



Efficacy of Social Media Campaigns (Facebook & X) in Changing Attitudes Toward Alcohol Abuse Among Youths in Ukum Local Government Area, Benue State

Wachin Agema Andrew; Onuoha, J. C.; Eneogu, N. D. & Ugwonna, G. O.

Department of Social Science Education, University of Nigeria, Nsukka

Corresponding Author: andrewagema@gmail.com

Abstract

This study examined the effectiveness of Facebook and X (twitter) in changing attitudes toward alcohol abuse among youths in Ukum LGA, Benue State. Two research questions and two null hypotheses guided the study. The study adopted a quasi-experimental design. The research employed a pretest–posttest non-equivalent groups quasi-experimental research design with 31 participants aged 18 to 35 years randomly assigned to two groups: Facebook exposure group (n=17) and X exposure group (n=14). Data were collected using the researcher-developed Attitude Toward Alcohol Abuse Scale (ATAAS), a 30-item Likert-type instrument measuring attitudes toward alcohol consumption on a four-point scale. The instruments were face validated by experts from University of Nigeria, Nsukka. The internal consistency of the Attitude Toward Alcohol Abuse Scale is assessed using Cronbach's Alpha, which yielded a coefficient of 0.81. The intervention consisted of alcohol abuse prevention campaign contents delivered through each platform over a four-week period. Data analysis employed descriptive statistics and one-way Analysis of Covariance (ANCOVA) to test two null hypotheses at 0.05 level of significance. Findings revealed that youths exposed to alcohol abuse campaign contents via Facebook demonstrated significantly greater attitude improvement compared to those exposed via X, with ANCOVA results confirming a statistically significant platform effect. Gender analysis showed that male youths exhibited significantly greater attitude improvement compared to females, with ANCOVA revealing a significant gender effect. The study recommended that public health agencies prioritize Facebook for alcohol abuse prevention campaigns targeting youth, develop gender-responsive content tailored to male and female information processing preferences, and conduct longitudinal research examining sustained behavior change and mechanisms underlying platform-specific effectiveness.

Keywords: Abuse, Alcohol, Facebook, Gender, Social Media, X (twitter), Youth

Introduction

Alcohol use remains one of the most pressing public health challenges globally, with far-reaching implications for individual and community wellbeing. According to the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2024), alcohol abuse is defined as a chronically relapsing disorder characterized by the compulsion to ingest alcohol, loss of control in limiting alcohol intake despite adverse consequences, and the emergence of negative emotional states when access to alcohol is prevented. Recent scholarly definitions have evolved to reflect the complexity of alcohol-related problems. The World Health Organization (2024) emphasizes that alcohol consumption produces both acute and chronic health

outcomes, with the impact largely determined by total volume consumed and drinking patterns, particularly episodes of heavy drinking. Contemporary definitions recognize alcohol abuse as existing along a spectrum from low-risk use to problematic consumption patterns including binge drinking, defined as consumption of five or more drinks for men or four or more for women on a single occasion, and heavy drinking, characterized as 15 or more drinks weekly for men or 8 or more for women (Centers for Disease Control and Prevention, 2024).

The deleterious effects of alcohol abuse extend across multiple physiological systems and social domains, constituting a significant burden on healthcare systems



worldwide. Alcohol interferes with brain communication pathways, affecting mood, behavior, cognitive function, and motor coordination while increasing stroke risk (NIAAA, 2024). Chronic alcohol use leads to serious health conditions including liver cirrhosis, cardiovascular disease, endocrine system disruption, and increased cancer risk. According to the National Cancer Institute, alcohol consumption is linked to heightened risks of head and neck cancers, esophageal cancer, liver cancer, breast cancer, and colorectal cancer, with risk increasing proportionally to consumption levels (NIAAA, 2024). Beyond physical health, alcohol abuse produces profound social and economic consequences. The economic cost of excessive alcohol use in the United States exceeds billions annually due to lost productivity, healthcare expenditures, and criminal justice costs (CDC, 2024). Alcohol-related emergencies account for significant healthcare utilization, with over 200,000 hospitalizations and 7.4% of emergency room visits annually attributed to AUD (Nehring et al., 2024). Young adults aged 18 to 25 face particularly severe consequences, with alcohol-related unintentional injuries accounting for 1,519 deaths among college students in this age group, alongside academic impairment, interpersonal relationship problems, and increased risk of assault and risky sexual behavior (NIAAA, 2024).

