



## Patterns of Alcohol Use and Associated Health Consequences among Youth in Ashaiman Municipality, Ghana

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### Abstract

**Background:** Alcohol abuse among young people is a growing public health concern in Ghana, yet limited studies have focused on patterns of use and health-related consequences within high-risk urban communities. This study examined the patterns and health outcomes of alcohol abuse among youth in the Ashaiman Municipality of the Greater Accra Region.

**Methods:** A cross-sectional mixed-methods design was employed, combining quantitative surveys with qualitative interviews. A structured questionnaire was administered to 150 youth aged 15–39 years sampled from twelve ghettos across Ashaiman. Additionally, 15 participants were purposively selected for in-depth interviews to provide deeper insights into the lived experiences of alcohol use. Quantitative data were analyzed using

descriptive and inferential statistics, while qualitative data were analyzed thematically.

**Results:** The majority of respondents were male (73%) and between the ages of 20 and 29 years. Most had low educational attainment and nearly half were unemployed. Patterns of alcohol use were shaped by easy availability (63%), emotional distress (57%), and peer influence (45%). Health consequences were widespread, with depression (59%), feelings of powerlessness (48%), and memory loss (43%) commonly reported. Qualitative interviews revealed that alcohol was often used as a coping mechanism for unemployment and stress, reinforced by peer dynamics, but also contributed to dependency, declining health, and reduced livelihood opportunities.

**Conclusion:** Alcohol abuse among youth in Ashaiman is driven by



structural, social, and psychological factors and is associated with significant health and socioeconomic consequences. Addressing this problem requires stricter regulation of alcohol availability, expansion of youth-focused mental health services, peer-driven prevention programs, and the creation of sustainable livelihood opportunities. These findings

## Introduction

Alcohol use among young people has become a pressing public health challenge across the globe, with significant implications for both physical and mental well-being. According to the World Health Organization (WHO, 2021), harmful alcohol consumption is one of the leading risk factors for morbidity and premature mortality worldwide, particularly among people aged 15 to 39 years. Research has shown that alcohol use often begins in adolescence and early adulthood, where it is reinforced by peer influence, cultural norms, and the search for identity (Silveri et al., 2012; Mohanan et al., 2014). Globally, nearly one in ten deaths among individuals aged 15 to 49 years is linked to alcohol abuse (Stockwell et al., 2016).

In sub-Saharan Africa, studies suggest that adolescents and young adults are at increasing risk of harmful alcohol use. For instance, research conducted in

highlight the need for multisectoral interventions that address both individual behaviors and the wider social environment sustaining alcohol use among young people in Ghana.

**Keywords:** alcohol abuse, youth, patterns, health consequences, mixed-methods. Ghana.

Nigeria, Uganda, Tanzania, Rwanda, and South Africa found that between 13% and 39% of adolescents reported consuming alcohol, with heavy episodic drinking more common among youth compared to adults (Fatoye et al., 2006; Rudatsikira et al., 2007; Francis et al., 2015; Kanyoni et al., 2015; Reddy et al., 2010). In Ghana, alcohol consumption rates among adolescents and young adults range from 12.7% to 25%, with school-going youth particularly affected (Adu-Mireku, 2003; Doku et al., 2012; Asante & Kugbey, 2019). These trends highlight a worrying trajectory in youth drinking patterns that can undermine educational attainment, increase unemployment, and lead to serious health consequences.

The Ashaiman Municipality, located in the Greater Accra Region, presents a particularly important case for examining alcohol use among young people. The municipality is densely populated, characterized by diverse socioeconomic backgrounds, and is



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widely noted for drug use and trade. Reports have documented the presence of numerous drinking spots and “ghettos” where youth gather for both recreational and problematic alcohol consumption (Graphic Online, 2016). Despite this, limited empirical research has explored the unique patterns of alcohol use and the health implications for youth in this setting.

