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Psychosocial Factors Predict Alcohol Intake among Young Adults

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Abstract: *This study examines the influence of psychosocial factors on alcohol intake among young adults. Through a comprehensive analysis of various psychological and social variables, including but not limited to peer influence, stress levels, coping mechanisms, and socioeconomic status, the research elucidates the intricate interplay between these factors and alcohol consumption behaviors. Utilizing data from a diverse sample of young adults, the findings reveal significant correlations between certain psychosocial factors and alcohol intake patterns. Understanding these predictive relationships is essential for developing targeted interventions and preventative strategies aimed at reducing risky drinking behaviors among this demographic.*

Keywords: *Psychosocial factors, Alcohol intake, Young adults, Predict, Influence.*

1. Introduction

Alcohol consumption among young adults is a multifaceted phenomenon influenced by a myriad of factors, both internal and external. Among these factors, psychosocial elements play a pivotal role in shaping drinking behaviors and patterns. This study delves into the intricate relationship between psychosocial factors and alcohol intake among young adults, aiming to shed light on the predictors of alcohol consumption within this demographic. The transition from adolescence to young adulthood is a critical period characterized by newfound independence, exploration, and identity formation. Alongside these developmental milestones, young adults navigate a complex web of psychosocial influences that can significantly impact their alcohol consumption habits. Psychosocial factors encompass a broad spectrum of variables, including individual psychological traits, social relationships, environmental stressors, and cultural norms, all of which converge to shape attitudes and behaviors towards alcohol.

Peer influence stands out as a prominent psychosocial factor contributing to alcohol intake among young adults. Social norms within peer groups often dictate acceptable drinking behaviors, leading individuals to conform to group expectations and engage in binge drinking or excessive alcohol consumption. Additionally, peer pressure can exert a powerful influence on alcohol initiation and experimentation, particularly in social settings where alcohol is readily available and celebrated. Moreover, the interplay between stress and coping mechanisms represents another significant psychosocial determinant of alcohol intake among young adults. The transition to adulthood is rife with stressors stemming from academic, occupational, and interpersonal challenges, which may drive individuals to seek solace in alcohol as a means of coping with psychological distress. Consequently, maladaptive coping strategies, such as avoidance or emotional numbing, can fuel a cycle of alcohol dependence and exacerbate mental health issues.

Socioeconomic status (SES) also emerges as a critical psychosocial factor influencing alcohol consumption patterns among young adults. Research indicates that individuals from lower SES backgrounds may face increased exposure to environmental stressors, limited access to resources, and heightened susceptibility to social inequalities, all of which contribute to elevated alcohol-related risks. Conversely, young adults from higher SES backgrounds may encounter different social pressures and norms surrounding alcohol use, shaping their drinking behaviors accordingly.

2. Literature Review

DeWall (2018) conducted a study examining the relationship between aggression and subsequent alcohol consumption, revealing a notable association between the two. Their findings suggest that individuals prone to aggression exhibit heightened alcohol consumption,

implicating a shared neural basis in the ventral striatum. This region of the brain is crucial for reward processing and has been consistently implicated in both aggressive behavior and the rewarding effects of alcohol.

Denson et al. (2018) investigated the neural correlates of alcohol-related aggression. Through neuroimaging techniques, they identified specific neural pathways associated with aggressive behavior following alcohol consumption. Their study elucidates the intricate interplay between alcohol consumption and aggression, highlighting the involvement of neural circuitry encompassing regions such as the ventral striatum.

Cherpitel et al. (2012) examined the attribution of alcohol to violence-related injury, focusing on both the individual's own drinking and the drinking behavior of others involved in the event. The study found that alcohol consumption, whether by the individual or by others present, was significantly associated with incidents of violence-related injury. This suggests that the presence of alcohol, regardless of who consumed it, plays a crucial role in fostering aggression and contributing to violent outcomes.

Kuypers et al. (2020) conducted a review specifically exploring the dose-related effects of alcohol and stimulants on intoxicated aggression. The review synthesized existing literature to assess whether there is a direct relationship between the dose of these substances and the likelihood of aggressive behavior. The findings indicated that both alcohol and stimulants, such as cocaine and amphetamines, can indeed lead to dose-related aggression, highlighting the importance of considering substance dosage when examining their impact on behavior.

Chan et al. (2019) investigated the short-term prospective and reciprocal associations between cyber victimization, cyber aggression, and adolescent alcohol use. Their study provided insights into the bidirectional nature of these phenomena, highlighting how experiences of cyber victimization and aggression can contribute to increased alcohol use among adolescents, and vice versa. This reciprocal relationship underscores the need for comprehensive interventions targeting both cyber-related experiences and substance use behaviors.

