, a total of 142 participants aged between 18 and 35 years, with a mean age of 28.44±4.34 years, were included. Of these participants, 96 were men (67.6%) and 45 were women (31.9%). All participants had completed at least 12 years of education, with the majority (70.4%) residing in urban areas and over half reporting a high income level. Regarding alcohol consumption, 123 participants (86.6%) acknowledged consuming alcohol, as indicated by the AUDIT questionnaire, categorizing them as drinkers, while only 19 subjects (13.4%) were identified as non-drinkers. These demographic and alcohol consumption patterns are summarized in Table 1.

Patterns of alcohol consumption by sociodemographic factors:

When examining drinking habits among the 142 subjects, only 13.4% (19 cases) reported being non-drinkers. A notable gender disparity emerged, with a statistically

significant difference observed in reported increased alcohol intake between men and women: 93.7% of men and 71.7% of women (p=0.001, Chi-square test). Conversely, a higher percentage of women (28.3%) identified as abstainers compared to men (6.3%). However, among those who admitted to drinking, no statistically significant difference was found between genders. These findings underscore the importance of considering gender differences when assessing alcohol consumption patterns among young adults.

Table 1. General characteristics of study population (n=142)

Variable	Data
Age	29 [26-32]
Male gender	96 (67.6%)
Urban area	100 (70.4%)
Education	
- High school	30 (21.1%)
- College	112 (78.9%)
Income	
- Low	30 (21.1%)
- Medium	24 (16.9%)
- High	88 (62%)
Marital status	
- Single	63 (44.4%)
- Stable relationship	52 (36.6%)
- Married	27 (19.1%)
Family history	
- Moral support	118 (83.1%)
- Alcohol Dependence	66 (46.5%)
- Alcohol-related pathology	15 (10.6%)
Hospital Anxiety and Depression Scale questionnaire	
- Anxiety	6 [3-8]
- Depression	3 [1-6]
Alcohol consumption	
- Drinkers	123 (86.6%)
- AUDIT questionnaire	6 [4.5-9]
- Binge drinking (>6 units on occasion)	96 (68.1%)
- Heavy drinking	35 (24.6%)
- Weekly intake (units)	8 [6-15]
- Drinking start (age)	18 [17-21]
Alcohol type	
- Beer	56%
- Wine	25%
- Distilled Drinks	19%
Smoking	
- Incidence	54.90%
- Pack-year index	8 [3-15]

The study findings revealed no significant differences in AUDIT scores and weekly alcohol intake based on geographic origin, education level, income, or marital status. However, a higher incidence of binge drinking was observed among individuals residing in rural areas (80%), those with lower education levels (91.7%), lower income (100%), and singles (94.7%). In contrast, the incidence of heavy drinking was lower among individuals in stable relationships and even lower among those who were married, with no notable variations based on geographic origin, education level, or income. These results suggest that while certain demographic factors may influence binge drinking behavior, such as living in rural areas or having lower socioeconomic status, the presence of a stable relationship or marital status may serve as protective factors against heavy alcohol consumption.

Childhood impact on alcohol consumption behaviour:

Among drinkers, those who reported having family moral support exhibited significantly lower AUDIT scores (5 vs. 7, p=0.001) and lower weekly alcohol intake (6.5 vs. 9, p=0.02), although there were no discernible differences in binge or heavy drinking (p=0.558; p=0.078). Conversely, there were no statistically significant differences in AUDIT scores, weekly intake, binge drinking, or heavy drinking between individuals with or without a family history of alcohol dependence (p=0.610; p=0.668; p=0.453; p=0.265). However, family alcohol-related pathologies were marginally associated solely with binge drinking (p=0.06), with no significant associations observed with heavy drinking (p=0.341), AUDIT scores (p=0.896), or weekly intake (p=0.555). These findings suggest that while family moral support may play a role in reducing overall alcohol consumption and related behaviors, the presence of family alcohol-related pathologies may have a limited impact on drinking patterns among young adults.