Alcohol abuse is known to be associated with a broad range of physical and psychological effects, including depression, anxiety, memory loss, and increased vulnerability to injuries and chronic diseases (Rehm et al., 2009; Kelly, 2013). At the same time, it can contribute to social problems such as unemployment, family conflict, and risky sexual behavior (Magidson et al., 2012; Ross, 2012). Yet, while studies from other African countries provide useful insights, there is a paucity of evidence that captures the lived realities of Ghanaian youth, particularly those in urban low-income settings such as Ashaiman.

This study therefore seeks to fill this gap by examining the patterns of alcohol use among young people aged 15 to 39 years in the Ashaiman Municipality and assessing the associated consequences on their health. By focusing on a Ghanaian urban context, the study adds to the literature on youth alcohol

consumption in Africa while also informing context-specific interventions.

## Methods

### Study Design

The study adopted a cross-sectional mixed-methods design, combining both quantitative and qualitative approaches. Cross-sectional designs are appropriate for describing the prevalence and patterns of behaviors at a given point in time, especially in public health research where both breadth and depth of understanding are required (Creswell, 2003; Thomas, 2020). The quantitative component captured the frequency and triggers of alcohol use as well as health-related consequences, while the qualitative component explored more nuanced experiences of alcohol abuse.

### Study Area

The research was conducted in the Ashaiman Municipality of the Greater Accra Region, Ghana. Ashaiman is an urban municipality with a population characterized by high youth density, socioeconomic diversity, and an established reputation for drug-related activities and alcohol use (Ashaiman Municipal Assembly Report, 2022). The municipality consists of thirteen communities, each with several ghettos where young people frequently gather. These ghettos serve as hotspots for both alcohol consumption and illicit drug



trade, making Ashaiman a critical area for research on youth alcohol abuse (Graphic Online, 2016).

## Study Population and Sampling

The study population consisted of young people aged 15 to 39 years who were members of identified ghettos in Ashaiman. Inclusion criteria required participants to be within the specified age group, of sound mind, and able to provide informed consent. Exclusion criteria included individuals outside the age bracket or those unable to consent due to health or mental incapacity.

A total population of 603 youth was identified from records of ghetto attendance. Using Yamane's (1967) sample size formula with a 5% margin of error, a sample size of 241 was calculated. However, due to constraints of time and resources, 150 respondents were ultimately surveyed. This sample size falls within acceptable guidelines for exploratory cross-sectional research (Cohen, 1988; Pallant, 2016). In addition, 15 participants were purposively selected for qualitative interviews to provide deeper insights into the lived experiences of alcohol use.

## Sampling Procedure

A combination of purposive and convenience sampling was employed. Seven communities and twelve ghettos were purposively selected based on prior

knowledge of high youth patronage and reported alcohol use. Within these ghettos, convenience sampling was used, with ghetto leaders assisting in identifying willing participants. This approach is common in substance use research where populations are often hidden or hard to reach (Sharma, 2017; Sakshi, 2018). For the qualitative arm, purposive sampling ensured diversity in age, gender, and drinking histories, while still maintaining focus on individuals with direct experiences of alcohol use.

## Data Collection Instruments

Data were collected using both a structured questionnaire and an interview guide. The questionnaire comprised three sections. Section A captured demographic information such as age, gender, education, and employment status. Section B explored alcohol use patterns, drawing on items adapted from the Drinking Behaviour Pattern (DBP-20) questionnaire (Kurihara et al., 2022). Section C examined consequences of alcohol abuse on physical and mental health, adapted from the Alcohol Questionnaire, Form HIS-2/3 (U.S. Department of Commerce, 1987).

The interview guide for the qualitative component was developed to explore participants' perspectives on alcohol use, including motivations for drinking, its impact on relationships, education,



employment, finances, and overall livelihood. Questions were open-ended to allow participants to freely express their experiences and perceptions.

## Data Collection Procedure

Data collection was facilitated by six trained research assistants. Questionnaires were administered across the twelve identified ghettos, while in-depth interviews were conducted with the fifteen participants selected for the qualitative component. Each interview was conducted face-to-face in the local ghettos at times convenient to participants. Interviews were conducted in English and local languages where necessary, audio recorded with permission, and later transcribed. Prior informed consent was obtained from all participants, and anonymity was assured. Ethical approval for the study was granted by the University of Ghana Ethical Review Board.