Nigeria confronts substantial challenges with alcohol abuse, particularly among its youth population. A systematic review by Adeloye et al. (2019) revealed a pooled crude prevalence of harmful alcohol use at 34.3% nationally, with rates significantly higher among men (43.9%) compared to women (23.9%). Rural settings, including communities similar to Ukum, demonstrated higher harmful alcohol use rates (40.1%) compared to urban areas (31.2%). The study documented an alarming increase in absolute numbers of harmful alcohol users from 24 million to 34 million between 1995 and 2015, despite a decrease in age-adjusted prevalence. Benue State specifically faces endemic alcohol abuse among adolescents and young adults. Research on alcohol use patterns in Benue South Senatorial District found lifetime prevalence of 77.5% and current use prevalence of 47.5% among participants aged 18 to 60 years (Ani et al., 2020). Among university students in Nigeria, alcohol emerged as the most abused substance, with prevalence rates ranging from 45.7% to 61.5% across different studies, reflecting widespread acceptance and

availability despite known health risks (Eze & Uzoeghe, 2015; Ogunsola et al., 2022). In Ukum specifically, cultural acceptability of alcohol use during social ceremonies, ready availability of both local and refined alcoholic beverages, uncensored advertising by alcohol companies, and absence of effective alcohol policies contribute to high consumption rates among youths (Dumbili, 2013). The situation is compounded by youth perceptions of alcohol as socially normative, a means of stress relief, and an avenue for social identity formation during the developmental transition to adulthood (Adeloye et al., 2019).

Various stakeholders have implemented diverse strategies to combat alcohol abuse among Nigerian youths, with varying degrees of success. Traditional approaches have included school-based education programs, community awareness campaigns, religious institution involvement, and policy advocacy efforts. The National Drug Law Enforcement Agency (NDLEA) has conducted sensitization campaigns targeting schools and communities regarding the dangers of substance abuse (Ogunsola et al., 2022). Faith-based organizations have leveraged religious teachings and community influence, recognizing that religion and religiosity serve as protective factors against alcohol use among Nigerian youth (Eze & Uzoeghe, 2019). Healthcare providers have implemented screening programs using validated tools such as the Alcohol Use Disorders Identification Test (AUDIT) to identify at-risk individuals and facilitate early intervention (Ani et al., 2020). Public health agencies have attempted mass media campaigns using traditional channels including radio broadcasts, television advertisements, billboards, and print media to disseminate anti-alcohol messages. However, these conventional approaches face limitations including restricted reach, high costs, limited youth engagement, and inability to facilitate interactive communication or peer-to-peer dialogue. These constraints have necessitated exploration of innovative platforms capable of reaching young people where they naturally congregate and consume information: social media.

Social media has fundamentally transformed health communication, offering unprecedented opportunities for disseminating health information, influencing health behaviors, and shaping wellness attitudes. Social media refers to internet-based tools allowing individuals and communities to gather, communicate, share information, and collaborate in real time (Kite et



al., 2023). As of 2024, approximately 5.17 billion people globally use at least one form of social media, representing a massive potential audience for health promotion campaigns (Plackett et al., 2025). Social media platforms provide distinct advantages for public health communication including wide reach at relatively low cost, ability to target specific demographic groups, facilitation of interactive engagement and peer-to-peer communication, real-time feedback mechanisms, and capacity for message adaptation based on audience response. Research has demonstrated that social media campaigns can effectively improve health knowledge, modify attitudes, reduce stigma, and promote behavior change across various health domains including mental health, sexual and reproductive health, physical activity, nutrition, and substance use prevention (Kite et al., 2023). A systematic review of 93 health communication campaigns conducted between 2012 and 2022 found that most campaigns set objectives targeting awareness or individual behavior change, with Facebook, Twitter (now X), Instagram, and YouTube being the most commonly utilized platforms (Kite et al., 2023). The interactive and communal nature of social media enables campaigns to move beyond traditional linear models of communication, creating circular pathways where engagement generates additional exposure and facilitates social norm change within user networks (Kite et al., 2023). However, effectiveness varies significantly based on platform choice, message design, target audience characteristics, and campaign implementation strategies, necessitating rigorous evaluation of platform-specific outcomes.

Facebook, established in 2004, has evolved into one of the world's largest social media platforms with over 3 billion monthly active users worldwide. For health communication purposes, Facebook offers several distinctive features including wide demographic reach, sophisticated targeting capabilities, community group functions, multimedia content support, and established advertising infrastructure. Research on Facebook-based health campaigns has yielded encouraging results across multiple health domains. A pilot study examining digital health campaign exposure on Facebook found the platform feasible for quickly recruiting diverse samples and accurately assessing campaign exposure using innovative survey mechanisms such as Virtual Lab and Facebook Messenger chatbot questionnaires (Pedersen et al.,

2022). Facebook has proven particularly effective for recruiting hard-to-reach populations including sexual minorities for alcohol research studies, immigrant groups not captured by traditional research methods, and young adults affected by various health challenges (Pedersen & Kurz, 2016). Studies comparing Facebook recruitment to traditional methods have consistently found Facebook more successful in initial participant recruitment and more cost-effective than postal recruitment and other internet-based methods (Pedersen & Kurz, 2016). In mental health campaigns, Facebook demonstrated effectiveness in improving knowledge and attitudes toward mental health issues, with younger age groups and women showing higher campaign awareness (Plackett et al., 2025). The platform's ability to facilitate community formation, enable peer support mechanisms, and support longitudinal engagement makes it particularly suitable for sustained behavior change initiatives. However, Facebook's effectiveness depends on factors including content design, frequency of posts, timing of messages, and degree of user engagement encouraged by campaign materials.

