EXPOSURE AND ACCEPTANCE OF ONLINE MEDIA CAMPAIGNS ON COVID-19 VACCINES AMONG UNIVERSITY STUDENTS IN SOUTH-EAST, NIGERIA

OKONKWO, CHIZOBA PATRICIA[1] & PROF. CORNELIUS UKWUEZE[2]
1, 2 - Department of Mass Communication, Faculty of Social Sciences,
Nnamdi Azikiwe University, Awka

ABSTRACT
The study examined the exposure and acceptance of online media campaigns on Covid-19 vaccines among university undergraduate students in South East, Nigeria. research questions guided the study. Survey design with a descriptive and correlational background was adopted for the study. The population of the study is 417, 226 university undergraduate students in South East Nigeria out of which 400 students determined using Taro Yemani's formula were selected using purposive, random and accidental sampling techniques. The instrument used the questionnaire validated by three experts with Cronbach Alpha coefficient of 0.82. The data obtained was analyzed using mean, standard deviation, Z-test, Analysis of Variance, PostHoc analysis and simple and multiple linear regressions. The result of the study showed that majority of the University undergraduate students (58.250%) in South-East have a negative attitude towards online media campaigns on COVID-19 vaccines with a low level exposure and poor/low acceptance for the online media campaigns. Also, university students' attitude, level of exposure and acceptance of online media campaigns on covid-19 vaccines were significantly determined by or attributable to their acceptance, exposure and attitude when treated as dependent and independent variables in a logical order. It was recommended that the government of Nigeria and official health agencies should collaborate and employ other media along with online media for campaigns on COVID-19 vaccines in order to increase exposure and influence.

Keywords: Covid-19, Attitude, Exposure, Vaccines, acceptance

Introduction
COVID-19 pandemic has become a serious health threat and psychological burden for the global communities. According to the Johns Hopkins, Coronavirus Resource Center (JHCRC), by September 23, 2021, there have been over 230 million confirmed cases and roughly 4.7 million deaths caused by the COVID-19 worldwide. The best way to prevent COVID-19 is to avoid being exposed to the deadly virus (Connelly, 2021). In the context of the global COVID-19 pandemic, face mask wearing has become usual and ubiquitous. However, in the early stages of the COVID-19 pandemic, it took time and great effort to encourage and convince people to wear masks to prevent the spread of COVID-19 and to maintain social distancing. The quarantine and isolation due to the global COVID-19 pandemic, individuals were more likely to rely on media when they do not have first-hand experience or knowledge. Thus, mass media exposure especially online media campaigns on Covid-19 have long been regarded as important shapers of people's acceptance (Egielewa & Ate, 2020).

More so, the death toll which was as a result of Covid-19 was widely publicised by different countries of the world using various media, yet, nobody knows the number of Chinese who died because of the disease. Virologists who worked at the Wuhan laboratory such as Danielle Anderson and Shi Zhengli painted different pictures of the Wuhan institute which also became centre of clashing narratives. Since these virologist established that it could take a year or even a decade to find the cause of an infectious disease, a lot of individual could not give in to the submissions on the virus by WHO, though, they were not quick to declare it a pandemic. Although, Melinda Gates had emphasized that there will be dead bodies on the streets in African due to the pandemic, Bill Gates punctuated that the world still does not have enough data to understand why Covid-19 numbers have been low in Africa. Bill Gates' assertion became important when

questions about why Africans are not dropping dead in the streets as predicted arose. In another event, Stella Immanuel, the Nigeria-trained US doctor claimed that 350 covid-19 patients were cured using Chloroquine but WHO has never released any document agreeing to treatment with Chloroquine (Fan, Zhang & Liu, 2020). These confusing issues became more serious in the South East when the first index case was released on the order of Governor Willie Obiano after the result of the second test came out negative. In the light of these challenges, more official online media campaigns were launched in addition to existing ones by the government of different nations including Nigeria, official health organisations like WHO and CDC and other content creators and well-meaning bloggers on covid-19 vaccines.