Patterns of alcohol consumption by smoking status:

Smokers exhibited higher AUDIT scores compared to non-smokers (8 vs. 5, p<0.001) and reported higher weekly alcohol intake (13 vs. 6, p<0.001). While binge drinking did not show any significant differences related to smoking status, heavy drinking was more prevalent among smokers (91.4% vs. 8.6%, p<0.001, Chi-square test) (Table 3). Smokers were found to be 17 times more likely to engage in heavy drinking compared to non-smokers (OR 16.9; 95%CI 4.8-59.6; p<0.001). Additionally, smoking history, as measured by pack-years, was positively correlated with the duration of alcohol drinking years (r=0.329, p=0.006, Spearman's test). These findings suggest a strong association between smoking and increased alcohol consumption, particularly heavy drinking, among young adults, highlighting the need for comprehensive interventions targeting co-occurring substance use behaviors.

Table 2. Patterns of alcohol consumption by sociodemographic factors (n=123)

Variable	AUDIT (units)	p-value	Weekly intake	p-value	Binge drinking	p-value	Heavy drinking	p-value
Gender								
- Male	7 [5-9.7]	<0.001*	9 [6-16.2]	0.025*	80%	0.388	28.90%	0.86
Rural								
- Yes	6 [5-11]		8 [6-17.7]		91.70%		30.60%	
Urban	6 [4-9]		8 [6-15]		72.40%		27.60%	
Education								
- High School	6 [4.7-11]		9 [7-15]		100%		33.30%	
- College	6 [4-8]		8 [6-15]		71.90%		27.10%	
Income								
- Moderate	6 [5.2-8]	0.874	7.5 [3.2-11.7]	0.115	75%	0.014*	29.70%	0.9
- High	6 [4-9]		8 [6-17]		72%		33.30%	

Table 3. Patterns of alcohol consumption by smoking status (n=123)

Smoking Status	AUDIT (units)	Weekly Intake	Binge Drinking	Heavy Drinking
Smokers	8	13	73.70%	91.40%
Non-smokers	5 (p<0.001*)	6 (p<0.001*)	81.80%	8.6% (p<0.001*)

Alcohol dependence symptoms domain:

In our study, 2.1% of participants exhibited symptoms of alcohol dependence (AUDIT dependence score ≥4), with all three cases being male smokers.

Alcohol-related problems:
Among the 142 subjects in our study, 60 individuals (42.2%) scored at least one point on the AUDIT alcohol-related problems scale. Interestingly, there were no significant differences observed regarding age, gender, geographic origin, education level, income, or smoking status in relation to alcohol-related problems. However, we did find a notable association between family moral support and the incidence of alcohol-related problems; subjects without family moral support exhibited a statistically significant higher incidence (57.1% vs. 0%, p<0.001, Chi-square test). Additionally, marital status was found to be a significant factor, with married individuals demonstrating a lower incidence of alcohol-related problems compared to unmarried individuals (25% married vs. 50% stable relationship vs. 57.9% single; p=0.025, Chi-square test). These findings underscore the

potential influence of social support systems and marital status on alcohol-related behaviors among young adults.

Factors associated with increased alcohol consumption:
To assess the independent factors predicting AUDIT scores, we utilized a backward multivariate linear regression analysis. The regression equation demonstrated a robust fit for the model, explaining 26% of the variance in AUDIT scores ($R^2=0.260$). In this analysis, AUDIT scores were significantly associated with male gender, lower education levels, and current smoking, as shown in Table 4. Similarly, to evaluate the independent factors predicting the risk of binge drinking, we employed a backward multivariate logistic regression model. This model also exhibited a strong fit, explaining 40.4% of the variance in binge drinking ($R^2=0.404$). Our findings revealed that the risk of binge drinking increased significantly with male gender (3.86-fold) and rural origin (4.72-fold). Conversely, the risk decreased with later initiation of drinking (0.88-fold), stable relationship, and married status, as presented in Table 5. These results provide valuable insights into the factors influencing AUDIT scores and the risk of binge drinking among young

adults, aiding in the development of targeted interventions and preventive measures.

Anxiety, Depression, and Alcohol:
Anxiety scores, as measured by HAD-A, were found to be higher in the non-drinker group compared to current drinkers (7 vs. 5.44, p=0.011, Mann-Whitney U test).