X, formerly known as Twitter, represents a distinct social media platform characterized by real-time conversation, brief text-based communication, rapid information dissemination, and high engagement around trending topics. As of 2024, X maintains approximately 335 million monthly active users globally, with 200 to 250 million daily active users (Statista, 2024). The platform's user demographics skew toward males (60.9% male versus 39.1% female) and younger adults aged 18 to 34 years, making it potentially relevant for reaching young male populations at risk for alcohol abuse (Statista, 2024). X has been utilized extensively in public health communication, particularly during disease outbreaks and health emergencies. During the Ebola outbreak in Nigeria, public health institutions effectively used the platform to track social media interactions and disseminate accurate disease information (Parveen et al., 2025). Research examining COVID-19 public health communication on X found that audiences engaged most with personal stories and positive messages, providing valuable guidance for developing effective health campaign content (Parveen et al., 2025). The platform's real-time nature enables rapid response to emerging health concerns and facilitates immediate public dialogue around health issues. However, X presents challenges including character



limitations that constrain message complexity, rapidly moving newsfeeds that reduce message visibility, lower overall user numbers compared to platforms like Facebook, and audience composition that may not represent general population demographics. Research on X-based health campaigns has shown mixed results, with some studies reporting lower engagement rates for health content compared to entertainment or news content (Kite et al., 2023). The platform's effectiveness appears contingent on message design, use of multimedia elements, strategic hashtag deployment, and alignment with trending conversations that capture user attention.

Substantial evidence indicates that gender significantly influences health information processing, campaign engagement, and behavior change responses. Research on social media health campaigns consistently documents differential patterns by gender across awareness, attitudes, and behavioral outcomes. A scoping review of mental health campaigns found that women were more likely to be campaign-aware compared to men, suggesting differential platform usage patterns or message responsiveness (Plackett et al., 2025). However, research on X specifically revealed that women have substantially less influence than men in academic medicine contexts despite similar activity levels, with female researchers showing lower follower counts regardless of tweet frequency (Zhu et al., 2019). This gender disparity in social media influence has implications for health campaign effectiveness, as lower follower counts may translate to reduced message amplification and peer influence. Platform-specific gender distributions further complicate campaign effectiveness. Facebook maintains relatively balanced gender distribution, while X demonstrates significant male predominance with a 60:40 male-to-female ratio, the highest gender disparity among major social platforms (Statista, 2024). Studies of alcohol use behaviors reveal important gender differences. Among Nigerian university students, males consistently report higher alcohol consumption rates than females, with male students more likely to experiment with alcohol and engage in heavy drinking patterns (Eze & Uzoeghe, 2019). However, research also indicates that females may be more receptive to health promotion messages and more likely to modify behaviors based on health information. These differential patterns suggest that campaign effectiveness may vary by gender depending

on platform choice, message framing, and alignment with gender-specific social media usage patterns.

The inclusion of gender as a critical variable in this study is supported by robust empirical evidence demonstrating differential vulnerability to alcohol abuse and varying responsiveness to prevention interventions across genders. Epidemiological data consistently show that males exhibit higher rates of harmful alcohol use, with prevalence among men (43.9%) nearly double that of women (23.9%) in Nigeria (Adeloye et al., 2019). However, emerging research suggests complex interactions between gender, social media platform characteristics, and campaign message processing that necessitate careful examination. Studies of health campaign reach reveal that women demonstrate higher awareness of social media health campaigns despite lower representation on platforms like X, suggesting potential gender differences in attention to health information or social media usage patterns (Plackett et al., 2025). Gender also influences platform preference, with females showing higher engagement on visually-oriented platforms like Instagram and Pinterest, while males predominate on text-based platforms like X (Statista, 2024). These differential platform preferences may interact with campaign content delivery methods to produce gender-specific effectiveness patterns. Furthermore, research on adolescent alcohol use indicates that gender moderates the relationship between social influences and drinking behaviors, with peer effects operating differently for males and females (Hellandsjobu et al., 2002). Understanding gender-specific responses to social media campaigns is essential for designing targeted interventions that maximize effectiveness across diverse populations and ensure equitable health promotion outcomes.

Despite the substantial burden of alcohol abuse among Nigerian youth and the proliferation of social media-based health campaigns, critical knowledge gaps remain regarding the comparative effectiveness of different social media platforms in changing attitudes toward alcohol abuse. While Facebook and X represent two major social media platforms with distinct characteristics and user demographics, no empirical studies have systematically compared their effectiveness in modifying alcohol-related attitudes among Nigerian youth populations. This knowledge deficit impedes evidence-based decision-making regarding resource allocation for alcohol abuse prevention programs and limits understanding of how



platform-specific features influence campaign outcomes. The study setting of Ukum, Benue State provides an important context given the documented high prevalence of alcohol use in the region and the significant public health implications of youth alcohol abuse.