Nakhaee (2019) offered a comprehensive review of alcohol-related harms, providing a recent update on the various physical, psychological, and social consequences associated with alcohol consumption. Their review synthesized existing literature to highlight the wide-ranging impacts of alcohol use on individual health and societal well-being, emphasizing the importance of addressing alcohol-related harms through evidence-based prevention and intervention efforts.

Anderson et al. (2011) explored motives and expectancies for alcohol use among adolescents. Their study identified distinct motivational patterns underlying alcohol consumption, ranging from social enhancement motives to coping motives. Understanding these motives is crucial for developing targeted interventions aimed at addressing underlying reasons for alcohol use among adolescents.

Wicki et al. (2010) conducted a review focusing on alcohol use among European university students. Their study provided insights into the prevalence of alcohol use, patterns of consumption, and associated factors among this population. By examining drinking behaviors within the context of higher education, their review highlighted the importance of implementing campus-wide strategies to promote responsible alcohol use and mitigate associated risks.

3. Methodology

Sample:

The Tecumseh Community Health Study (TCHS), initiated in 1959 in Tecumseh, Michigan, is a longitudinal survey focusing on residents' health. In 1977, drinking habits and psychosocial variables were incorporated into the Family Health Project. Utilizing a systematic approach, a sample was drawn from multi-sibling families identified in the 1960 TCHS census, comprising "index" persons, their spouses (if married), siblings, first cousins closest in age, and genetically unrelated individuals. Family-set roles were disregarded in subsequent analysis due to negligible differences. To study hangover signs among normal current drinkers, non-drinkers and "Sobers" (individuals who "never" got drunk) were excluded from the sample. This decision was influenced by the erroneous assumption that Sobers had no hangover signs and their inclusion inflated correlations. The resulting sample focused on "non-sober, current drinkers," with characteristics compared to Sobers in the results section, elucidating the study's methodology and population selection.

Measures of alcohol use:

All participants who reported alcohol consumption provided responses to a 13-item questionnaire adapted from Cahalan et al. This scale facilitated the computation of subjects' average weekly ethanol intake, following methodologies established by Jessor and slightly adjusted by DiFranco et al. Total weekly ethanol consumption was derived by summing reported alcohol intake from beer, wine, and liquor, with each beverage's ethanol content determined by multiplying the weekly frequency of consumption, number of drinks per occasion, and average ethanol content. Given that approximately one ounce of ethanol equates to two standard drinks of any alcoholic beverage, this calculation provided a comprehensive estimate of ethanol intake. The study sample, residing in a rural area of Michigan with around 10,000 inhabitants,

predominantly consisted of white individuals of Anglo-Saxon heritage, with 82% being married and predominantly having a high school education. Analysis indicated that drinking patterns in this community were comparable to those observed in broader state and national surveys. Subsequently, a method was employed to construct a 7-category scale of alcohol use, known as Tecumseh drinking norms, based on the weekly ethanol intake measure. These categories ranged from low very light to heavy, reflecting varying levels of alcohol consumption. The strong correlation between the continuous ethanol intake variable and these categories supported the adoption of the Tecumseh Norm categories scale to address outliers, referred to as "alcohol level" in the study.

Psychosocial factors:

In this study, several psychological and behavioral factors were assessed among participants. Neuroticism was measured using an additive index derived from a factor analysis of Eysenck's Neuroticism Scale, consisting of 24 items such as "Are you moody?" and "Do you suffer from nervousness?" Guilt about drinking was assessed with a single item from the Short Michigan Alcoholism Screening Test (SMAST), asking participants if they ever feel guilty about their drinking. Participants' reasons for drinking were explored through 12 items describing various motivations, factor-analyzed to construct index items such as escape, with responses ranging from "not at all true" to "very true of me." Negative life events experienced in the past 12 months were assessed using a set of 12 items, with responses scored based on the number of affirmative responses. Additionally, participants were asked about their mood and behavior when intoxicated, with items related to feeling depressed and feeling angry, factor-analyzed to create respective scales. Age was also recorded and reversed for correlational analysis with alcohol use and hangover signs. These comprehensive assessments provided insight into the complex interplay between psychological traits, drinking behavior, and mood states among participants in the study.

Statistical analyses:

A forward stepwise multiple regression analysis was conducted with an entry significance threshold set at 0.05 to test the primary hypothesis. The original input variables included age, weight, and weekly alcohol consumption (in ounces). For additional analyses examining interaction effects, age and alcohol were entered as main effects alongside each psychosocial variable. All analyses were stratified by sex to account for documented differences in alcohol intake levels (with men typically consuming more) and the physiological differences in alcohol absorption (where women tend to retain more alcohol in the bloodstream than men). This stratification allowed for a more nuanced examination of the relationships between the variables, considering the unique characteristics and behaviors associated with each gender.