Online media campaigns were extensively employed as a means of disseminating information to substantial segments of the population regarding the significance of disease mitigation strategies, including social distance and mask utilisation, as well as the subject of COVID-19 vaccines during the initial phases of the pandemic. Public health organisations and policymakers across several nations widely utilised online media campaign platforms as a means to disseminate information and exert influence on public behaviour (Hutchinson, 2020). It is crucial to comprehend the efficacy of these online media efforts and their impact on public acceptance and vaccine adoption, as public health organisations continue to devise measures to address the pandemic. Furthermore, the efficacy of online campaigns can be used for the implementation of additional digital interventions in the field of healthcare. However, the general population exhibits a lack of favourable disposition, limited exposure, and acceptance towards COVID-19 vaccinations, particularly in relation to online media campaigns, with university students being particularly sceptical. Health organisations and public health policy makers are thus concerned with studying the levels of exposure, and acceptance about online media campaigns focused on COVID-19 vaccines (Laato, Najmul-Islam, Nazrul-Islam & Eoin, 2020).

Exposure to misinformation on covid-19 among University students have also become a serious health threat as misleading information on the virus and vaccination keep circulating online especially via social media platforms. To tackle the problem more strategically, government, health organisations and health researchers have launched various online media campaigns on covid-19 vaccines. However, different levels of past and continuous exposure to covid-19, covid-19 vaccination misinformation have shaped peoples' desire for further exposure and acceptance of online media campaigns on covid-19 vaccines (Murtaza, 2021; Naeem, 2021). There also seem to be a correlation among students' level of exposure and acceptance to campaigns on covid-19, with each variable influencing the other. The need arose therefore, to determine University students' level of exposure to online media campaigns on covid-19 and acceptance of such campaigns as well as how the variables predict each other.

Purpose of the Study
The purpose the study was to examine the exposure and acceptance of online media campaigns on COVID-19 vaccines among university students is South-East, Nigeria.
The specific objectives of the study were to find out the:
1. the Level of exposure of university students in South-Eastern Nigeria to online media campaigns on COVID-19 vaccines;
2. Level of Acceptance of University Students in South-Eastern Nigeria of Online Media Campaigns on COVID-19 Vaccines
3. Extent to which University Students' Exposure to Online Media Campaigns on COVID-19 Vaccines is Attributable to their Acceptance;
4. Extent to which University Students' Acceptance to Online Media Campaigns on COVID-19 Vaccines is Attributable to their exposure level;

Research Questions
The following research questions guided the study:
1. What is the level of exposure of university students in South-Eastern Nigeria toonline media campaigns on COVID-19?
2. What is the level of acceptance of university students in South-Eastern Nigeria of online media campaigns on COVID-19?

3. To what extent is university students' exposure attributable to their level of acceptance of online media campaigns on COVID-19?
4. To what extent is university students' acceptance attributable to their level of acceptance of online media campaigns on COVID-19?

Method

The study adopted the survey design. The study had a descriptive background since the survey is aimed at collecting data on only students' attitude, exposure and acceptance of online media campaigns on covid-19 and describing in a systematic manner, the characteristics, features and facts about the variable from the population sample. The correlational background arises out of the fact that correlation studies sought to establish what relationship exists between two or more variables of interest to the researcher. The study was carried out in South-East Nigeria. The population of the study is 417, 226 University students in South East Nigeria. The sample for the study was determined from the population using Taro Yemani's formula to be 400. The sample size of 400 university students determined through Taro Yemani's formula was drawn from the population using a multifaceted sampling procedure.

The instrument for data collection was a research designed questionnaire titled 'Students' Exposure and Acceptance of Online Media Campaigns on COVID-19 Vaccines Questionnaire (SEAOMCCVQ)'. The instrument was validated by three experts and the reliability of instrument was established using Cronbach Alpha which yielded a coefficient of internal consistency of 0.82. The instrument was administered via an online survey platform called google forms.

Data relating to the research questions were analysed using mean, standard deviation, z-test, Analysis of variance (ANOVA) and simple and multiple linear regressions. The boundary mean (cut-off) used for decision on which items to reject or accept was determined by finding the average of the weighted response multiplied by the number of items in the subsection. The cut-off was 2.50 for all the sections. Thus, item mean below 2.50 indicated disagreement whereas item means above 2.50 indicates agreement.