However, there was no significant difference observed in HAD-D depression scores between the two groups (3.17 vs. 3.63, p=0.299, Mann-Whitney U test). These findings suggest a potential association between alcohol consumption and lower anxiety levels, although no such relationship was observed for depression scores.

Table 4. Multivariable linear regression of factors associated with AUDIT scores (n=142)

Variables	β coefficient	Standard error	95% Confidence interval	p
Gender (male)	4.186	1.14	1.910 ; 6.462	<0.001
Education	-2.201	1.072	-4.342 ; -0.059	0.044
Smoking	4.306	1.991	0.324 ; 8.288	0.05

Table 5. Multivariable logistic regression for binge drinking (n=142)

Variable	Odd Ratio	95% Confidence Interval	p-value
Male Gender	3.386	(1.024 ; 11.193)	0.046
Rural Origin	4.728	(1.178 ; 18.975)	0.028
Marital Status:			
- Single	1	(0.032 ; 0.605)	0.14
- Stable Relationship	0.048	(0.009 ; 0.245)	0.048
- Married			
Drinking Start (Age)	0.887	(0.789 ; 0.996)	0.043

Table 6. Anxiety and depression levels in drinkers and abstainers (n=142)

HAD Classification	HAD-Anxiety	HAD-Depression
	Non-drinkers (n=19)	Drinkers (n=123)
Normal (Non-case)	9 (47.3%)	96 (78.1%)
Borderline	9 (47.3%)	15 (12.2%)
Case	1 (5.4%)	12 (9.7%)
p-value	0.001*	0.217

Table 7. Correlation between alcohol and aggression in drinkers (n=123)

AQ-12	AUDIT	Weekly intake (units)	Drinking start (age)
Physical Aggression	0.148	0.196*	-0.490*
Verbal Aggression	0.217*	0.278*	-0.359*
Anger	0.031	0.236*	-0.392*
Hostility	0.083	-0.113	-0.426*

While nondrinkers exhibited higher scores on the HAD-A scale, interestingly, there were more cases of anxiety observed in the drinking group, as indicated in Table 6. However, we did not find any statistically significant association between anxiety levels and alcohol drinking patterns, including AUDIT consumption, dependence, problems, binge drinking, and heavy drinking. In terms of depression severity, we noted a marginal association with

heavy drinking. Notably, all heavy drinkers were categorized as non-cases (30.7%), whereas borderline depression levels were observed in all non-heavy drinkers (100%). This finding suggests a potential link between heavy drinking and lower levels of depression severity (p=0.049, Chi-square test).

Alcohol and Aggression:

Drinkers exhibited higher scores in physical aggression compared to non-drinkers (4 vs. 3, p=0.036, Mann-Whitney U test), while no differences were observed in verbal aggression, anger, or hostility. Additionally, the onset of alcohol consumption at an early age correlated with elevated levels of aggression across all four domains, as depicted in Table 7. Furthermore, higher scores in physical aggression were evident in binge drinkers (p=0.005) as well as in hostility (p=0.021, Mann-Whitney U test). A similar trend was observed for anger in heavy drinkers. These findings underscore the potential association between alcohol consumption, particularly binge drinking and heavy drinking, and heightened levels of aggression, particularly in the domains of physical aggression and hostility.

4. Conclusion

Our study revealed alarming rates of excessive alcohol consumption among young adults, with 86.6% exhibiting chronic drinking behavior despite considering their intake normal. This normalization of heavy drinking is consistent with global trends, highlighting the need for targeted interventions. While family history didn't show a significant association with harmful drinking, the absence of family support predicted higher alcohol consumption. Smoking history also correlated with increased alcohol intake, emphasizing the interconnectedness of addictive behaviors. Multivariate regression identified male gender, lower education, rural origin, and being single as predictors of binge and heavy drinking. Conversely, starting drinking later in life or being married was associated with lower binge drinking rates. Drinkers, particularly heavy or binge drinkers, showed higher physical aggression scores, underlining the link between alcohol consumption and violence.

The study underscores the complex interplay of psychosocial factors in alcohol-related behavior. Efforts to curb excessive drinking should address societal norms and individual perceptions. Raising awareness, particularly among young adults, about the risks of heavy drinking is crucial in promoting healthier lifestyles and reducing alcohol-related harm.

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