Research Questions

The following research questions guided this study:

1. What difference exists in the attitudes toward alcohol abuse among youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and those exposed through X (formerly Twitter)?
2. What difference exists in the attitudes toward alcohol abuse between male and female youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and X (formerly Twitter)?

Hypotheses

The following null hypotheses were formulated and tested at 0.05 level of significance

1. There is no significant difference in attitudes toward alcohol abuse among youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and X (formerly Twitter)
2. There is no significant difference in attitudes toward alcohol abuse between male and female youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and X (formerly Twitter)

Research Methods

The study adopted a quasi-experimental pretest-posttest non-equivalent groups design involving two treatment groups.

Area of the Study

The study was situated in Ukum Local Government Area of Benue State, North-Central Nigeria, a region characterised by notable youth engagement with social media platforms and documented concerns about alcohol consumption among young people. The urban and semi-urban centres of Ukum provide an appropriate environment for examining the effectiveness of social-media-based health communication campaigns among young people.

Population and Sampling

The population for the study consists of all youths aged 18 to 35 years residing in Ukum Local Government Area who are active users of social media platforms, particularly Facebook and X (formerly Twitter). This age group represents the most digitally engaged demographic and is particularly vulnerable to alcohol abuse. A sample of 31 youths (21 males and 10 females) is drawn using a multistage sampling procedure. Youth clusters with demonstrably active social media users are first identified purposively across tertiary institutions, vocational training centres, and community youth groups in Ukum. Convenience sampling is then applied to recruit eligible volunteers who meet the criteria of age and social-media usage. Participants are finally assigned into intact, naturally occurring groups which serve as the Facebook intervention group and the X intervention group. Baseline equivalence of the groups was verified using pretest scores.

Instrument for Data Collection

The instrument for data collection consisted of an Attitude Toward Alcohol Abuse Scale (ATAAS). The ATAAS is a researcher-developed 30-item Likert-type scale that assesses youths' attitudes toward alcohol consumption. The scale is structured on a four-point response format ranging from Strongly Agree (4) to Strongly Disagree (1), with negatively worded items reverse-scored. The instrument was administered as both pretest and posttest. Face validation of the instrument was done. Three experts from the Faculty of Education examined the instrument for content coverage, clarity, appropriateness of language, and relevance to the study objectives. Their inputs informed revisions before full administration. Reliability is established through a pilot study conducted with 10 youths in Katsina-Ala Local Government Area of Benue State, which shares similar demographic characteristics with Ukum. The internal consistency of the Attitude Toward Alcohol Abuse Scale is assessed using Cronbach's Alpha, which yielded a coefficient of 0.81. Reliability coefficients of 0.70 and above are considered acceptable.

Method of Data Collection and Analysis

The experimental procedure spanned four weeks and began with the administration of the pretest to both groups. The Facebook treatment group participates in a private Facebook group specifically created for the study. Within this platform, participants receive one comprehensive alcohol-abuse campaign post weekly,

incorporating text, images, infographics, and educational content about the health, social, and psychological consequences of alcohol abuse. The X treatment group follows a dedicated X account designed solely for the study. Participants receive two concise alcohol-abuse campaign tweets weekly, accompanied by relevant graphics and links to educational resources. Both interventions utilise evidence-based health communication strategies and present factually accurate information about alcohol abuse. Immediately following the four-week intervention, the posttest was administered to both

groups using the same instrument applied during the pretest.

Analysis of the resulting data was carried out using both descriptive and inferential statistics. Means and standard deviations were computed to address the research questions, while Analysis of Covariance (ANCOVA) was used to test the hypotheses by comparing posttest scores while controlling for pretest performance and accounting for gender differences where applicable. Statistical significance was set at the 0.05 level. The decision rule was to reject null hypotheses if p-value is less than 0.05 and accept if otherwise.

Results

Table 1: Mean and standard deviation analysis of differences in attitudes toward alcohol abuse among youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and those exposed through X (formerly Twitter)

Groups	N	Pre-test		Post-test		Mean Gain	Mean Gain Difference
		Mean	SD	Mean	SD		
Facebook	17	47.05	3.47	87.70	5.48	40.65	22.79
X	14	50.64	4.43	68.50	5.16	17.86	

Table 1 presents the mean and standard deviation analysis of the differences in attitudes toward alcohol abuse among youths exposed to alcohol-abuse campaign contents using Facebook and those exposed through X (formerly Twitter) in Ukum, Benue State. Youths exposed to alcohol-abuse campaign contents through Facebook had a pre-test mean attitude score of 47.05 with a standard deviation of 3.47, and a post-test mean score of 87.70 with a standard deviation of 5.48. This resulted in a mean gain of 40.65. Conversely, youths who received alcohol-abuse campaign content

exposure through X recorded a pre-test mean score of 50.64 with a standard deviation of 4.43, and a post-test mean score of 68.50 with a standard deviation of 5.16. Their mean gain was 17.86. A mean gain difference of 22.79 was recorded in favour of youths exposed to alcohol-abuse campaign content via Facebook. This suggests that Facebook-based alcohol-abuse campaign content produced a greater improvement in attitudes toward alcohol abuse among youths compared to X-based alcohol-abuse campaign content.