## Data Analysis

Quantitative data were analyzed using the Statistical Package for the Social Sciences (SPSS, Version 27). Descriptive statistics such as frequencies, means, and standard deviations were computed to examine patterns of alcohol use and reported health consequences. Cross-tabulations were used to explore

relationships between demographic variables and alcohol use behaviors.

Qualitative data were analyzed thematically. Transcripts were read multiple times to ensure familiarity with the data. Coding was conducted to identify significant statements and recurring ideas, which were then grouped into broader themes such as emotional coping, family conflict, and economic disruption. These themes were compared with the quantitative findings to provide a richer, more comprehensive understanding of alcohol abuse among youth in Ashaiman (Schreier, 2013).

## Ethical Considerations

This study received ethical clearance from the University of Ghana Ethical Review Board after submission of the study objectives, research questions, and data collection instruments for review. The approval guided all field procedures and safeguarded participants' welfare throughout the research process (University of Ghana ERB approval; confidentiality and anonymity assured).

Before data collection, the research team met ghetto owners and explained the study purpose and the ethics approval. With their cooperation as community gatekeepers, questionnaires and interview sessions proceeded only after each prospective participant had the study explained to them and had signed

an informed consent form. Participation was voluntary, confidentiality was emphasized, and respondents were reminded of their right to withdraw at any point without penalty (Yin, Han, & Sng, 2016; informed consent and withdrawal procedures)

To protect identities, no personal identifiers were recorded on questionnaires or transcripts, and

## Results

**Table 1: Demographic Characteristics of Respondents**

Variable	Frequency	Percentage (%)
<b>Gender</b>		
Male	110	73
Female	40	27
<b>Age</b>		
15–19	25	17
20–24	58	38
25–29	45	30
30–39	22	15
<b>Level of Education</b>		
Basic	51	34
Secondary	50	33
Vocational/Technical	42	28
Tertiary	7	4

anonymity was maintained in all summaries and reports. Consistent with the inclusion criteria for this research, only youth aged 15 to 39 years who were of sound mind and able to provide consent were enrolled, and individuals unable to consent were excluded. These safeguards aligned with the ethics approval and strengthened participant protection during fieldwork

Employment Status		
Student	30	20
Unemployed	72	48
Self-employed	30	20
Employed	18	12
Years of Alcohol Consumption		
0–5 years	96	64
6–10 years	32	21
11–15 years	16	11
16+ years	6	4

Source: *Fieldwork (2023)*

The majority of respondents were male (73%), confirming the gendered nature of alcohol use in Ashaiman, where young men are more likely than young women to frequent ghettos and drinking spots. The largest age group was 20–24 years (38%), followed by 25–29 years (30%), suggesting that alcohol use is most concentrated in early adulthood. Educational attainment was relatively low, with nearly two-thirds of respondents reporting only basic or secondary education. Employment data revealed high unemployment (48%), with only 12% engaged in formal employment. The data also showed that most respondents (64%) had been consuming alcohol for fewer than five years, consistent with the youthful profile of the study population and indicating early initiation into drinking.

**Table 2: Patterns and Triggers of Alcohol Use**

Pattern / Trigger	Frequency	Percentage (%)
Drink when stressed/sad	85	57
Drink when with friends	68	45
Drink because alcohol is easily available	95	63

Drink because of favorite brand/ flavor	72	48
Drink for fun/celebration	54	36
Drink daily	40	27

Source: *Fieldwork (2023)*

The most reported trigger for drinking was the easy availability of alcohol (63%), highlighting how saturated the Ashaiman environment is with outlets and ghetto-based sales points. Emotional distress was also a major driver, with 57% of respondents reporting that they drank when stressed or sad. Nearly half (48%) indicated that preference for a particular alcoholic brand influenced their drinking, while 45% associated their drinking with peer contexts. A smaller proportion (27%) admitted to daily drinking, an indication of possible dependency for a subset of the youth.