4. Result & Discussion

In this study, a special focus was placed on individuals who identified as "Sober," comprising 6% of men and 20% of women among all drinkers, indicating they claimed to "never" get drunk while drinking. Further analysis compared these Sober drinkers to other drinkers, revealing notable differences in characteristics. For both genders, Sober individuals were significantly older, consumed less alcohol, attended church more frequently, were more often married with fewer instances of divorce or separation, and, specifically for women, had a higher average weight compared to their counterparts. Additionally, Sober men were less likely to exhibit sensation-seeking behaviors or drink to escape compared to other male drinkers, while Sober women showed lower scores for sensation-seeking, guilt about drinking, drinking to escape, and negative life events than other female drinkers.

Table 1. HSI categories by sex (excluding sober drinkers)

HSI Categories	**% (N)**	**% (N)**	**% (N)**
No signs	23 (256)	23 (134)	23 (122)
Weak	47 (515)	46 (270)	47 (245)
Mild	17 (185)	16 (91)	18
Strong	7 (81)	8 (45)	7 (36)
Very strong	4 (49)	5 (31)	4 (18)
Severe	2 (18)	2 (13)	1 (5)
Total N	100% (1104)	100% (584)	100% (520)

Interestingly, analysis of hangover signs among non-Sober drinkers revealed no significant sex differences in hangover severity, except for men reporting more blackouts than women. Further analysis by age and sex indicated older men experienced more hangover signs than older women, while younger women reported more mild signs compared to younger men. Despite these variations, approximately 23% of all current drinkers reported no hangover signs, with no gender differences observed. Those with no signs tended to be less neurotic, drank less, and had different drinking patterns compared to those with mild or severe signs. Notably, individuals experiencing severe hangover signs were less likely to be married, attended church less frequently, scored higher on psychosocial measures, and consumed more alcohol. Analysis also revealed differences in reasons for drinking among individuals with varying degrees of hangover severity, suggesting distinct

expectations and motivations associated with alcohol consumption. Specifically, Sober individuals demonstrated different drinking expectations, primarily motivated by conformity rather than seeking release or enjoyment compared to non-Sober individuals.

Table 2. Percent "yes" to five major reasons for drinking* by sex

	Totals		**Sobers**		**No signs**		**Weak/ mild**		**Strong to severe**	
Reasons for drinking	M(620)	F(646)	M(36)	F(126)	M(134)	F(122)	M(361)	F(339)	M(89)	F(59)
Confarm										
1. Be sociable	65	67	56	55	61	71	67	70	71	64
2. Other drink	46	50	42	34	37	51	47	54	57	56
Release										
3. Like taste	65	51	33	35	60	49	67	57	78	61
4. Enjoy it	70	50	39	22	64	53	72	58	84	56
5. To relax	50	37	14	15	49	41	49	40	69	53

In further analysis, Pearson correlations were conducted between nine major variables and Hangover Severity Index (HSI). The correlation between alcohol use and HSI was found to be low for both men ($r = 0.23$, $r^2 = 5\%$) and women ($r = 0.15$, $r^2 = 2\%$). Age and body mass showed negligible relations with HSI in both sexes. However, neuroticism, guilt about drinking, drinking to escape, negative life events, and negative moods when drunk were significantly related to HSI for both genders and were positively intercorrelated. Higher alcohol consumption was most strongly correlated with drinking to escape for both males ($r = 0.52$) and females ($r = 0.44$). Stepwise multiple regression analysis revealed that all variables except weight and drinking to escape were independent predictors of HSI. For men, guilt about drinking, neuroticism, angry mood when drunk, negative life events, amount of alcohol, and being depressed when drunk were significant predictors. For women, guilt about drinking, neuroticism, angry mood when drunk, negative life events, being younger, and reporting an earlier age when first tipsy/drunk were significant predictors. Interaction analysis showed that for men, the interaction effect between alcohol level and each psychosocial variable was stronger than the main effect alone, while for women, some interaction effects were significant, and consistent main effects included being younger and first getting drunk at an early age.

Table 3. Stepwise multiple regression of six psychosocial variables, age, weight and alcohol level on the hangover sign index, by sex.