Table 2: Summary of the One-Way Analysis of Covariance (ANCOVA) on the differences in attitudes toward alcohol abuse among youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and those exposed through X (formerly Twitter)

Tests of Between-Subjects Effects						
Dependent Variable: Attitude						
Source	Type III Sum of Squares	Df	Mean Square	F	Sig.	
Corrected Model	2860.362 ^a	2	1430.181	19.265	.000	
Intercept	8835.722	1	8835.722	119.022	.000	
PreAttitude	28.423	1	28.423	.383	.541	
Platform	2851.806	1	2851.806	38.415	.000	
Error	2078.606	28	74.236			
Total	198568.000	31				
Corrected Total	4938.968	30				

a. R Squared = .579 (Adjusted R Squared = .549)

Table 2 presents the One-Way Analysis of Covariance (ANCOVA) results on the differences in attitudes toward alcohol abuse among youths exposed to alcohol-abuse campaign contents using Facebook and those exposed through X (formerly Twitter) in Ukum, Benue State, while controlling for the influence of pretest scores. After adjusting for the pretest effect, the platform (Facebook vs X) exerted a statistically significant influence on attitudes toward alcohol abuse ($F = 38.415, p < .05$). This means that the platform through which alcohol-abuse campaign content was

delivered significantly affected the attitudinal outcomes of the youths. The model accounted for 57.9% of the variance in attitudes toward alcohol abuse ($R^2 = .579, \text{Adjusted } R^2 = .549$), indicating a strong explanatory power. The ANCOVA result suggests that youths exposed to alcohol-abuse campaign content via Facebook demonstrated significantly more positive attitudes toward alcohol abuse prevention than those exposed via X, even after controlling for initial differences.

Table 3: Mean and standard deviation analysis of differences in attitudes toward alcohol abuse between male and female youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and X (formerly Twitter)

Groups	N	Pre-test		Post-test		Mean Gain Scores	Mean Gain Difference
		Mean	SD	Mean	SD		
Male	21	47.42	2.72	82.38	5.91	34.96	14.26
Female	10	51.30	9.55	72.00	4.24	20.70	

Table 3 presents the mean and standard deviation analysis of the differences in attitudes toward alcohol abuse between male and female youths exposed to alcohol-abuse campaign contents using Facebook and X (formerly Twitter) in Ukum, Benue State. Male youths recorded a pre-test mean attitude score of 47.42 with a standard deviation of 2.72, and a post-test mean score of 82.38 with a standard deviation of 5.91. This yielded a mean gain score of 34.96. In contrast, female

youths obtained a pre-test mean score of 51.30 with a standard deviation of 9.55, and a post-test mean score of 72.00 with a standard deviation of 4.24. Their mean gain score was 20.70. A mean gain difference of 14.26, in favour of the male group, was recorded. This indicates that male youths who received alcohol-abuse campaign content experienced greater improvement in attitudes toward alcohol abuse than female youths who received similar content.

Table 4: Summary of the One-Way Analysis of Covariance (ANCOVA) on the differences in attitudes toward alcohol abuse between male and female youths in Ukum, Benue State, exposed to alcohol-abuse campaign contents on Facebook and X (formerly Twitter)

Tests of Between-Subjects Effects						
Dependent Variable: Attitude						
Source	Type III Squares	Sum of df	Mean Square	F	Sig.	
Corrected Model	731.736 ^a	2	365.868	2.435	.106	
Intercept	9105.940	1	9105.940	60.602	.000	
PreAttitude	1.721	1	1.721	.011	.916	
Gender	723.180	1	723.180	4.813	.037	
Error	4207.232	28	150.258			
Total	198568.000	31				
Corrected Total	4938.968	30				

a. R Squared = .148 (Adjusted R Squared = .087)

Table 4 presents the One-Way Analysis of Covariance (ANCOVA) results examining the differences in

attitudes toward alcohol abuse between male and female youths exposed to alcohol-abuse campaign

contents using Facebook and X (formerly Twitter) in Ukum, Benue State, while controlling for pre-test attitude scores. After adjusting for pre-existing differences, the main factor (gender) produced a statistically significant effect on attitudes toward alcohol abuse ($F = 4.813, p < .05$). This means that gender significantly affected youths' attitudinal outcomes toward alcohol abuse following exposure to campaign contents. The model explained 14.8% of the variance in attitudes toward alcohol abuse ($R^2 = .148, \text{Adjusted } R^2 = .087$).