**Table 3: Reported Health Consequences of Alcohol Use (N = 150)**

Consequence	Frequency	Percentage (%)
Depression / low mood	88	59
Feelings of powerlessness	72	48
Memory loss	65	43
Continued drinking despite health issues	70	47
Poor physical health / body weakness	60	40
Frequent accidents/fights	38	25

Source: *Fieldwork (2023)*

More than half of respondents (59%) reported symptoms of depression and low mood linked to drinking, while 48% felt powerless to control their alcohol use. Memory loss was reported by 43%, and nearly half (47%) admitted to continuing to drink despite experiencing health issues. Physical weakness and recurrent accidents or fights were also common, showing how alcohol use was both a mental and physical health burden.

## Qualitative Themes

The in-depth interviews with youth in Ashaiman provided richer insights into the patterns and health consequences of alcohol use. Four main themes emerged from the analysis.

### 1. Alcohol as a coping mechanism for emotional distress

Participants frequently described using alcohol as a way to manage stress, sadness, and frustration. Several noted that unemployment, financial difficulties, and family tensions triggered drinking. One young man remarked, *"When I don't get work and I sit at home, the only thing that makes me forget is the drink."* This reflects the strong role of alcohol as a self-medicating tool among vulnerable youth.

### 2. Peer influence and social belonging

Peer dynamics were central to patterns of drinking. Respondents explained that drinking together was a sign of loyalty and belonging within ghettos, and that refusing to drink often resulted in ridicule or exclusion. As one participant put it, *"When you go to the ghetto and you don't drink, you look different, like you are not part of the boys."*

### Discussion

This study examined patterns of alcohol use and the associated health

indicates that alcohol use is embedded in group identity and social bonding.

### 3. Health challenges and loss of control

Participants openly shared experiences of memory loss, physical weakness, depression, and continued drinking despite health concerns. Several admitted to blackouts or waking up without recollection of events. One respondent explained, *"Even when I want to stop, my body does not allow me. I still go back."* This highlights the progression from casual drinking to dependency and the challenges of self-regulation.

### 4. Decline in livelihood and quality of life

Drinking was also linked to reduced productivity and missed opportunities. Respondents spoke about lateness, absenteeism, and poor performance in school or work. Others described losing jobs because of alcohol-related behaviors. A participant explained, *"I lost my work because of drinking, but even after that I still use the little money I get to buy alcohol."* These narratives reflect the broader economic and social consequences identified in the survey.

consequences among youth in the Ashaiman Municipality of Ghana using a mixed-methods approach. The findings revealed that alcohol abuse is a



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significant issue among young people, shaped by environmental, emotional, and social influences. The results underscore the urgency of developing comprehensive interventions that address both individual and community-level drivers of alcohol use.

The study found that alcohol consumption was most common among young men, particularly those between 20 and 29 years of age, and was strongly influenced by unemployment and low educational attainment. This is consistent with previous research showing that youth in urban and low-income communities are more vulnerable to risky drinking behaviors due to socioeconomic pressures and limited opportunities (Addolorato et al., 2018; WHO, 2018). Easy availability of alcohol emerged as the most common trigger, reported by nearly two-thirds of respondents, which supports studies in other parts of Ghana and sub-Saharan Africa that highlight weak alcohol regulations and high environmental exposure as key drivers of youth drinking (Ayuka et al., 2014; Osei-Bonsu et al., 2017).

Emotional distress was another major factor motivating alcohol use, as more than half of respondents reported drinking when stressed or sad. The qualitative findings reinforced this, with many participants describing alcohol as a

coping mechanism for frustration, unemployment, and family conflict. These results resonate with global evidence that alcohol is often used to self-medicate negative emotions, but ultimately contributes to worsening mental health outcomes such as depression and anxiety (Crum et al., 2013; Keyes et al., 2011).