Results

Table 1: Level of Exposure of University Students in South-Eastern Nigeria on Online Media Campaigns on COVID-19 Vaccines

S/N	Items	$\overline{\times}$	SD
1	I read online media campaigns on COVID-19 vaccines	2.95	0.69
2	I watch video clips on how COVID-19 vaccines work from online media campaigns on COVID-19 vaccines	2.86	0.87
3	I read information of different types of COVID-19 vaccines from online media campaigns on COVID-19 handles	1.73	0.88
4	I visit online media campaigns on COVID-19 pages to read the ingredients of the different vaccines	2.58	0.96
5	I search for online media campaigns on COVID-19 vaccines to read about the truth to the myths of the vaccines	2.46	1.02
6	I frequently watch antivaxxer's online media campaigns on COVID-19 vaccines	2.63	0.99
7	I share information from online media campaigns on COVID-19 vaccines	2.60	0.94
8	I engage in meaningful discussions on information from online media campaigns on COVID-19 vaccines	2.44	0.93
9	I update myself on the developments about the COVID-19 vaccines by flipping through online media campaign pages and handles to read more	2.74	0.98
10	I am subscribed to video alerts, new information alerts and follow pages and handles from online media campaigns on COVID-19 vaccines	2.49	0.88
	Grand Mean	2.43	

Table 1 shows that the grand mean is 2.43 and within the range of score of 1.50-2.45, indicating that university students in South-Eastern Nigeria are frequently exposed to online media campaigns on COVID-19 vaccines. The implication is that their level of exposure is low.

Table 2: Level of Acceptance of University Students in South-Eastern Nigeria of Online Media Campaigns on COVID-19 Vaccines

S/N	Items	$\bar{x}$	SD
1	Useful/Useless	2.49	1.19
2	Pleasant/Unpleasant	2.41	1.10
3	Good/Bad	1.85	0.84
4	Nice/Annoying	2.45	1.11
5	Likable/Irritating	2.16	0.95
6	Assisting/Worthless	2.33	1.15
7	Desirable/Undesirable	2.08	1.04
8	Trustworthy/ Worth discarding	2.57	0.95
9	Educating/Uneducation	2.35	1.05
10	Convincing/Doubtful	2.51	1.14
	Grand Mean	2.32	

Table 2 shows that the grand mean is 2.32 and within the range of score of 1.50-2.45, indicating that online media campaign on COVID-19 vaccines has a low acceptance level among University students in South-Eastern Nigeria.

Table 3: Extent to which University Students' Exposure to Online Media Campaigns on COVID-19 Vaccines is Attributable to their Acceptance

Model	Predictors	R	R Square	Unstandardized Coefficient (B)
1	Constant			8.659
	Acceptance level	.839[a]	.705	6.618

Table 3 shows that the R values which indicates the relationship between the variables; R-square values which indicates the percentage variance in university students' exposure to online media campaigns on COVID-19 vaccines attributable attitude, acceptance level, and the two variables together (attitude and acceptance levels). Table 3 also shows that R = 0.839 which indicates a high positive relationship between exposure to online media campaign on COVID-19 vaccines and acceptance of the online media campaign. The R^2 of 0.705 implies that 70.5% of the variance in exposure is attributed to students' acceptance of online media campaigns on COVID-19 vaccines. A unit increase in acceptance increases the students' exposure score by 6.618 thereby increasing likelihood of further exposure to online media campaigns on COVID-19.

Table 4: Extent to which University Students' Acceptance of Online Media Campaigns on COVID-19 Vaccines is Attributable to their Level of Exposure

Model	Predictors	R	R Square	Unstandardized Coefficient (B)
1	Constant			6.308
	Exposure level	.838[a]	.702	6.857

Table 4 also shows that R = 0.838 which indicates a high positive relationship between acceptance to online media campaign on COVID-19 vaccines and exposure of the online media campaign. The R^2 of 0.838 implies that 70.2% of the variance in acceptance is attributed to students' exposure to online media campaigns on COVID-19 vaccines. A unit increase in exposure increases the students' acceptance score by 6.857 thereby increasing the likelihood of higher acceptance to online media campaigns on COVID-19.