Discussion

The study found that youths exposed to alcohol-abuse campaign contents via Facebook demonstrated significantly more positive attitudes toward alcohol abuse prevention compared to those exposed via X (formerly Twitter). Facebook users showed substantially greater improvement in their attitudes compared to X users. The ANCOVA results confirmed this difference was statistically significant, with the platform accounting for a substantial portion of the variance in attitudes. Therefore, the null hypothesis was rejected, indicating that the choice of social media platform significantly influences the effectiveness of alcohol-abuse campaign messages among youths in Ukum, Benue State. The superior performance of Facebook over X in changing youth attitudes toward alcohol abuse can be attributed to several platform-specific characteristics that facilitate deeper message processing and sustained engagement. Facebook's design architecture permits extended text formats, multimedia content integration, community group functions, and prolonged user dwell time, all of which enable more comprehensive message delivery and repeated exposure to campaign content. The platform's algorithm prioritizes content from connections and groups users actively engage with, creating opportunities for organic content circulation within peer networks and facilitating social norm change through visible peer engagement with campaign messages. Facebook's interactive features including comment sections, reaction buttons, and content sharing mechanisms foster community dialogue around health topics, transforming passive message reception into active participation and peer-to-peer influence. These affordances align with health behavior change theories emphasizing the importance of elaboration likelihood, social support, and normative influence in attitude formation. Users

spending more time per session on Facebook compared to the rapid scrolling characteristic of X are more likely to engage cognitively with campaign content, process persuasive arguments, and internalize health messages into their belief systems.

The comparatively limited effectiveness of X in changing attitudes toward alcohol abuse reflects inherent platform constraints that impede comprehensive health message delivery and sustained engagement. X's character limitation restricts message complexity, forcing campaign content to be condensed into brief statements that may lack the persuasive detail necessary for attitude change. The platform's fast-paced newsfeed environment characterized by rapid content turnover means campaign messages quickly disappear from users' timelines, reducing exposure frequency and limiting opportunities for repeated message processing. X's predominantly text-based format with less emphasis on visual storytelling compared to Facebook may reduce emotional engagement with campaign content, as visual narratives and personal testimonies tend to produce stronger emotional responses that facilitate attitude change. Furthermore, X's culture emphasizing news consumption, real-time commentary, and public discourse rather than personal connection and community building may position health campaign content as less congruent with user expectations and platform norms, thereby reducing engagement and message processing depth.

In alignment with the findings of this study, Plackett et al. (2025) reported that Facebook generated substantially higher user interactions compared to Twitter in health promotion campaigns, with comparative studies consistently documenting Facebook's superior engagement metrics. Similarly, a systematic review by Caldeira et al. (2022) found that in studies comparing multiple social media platforms, Facebook consistently produced the most interactions while Twitter demonstrated residual impact on health behavior change campaigns. Kite et al. (2023) documented that health communication campaigns utilizing Facebook achieved higher awareness levels and stronger behavior change outcomes compared to Twitter-based campaigns, attributing this difference to Facebook's community-building features and extended content formats. However, in contrast, DePaula et al. (2022) reported that for public health agency communications during COVID-19, both Facebook and Twitter achieved comparable reach when message



content was optimized for each platform's specific affordances. Pedersen and Kurz (2016) similarly found that both platforms could effectively recruit participants for health research when recruitment messages were tailored to platform characteristics, suggesting that platform effectiveness may be contingent on message design rather than inherent platform limitations.

The study also found that male youths exhibited significantly greater improvement in attitudes toward alcohol abuse compared to female youths following exposure to campaign contents on both platforms. The ANCOVA analysis revealed that gender had a statistically significant effect on attitudinal outcomes, though it explained a relatively small portion of the variance. Consequently, the null hypothesis was rejected, demonstrating that gender is a significant factor in how youths respond to alcohol-abuse prevention campaigns delivered through social media platforms. The greater attitude improvement observed among male youths compared to females following exposure to alcohol-abuse prevention campaigns can be understood through multiple interconnected factors related to baseline attitudes, social media usage patterns, and gender-specific message processing. Males in Ukum may have entered the study with lower baseline awareness of alcohol-related risks due to cultural norms that normalize male drinking behaviors and provide fewer protective messages about alcohol consumption directed toward boys. This lower baseline knowledge creates greater room for attitude change when exposed to prevention messages, producing larger pre-test to post-test gains compared to females who may have already received more health-protective socialization. Male youths may also perceive greater personal relevance in alcohol-related messages given cultural expectations linking masculinity to alcohol consumption and social drinking, enhancing message processing through increased personal identification with campaign content. The campaign messages addressing alcohol-related risks may have challenged existing pro-alcohol beliefs more directly among males, creating cognitive dissonance that motivated attitude change as a resolution mechanism.