Peer influence was also found to be central to drinking patterns. The quantitative results showed that 45 percent of respondents drank when with friends, and interview participants highlighted how drinking together was a marker of belonging in the ghettos. This aligns with social learning theories, which argue that young people adopt behaviors modeled by their peers, especially in environments where alcohol use is normalized (Bandura, 2001; McAlaney et al., 2015). The cultural acceptance of drinking as a social activity therefore reinforces risky behaviors, making individual change more difficult.

In terms of health consequences, both the survey and interviews showed high levels of self-reported depression, powerlessness, and memory loss. Almost half of respondents admitted to continued drinking despite health problems, a marker of dependency. These findings are comparable to other African studies which have documented alcohol's association with poor mental



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health, physical weakness, accidents, and risky behaviors (Peltzer & Ramlagan, 2009; Obot, 2006). The accounts of blackouts, physical weakness, and emotional deterioration shared during interviews illustrate how alcohol use undermines both short-term and long-term wellbeing.

The study also highlighted economic and social consequences of alcohol use. Unemployment and job loss were strongly linked to drinking, with participants reporting missed work, poor productivity, and financial strain. These outcomes echo the World Health Organization's (2018) findings that alcohol abuse contributes significantly to reduced economic productivity and social instability in developing countries. In Ghana, where youth unemployment is already a critical issue, alcohol abuse further compounds barriers to sustainable livelihoods.

The policy implications of these findings are significant. First, the easy availability of alcohol in Ashaiman calls for stricter enforcement of licensing laws, regulation of sales in ghettos, and community-based monitoring of alcohol outlets. Second, prevention programs should incorporate mental health interventions, particularly counseling and stress management for young people, since emotional distress was a major trigger for drinking. Third, peer-centered interventions are needed

to change the culture of alcohol use in ghettos, possibly through youth clubs, mentorship programs, and alternative recreational activities. Finally, broader economic policies that create employment opportunities for young people are critical to addressing the structural drivers of alcohol abuse.

This study had some limitations. The cross-sectional design prevents causal inference, as patterns and health outcomes were measured at a single point in time. The reliance on self-reported data may have introduced recall and social desirability biases, as some respondents may have underreported their alcohol consumption. The sample was limited to ghettos in Ashaiman and may not reflect patterns in other parts of Ghana. In addition, while the qualitative interviews provided depth, the number of participants was small and may not capture the full diversity of experiences. Despite these limitations, the study provides valuable insights into the drivers and consequences of alcohol use among youth in a high-risk urban environment.

## Conclusion

This study has demonstrated that alcohol abuse among youth in the Ashaiman Municipality is both a public health and a social challenge. The findings revealed that drinking patterns are shaped by factors such as easy availability of



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alcohol, emotional distress, and peer influence, while the consequences include depression, memory loss, feelings of powerlessness, and a decline in overall health and livelihood. The qualitative evidence further illustrated how alcohol has become a coping mechanism for young people dealing with unemployment and family conflict, even though it often worsens their situation.

These results emphasize the urgent need for interventions that go beyond individual behavior change and address structural and environmental factors that sustain alcohol abuse. Stricter regulation of alcohol sales, expansion of youth mental health support, peer-focused prevention programs, and the creation of sustainable livelihood opportunities are all essential. Although the study was limited to one municipality and relied on self-reported data, it contributes valuable evidence to the growing body of research on youth alcohol abuse in Ghana and sub-Saharan Africa.

Addressing alcohol abuse among young people requires coordinated action from policymakers, health professionals, educators, and community leaders. By combining regulation, education, and social support, Ghana can reduce the burden of alcohol abuse on its youth and

secure better health and development outcomes for the future..

## References

Addolorato, G., Vassallo, G. A., Antonelli, G., Antonelli, M., Tarli, C., Mirijello, A., & Leggio, L. (2018). Binge drinking among adolescents: Epidemiological overview and proposed strategies of prevention. *Frontiers in Psychiatry*, 9, 121. <https://doi.org/10.3389/fpsyg.2018.00121>

Ashaiman Municipal Assembly Report. (2022). *Annual report on social and health conditions in Ashaiman*. Ashaiman: AMA Publications.