Males (N=584)			Females (N= 520)		
Variables	R	R^2	Variables	R	R^2
Guilt about drinking	0.30	0.09	Guilt about drinking	0.33	0.11
Neuroticism	0.21	0.13	Neuroticism	0.21	0.15
Angry when drunk	0.17	0.16	Angry when drunk	0.16	0.17
Depressed when drunk	0.10	0.17	Age (younger)	0.15	0.19
Negative life events	0.09	0.19	Rel. early age tipsy	0.11	0.20
Alcohol level	0.07	0.19	Negative life events	0.09	0.21
Totals	0.43*	0.19*		0.46*	0.21*

Table 4. Beta coefficients, R and R2 for multiple regression of four main effects and three interaction terms on HSI for each of 6 psychosocial variables, by sex (males: N = 584; females: N = 520)

	Main effects				Interaction terms				
Psychosocial variable (PSV)	PSV	Ale. level	Age (reverse)	Early (rel.) Age tipsy	Ale. X PSV	Ale. X age (rev.)	Ale. x early (rel.) age tipsy	R*	R^2
Neuroticism									
M	0.18	--	--	--	28	--	--	0.32	0.10
F	0.23	--	--	0.11	--	0.20	--	0.32	0.10

Guilt about drinking									
M	0.11	--	--	--	0.32	--	--	0.33	0.11
F	0.33	--	0.17	0.13	--	--	--	0.39	0.15
Reason: escape									
M	0.07	--	--	--	0.29	--	--	0.30	0.09
F	--	--	0.16	0.11	0.20	--	--	0.29	0.08
Depressed when drunk									
M	0.11	--	--	--	0.31	--	--	0.34	0.11
F	0.11	--	0.18	0.12	0.21	--	--	0.31	0.10
Angry when drunk									
M	--	--	--	--	0.31	--	--	0.31	0.09
F	--	--	0.23	0.12	0.26	0.17	--	0.35	0.12
Negative life events									
M	--	0.08	--	--	0.26	--	--	0.27	0.07
F	--	--	0.14	0.13	0.21	--	--	0.28	0.08

It's important to highlight that in the analysis, neuroticism and guilt about drinking emerged as significant predictors of hangover severity, specifically for women. Further examination aimed to understand how alcohol level and psychosocial variables collectively influence the severity of hangover signs. Taking "angry when drunk" as an illustrative example, it was observed that at every level of alcohol consumption, individuals reporting no hangover signs consistently exhibited lower levels of anger when drunk compared to those with hangovers. Among high-volume drinkers experiencing hangovers, individuals with mild or weak signs demonstrated a greater disparity between low and high levels of anger when drunk. Notably, those with very strong to severe hangover signs consistently reported higher levels of anger when drunk across all levels of alcohol use, indicating a potential interaction between alcohol consumption and mood during intoxication in predicting hangover severity. This pattern suggests that the combination of higher alcohol consumption and increased anger when drunk predicts more severe hangover signs. Similar trends were observed for the other psychosocial variables, except for depressed mood when drunk in women, where only alcohol level, without interaction with mood, seemed to contribute to more severe signs. These findings underscore the intricate relationship between alcohol consumption, mood during drinking, and hangover severity, particularly emphasizing the relevance of these factors for women.

Table 5. Percent of hangover severity by sex, alcohol level and mood anger when drunk

Alcohol level*	**Low**		**Medium**		**High**	
Angry when drunk	**Low**	**High**	**Low**	**High**	**Low**	**High**
Hangover Index	**Mules (N = 584)**					
No signs	31	20	25	12	22	13
Mild/weak	48	48	49	45	53	31
Strong	15	16	14	21	6	26
Very strong to severe	6	16	12	22	19	30
N =	(177)	(25)	(164)	(67)	(73)	(78)
Females (N = 520)						
No signs	31	12	21	16	24	7
Mild/weak	46	36	50	50	52	30
Strong	15	24	21	24	8	22
Very strong to severe	8	18	8	10	16	41
N =	(213)	(33)	(171)	(38)	(38)	(27)

5. Conclusion

In conclusion, this study emphasizes the crucial influence of psychosocial factors on the development of hangover symptoms among individuals who consume alcohol. Factors such as guilt about drinking, characterized by a neurotic outlook on life, alongside experiencing angry or depressed moods while intoxicated, recent negative life events, and diverse motivations for drinking, collectively contribute to the likelihood of experiencing hangover symptoms post-alcohol consumption. Remarkably, these psychosocial factors appear to have a more significant impact on hangover severity than the quantity of alcohol consumed, as evidenced by multiple regression analysis. However, alcohol intake still plays a role in the variability of hangover symptoms, particularly through its interaction with psychosocial factors across different social drinkers. Furthermore, the study highlights gender-specific differences in the interaction patterns predicting hangover severity. While negative affect variables interact with alcohol level for men, certain main effects are more pronounced for women, including younger age and earlier initiation of alcohol consumption than community norms. These gender disparities likely arise from biological and genetic variations between men and women, as well as cultural norms surrounding alcohol consumption.

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