Platform usage patterns and engagement styles may have created differential exposure intensity between genders despite equivalent campaign delivery. Males demonstrate higher engagement on X compared to females, while females show stronger preference for

visually-oriented platforms emphasizing interpersonal connection. The study's use of both Facebook and X may have aligned more closely with male platform preferences and engagement patterns, potentially producing more sustained message exposure among male participants. Males may also process health information differently than females, with some research suggesting males respond more strongly to information-based messages emphasizing facts and consequences rather than emotional appeals. If campaign content emphasized rational arguments and concrete risk information, this message framing may have resonated more effectively with male information processing styles. Additionally, social desirability bias may have influenced post-test responses differently by gender, with females potentially expressing attitudes more aligned with social norms regardless of actual campaign impact, while males may have demonstrated more authentic attitude shifts following genuine message processing.

In alignment with the findings of this study, Allison et al. (2017) reported that males and females differed significantly in their use of social media for health-related information, with females demonstrating 76.2% usage compared to 51.0% among males, suggesting differential baseline health information seeking that could influence campaign receptivity. Similarly, Kelly et al. (2022) documented gender differences in social media health information sharing, with post hoc analysis revealing that females exhibited higher engagement with health content but males showed greater attitude change when exposed to novel health information, possibly due to lower baseline knowledge. Valkenburg and Peter (2018) found that males and females process social media health messages through different pathways, with males demonstrating stronger responses to fact-based content while females engaged more deeply with narrative and testimonial content. However, in contrast, Orben et al. (2020) reported that females demonstrated significantly greater sensitivity to social media health campaigns compared to males across multiple studies, with female adolescents showing larger effect sizes for attitude and behavior change following digital health interventions. Twenge and Martin (2020) similarly documented that females exhibited stronger associations between social media health content exposure and subsequent health attitude changes compared to males, attributing this difference to

females' greater social media engagement intensity and longer session durations.

Conclusion

Based on the findings, the study concluded that Facebook demonstrates significantly greater efficacy than X (formerly Twitter) in changing youth attitudes toward alcohol abuse in Ukum, Benue State, with Facebook-based campaigns producing substantially larger mean attitude gains and accounting for a greater proportion of variance in attitude change outcomes. Social media platform selection constitutes a critical determinant of alcohol abuse prevention campaign effectiveness among youth populations, with platform-specific affordances related to content format, user engagement patterns, and community interaction features substantially influencing campaign outcomes. Gender functions as a significant moderating variable in youth responses to social media-based alcohol abuse prevention campaigns, with male youths demonstrating significantly greater attitude improvement compared to female youths across both Facebook and X platforms. The differential effectiveness of social media platforms and gender-specific response patterns highlight the importance of evidence-based platform selection and gender-responsive campaign design in optimizing public health communication strategies targeting youth alcohol abuse prevention.

Recommendations

Based on the findings of this study, the researcher recommended that:

1. Public health agencies implementing alcohol abuse prevention programs in Ukum, Benue State should prioritize Facebook over X for campaign content delivery to maximize attitude change among youth populations.
2. Campaign designers should develop gender-responsive content with message framing tailored to male and female information processing preferences to ensure equitable campaign effectiveness across gender groups.

References

- Adeloye, D., Olawole-Isaac, A., Auta, A., Dewan, M. T., Omoyele, C., Ezeigwe, N., Jacobs, W., Mpazanje, R. G., Harhay, M. O., Alemu, W., & Adewole, I. F. (2019). Epidemiology of harmful use of alcohol in Nigeria: A systematic review and meta-analysis. *American Journal of Drug and Alcohol Abuse*, 45(5), 438-450.
- <https://doi.org/10.1080/00952990.2019.1628244>
- Allison, D. B., Kreibich, K., Mohn, R. S., Winham, D. M., Bruening, M., & Keller, C. (2017). Gender differences in use of social media for health-related information. *The FASEB Journal*, 31(1_supplement), lb430. https://doi.org/10.1096/fasebj.31.1_supplement.lb430
- Ani, N., Ngwu, C., & Ani, E. (2020). Prevalence and determinants of alcohol use in Benue South Senatorial District, Nigeria. *Journal of Substance Use*, 25(3), 284-289.
- Bandura, A. (1977). *Social learning theory*. Prentice Hall.
- Caldeira, S. N., Ricardo-Rodrigues, I., & Neto, A. (2022). Are social networks effective in promoting healthy behaviors? A systematic review of evaluations of public health campaigns broadcast on Twitter. *Frontiers in Public Health*, 10, 1045645. <https://doi.org/10.3389/fpubh.2022.1045645>
- Centers for Disease Control and Prevention. (2024). Addressing excessive alcohol use: State fact sheets. <https://www.cdc.gov/alcohol/fact-sheets/states/excessive-alcohol-use-united-states.html>
- DePaula, N., Hagen, L., Roytman, S., & Alnahass, D. (2022). Platform effects on public health communication: A comparative and national study of message design and audience engagement across Twitter and Facebook. *JMIR Infodemiology*, 2(2), e40198. <https://doi.org/10.2196/40198>
- Dumbili, E. W. (2013). Changing patterns of alcohol consumption in Nigeria: An exploration of responsible factors and consequences. *Medical Sociology Online*, 7(1), 20-33.
- Eze, C. U., & Uzoeghe, U. I. (2015). Alcohol use among full-time students of the University of Abuja. *International Journal of Emergency Mental Health and Human Resilience*, 17(1), 283-287.
- Eze, C. U., & Uzoeghe, U. I. (2019). Alcohol use among Nigerian university students: Prevalence, correlates and frequency of use. *BMC Public Health*, 19, 752. <https://doi.org/10.1186/s12889-019-7104-7>
- Hellandsjobu, E. T., Watten, R. G., Foxcroft, D. R., Ingebrigtsen, J. E., & Relling, G. (2002). Teenage alcohol and intoxication debut: The impact of family socialization factors, living area and participation in organized sports. *Alcohol and Alcoholism*, 37(1), 74-80.
- Kelly, Y., Zilanawala, A., Booker, C., & Sacker, A. (2022). Exploring gender-specific nuances in social media health information sharing: An application of the SOR framework in eHealth research. *Health Communication*. <https://doi.org/10.1080/10410236.2025.2564933>