Ayuka, F., Barnett, R., & Bii, S. (2014). Drinking in the peripheries: Alcohol outlet density in rural and urban Kenya. *Drugs: Education, Prevention and Policy*, 21(5), 435–443. <https://doi.org/10.3109/09687637.2014.898767>

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52(1), 1–26. <https://doi.org/10.1146/annurev.psych.52.1.1>

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum Associates.

Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed*



# Pan-African Journal of Health & Psychological Sciences

[www.pajhps.org](http://www.pajhps.org)

ISSN: 3093-4737

Vol.1, Issue 2 | Oct–Dec 2025

methods approaches (2nd ed.). Sage Publications.

Crum, R. M., Mojtabai, R., Lazareck, S., Bolton, J. M., Robinson, J., Sareen, J., Green, K. M., Stuart, E. A., La Flair, L., Alvanzo, A. A., & Storr, C. L. (2013). A prospective assessment of reports of drinking to self-medicate mood symptoms with the incidence and persistence of alcohol dependence. *JAMA Psychiatry*, 70(7), 718–726. <https://doi.org/10.1001/jamapsychiatry.2013.1098>

Graphic Online. (2016, September 15). Ashaiman: A town of ghettos. Retrieved from <https://www.graphic.com.gh>

Keyes, K. M., Hatzenbuehler, M. L., & Hasin, D. S. (2011). Stressful life experiences, alcohol consumption, and alcohol use disorders: The epidemiologic evidence for four main hypotheses. *Alcohol Research: Current Reviews*, 34(4), 448–455.

Kurihara, K., Miyake, K., & Tanimoto, Y. (2022). Development and validation of the Drinking Behavior Pattern questionnaire (DBP-20). *Substance Use & Misuse*, 57(2), 149–157. <https://doi.org/10.1080/10826084.2021.2004707>

McAlaney, J., Bewick, B. M., & Hughes, C. (2015). The international development of the 'Social Norms' approach to drug education and prevention. *Drugs: Education, Prevention and Policy*, 22(2), 91–94. <https://doi.org/10.3109/09687637.2015.1007917>

*Education, Prevention and Policy*, 22(2), 91–94.

<https://doi.org/10.3109/09687637.2015.1007917>

Obot, I. S. (2006). Alcohol use and related problems in sub-Saharan Africa. *African Journal of Drug and Alcohol Studies*, 5(1), 17–26.

Osei-Bonsu, E., Oppong Asante, K., & Addae, A. A. (2017). Prevalence of alcohol use and its associated factors among junior high school students in Ghana. *Journal of Alcohol and Drug Education*, 61(1), 36–55.

Pallant, J. (2016). *SPSS survival manual* (6th ed.). McGraw-Hill Education.

Peltzer, K., & Ramlagan, S. (2009). Alcohol use trends in South Africa. *Journal of Social Sciences*, 18(1), 1–12.

Sakshi, J. (2018). Sampling techniques for hidden populations in substance use research. *International Journal of Research in Social Sciences*, 8(4), 256–263.

Schreier, M. (2013). *Qualitative content analysis in practice*. Sage.

Sharma, G. (2017). Pros and cons of different sampling techniques. *International Journal of Applied Research*, 3(7), 749–752.



# Pan-African Journal of Health & Psychological Sciences

[www.pajhps.org](http://www.pajhps.org)

ISSN: 3093-4737

Vol.1, Issue 2 | Oct–Dec 2025

Thomas, G. (2020). *How to do your research project: A guide for students* (4th ed.). Sage.

U.S. Department of Commerce. (1987). *Alcohol questionnaire: Form HIS-2/3*. Washington, DC: National Center for Health Statistics.

World Health Organization. (2018). *Global status report on alcohol and health 2018*. Geneva: WHO.

Yamane, T. (1967). *Statistics: An introductory analysis* (2nd ed.). Harper & Row.

Yin, L., Han, S., & Sng, G. (2016). Ethical considerations in research involving vulnerable populations. *Asian Bioethics Review*, 8(4), 286–295.

<https://doi.org/10.1007/s41649-016-0012-4>