Discussion
The observations/results of the study is can be explained from the fact that students with high level of exposure to online media on COVID-19 vaccines over time, understood the truth and are able to differentiate

true from false information. The learn how the vaccines works, debunk for themselves the myths surrounding the vaccines and how they work as well as the need for booster shots for the mutants species of the virus. Such exposure makes the students to develop positive attitude towards the online media campaign on COVID-19 vaccines which further motivates them to search for and observe more online media campaigns on COVID-19 vaccines. The resultant effect of high exposure is reduction in hesitance in receiving the vaccine, a product of the acceptance of the online media campaigns on COVID-19 vaccines. The findings of the study is in line with the findings of Ekwebelm *et al.* (2022) that 346 (56%) respondents that would not take the COVID-19 vaccine, the highest marginal reasons for non-acceptance were lack of trust in the government 163 (47.1%), followed by the belief that the vaccine is not safe 67 (19.4%), and no enough information about the vaccine 49 (13.6%).

The study revealed also that when considered separately, the level of exposure to online media campaigns on COVID-19 vaccines significantly changes a students' attitude to the online media campaigns from negative to positive more than the acceptance given to it by the student. However, when considering the joint effect of exposure and acceptance levels, acceptance significantly results in a more positive attitudinal change than exposure level. The findings suggest that the more frequently students observe online media campaign on COVID-19 vaccines, the more they develop a positive attitude. This can further be explained from the fact that exposure to online media campaigns on COVID-19 vaccines precedes acceptance. Thus, a student ought to have observed an online media campaign on COVID-19 vaccines before developing any level of acceptance for it. In the order of event therefore, exposure could result in a more positive attitudinal change than acceptance. However, given a more frequent exposure, the more students accept the online media campaigns on COVID-19 vaccines, the likelihood than such increase in acceptance level causes a more positive attitudinal change than exposure. The finding of the study is in line with the findings of Adetayo, Sanni and Aborisade (2021) exposure or knowledge of COVID-19 vaccines was significantly related with intent to vaccinate and that negative attitude toward COVID-19 vaccination has an inverse, very weak, and significant relationship with intent to vaccinate.

Low level acceptance of online media campaigns on COVID-19 vaccines can be attributed to both low exposure and negative attitude because university students view the campaigns without agreeing to the content of the media. The lack of a consenting mind towards online media campaigns on COVID-19 vaccines however different for students who have high exposure and positive attitude. The study findings revealed that University students who have high level exposure to online media campaigns on COVID-19 vaccines differ significantly in their attitude towards the media campaigns when compared to those who have low or very low level of exposure. However, students with very low level exposure and those with low level exposure have the same attitude towards online media campaigns on COVID-19 vaccines. University students with positive attitude have a significantly higher level of exposure to online media campaigns on COVID-19 vaccines than those with negative attitude.

On the other hand also, University students who have high acceptance level for online media campaigns on COVID-19 vaccines differ significantly in their attitude towards the media campaigns when compared to those who have low or very low level of acceptance. However, students with very low level acceptance and those with low level acceptance have the same attitude towards online media campaigns on COVID-19 vaccines. The findings of the study supports that findings of Egielewa and Ate (2020) that 65% of the respondents believe that most messages from media campaigns on COVID-19 related health messages they got were credible and reliable. Also, University students who have high acceptance have a significantly higher level of exposure to online media campaigns on COVID-19 vaccines than those with low and very low acceptance and students with positive attitude have significantly higher acceptance for online media campaigns on COVID-19 vaccines than those with negative attitude. The findings of the study does not contravene the findings of Shaffer (2020) which surveyed people on the importance of continuing routine vaccinations during COVID19 and found that none of their online media campaigns were effective in driving such objective. They also reported that there are no guarantees that a campaign will resonate with people and yield strong outcomes, however, authoritative messages were able to achieve statistically significant results for improving perceptions of vaccine effectiveness and safety.

Conclusion

The study concludes that a higher percentage of the University students in South East have a low exposure to online media on covid-19 vaccines with a corresponding low acceptance level. The low exposure of the students is a significant factor in their low level acceptance for online media campaigns on COVID-19 vaccines and vice-versa.

Recommendations
The following recommendations are made based on the findings of the study:
1. A research based online media campaign should be shot and produced as a movie targeted on university students as a way of increasing exposure, acceptance and stirring up positive attitude development towards any further online media campaigns on COVID-19 vaccines.
2. Government and health agencies should collaborate with the big techs like Facebook, Twitter, Instagram, Whatsapp, Telegram-X and others to send to every account online media campaign on COVID-19 vaccines clip. Such clip should be tailored to in a way to quell all the myths surrounding the online media campaigns with hard facts. Alternatively, a compulsory online media campaign clips could be made by the big techs to play at every point of log into any social media account.

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