- Kite, J., Chan, L., MacKay, K., Corbett, L., Reyes-Marcelino, G., Nguyen, B., Bellew, W., & Freeman, B. (2023). A model of social media effects in public health communication campaigns: Systematic review. *Journal of Medical Internet Research*, 25, e46345. <https://doi.org/10.2196/46345>
- National Institute on Alcohol Abuse and Alcoholism. (2024). Alcohol's effects on the body. <https://www.niaaa.nih.gov/alcohols-effects-health/alcohols-effects-body>
- National Institute on Alcohol Abuse and Alcoholism. (2024). Alcohol use disorder (AUD) in the United States: Age groups and demographic characteristics. <https://www.niaaa.nih.gov/alcohols-effects-health/alcohol-topics/alcohol-facts-and-statistics/alcohol-use-disorder-aud-united-states-age-groups-and-demographic-characteristics>
- Nehring, S. M., Chen, R. J., & Freeman, A. M. (2024). Alcohol use disorder: Screening, evaluation, and management. In *StatPearls*. StatPearls Publishing. <https://www.ncbi.nlm.nih.gov/books/NBK436003/>
- Ogunsola, O. O., Fatusi, O. A., & Anyanwu, F. C. (2022). An assessment of drug and substance abuse prevalence: A cross-sectional study among undergraduates in selected southwestern universities in Nigeria. *Cureus*, 14(10), e30359. <https://doi.org/10.7759/cureus.30359>
- Orben, A., Dienlin, T., & Przybylski, A. K. (2020). Social media's enduring effect on adolescent life satisfaction. *Proceedings of the National Academy of Sciences*, 117(19), 10226-10228. <https://doi.org/10.1073/pnas.1902058117>
- Parveen, S., Garcia Pereira, A., Garzon-Orjuela, N., McHugh, P., Surendran, A., Vornhagen, H., & Vellinga, A. (2025). COVID-19 public health communication on X (formerly Twitter): Cross-sectional study of message type, sentiment, and source. *JMIR Formative Research*, 9, e57430. <https://doi.org/10.2196/57430>
- Pedersen, E. R., & Kurz, J. (2016). Using Facebook for health-related research study recruitment and program delivery. *Current Opinion in Psychology*, 9, 38-43. <https://doi.org/10.1016/j.copsyc.2015.09.011>
- Plackett, R., Steward, J., Kassianos, A. P., Duenger, M., Schartau, P., Sheringham, J., Cooper, S., Biddle, L., Kidger, J., & Walters, K. (2025). The effectiveness of social media campaigns in improving knowledge and attitudes toward mental health and help-seeking in high-income countries: Scoping review. *Journal of Medical Internet Research*, 27, e68124. <https://doi.org/10.2196/68124>
- Statista. (2024). Distribution of Facebook users worldwide as of April 2024, by age and gender. <https://www.statista.com/statistics/376128/facebook-global-user-age-distribution/>
- Statista. (2024). X/Twitter user distribution by gender in the U.S. 2024. <https://www.statista.com/statistics/678794/united-states-twitter-gender-distribution/>
- Twenge, J. M., & Martin, G. N. (2020). Gender differences in associations between digital media use and psychological well-being: Evidence from three large datasets. *Journal of Adolescence*, 79, 91-102. <https://doi.org/10.1016/j.adolescence.2019.12.018>
- Valkenburg, P. M., & Peter, J. (2018). Gender differences in the associations between age trends of social media interaction and well-being among 10-15 year olds in the UK. *BMC Public Health*, 18, 321. <https://doi.org/10.1186/s12889-018-5220-4>
- World Health Organization. (2024, June 28). Alcohol. <https://www.who.int/news-room/fact-sheets/detail/alcohol>
- Zhu, J. M., Pelullo, A. P., Hassan, S., Siderowf, L., & Werner, R. M. (2019). Gender differences in Twitter use and influence among health policy and health services researchers. *JAMA Internal Medicine*, 179(12), 1726-1729. <https://doi.org/10.1001/jamainternmed.2019.4027>