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Editor's Welcome Message

The publication of the Mediterranean Journal of Social & Behavioral Research (MJOSBR) is going to be an important contribution for social and behavioral sciences. This journal has emerged as a result of international collaboration among academic scholars throughout the world. The editorial board consists of different academics from many countries. We welcome submissions to bring international quality of MJOSBR. The strength of any good journal arises from interdisciplinary academic perspectives represented by the members of its editorial board. With the launching of our new publication, we invite readers to submit their manuscripts to the MJOSBR, and welcome all articles contributing to the improvement of social and behavioral sciences. We would like to thank to the editorial board of MJOSBR for their voluntary support. The Mediterranean Strategic Research Center is also a supporting association in collaboration with the journal which publishes books in the related fields. Please do not hesitate to send us your valuable comments and suggestions. The journal will publish refereed papers, book reviews and selected papers from conferences as well as special issues on up-to-date problematic topics. MJOSBR is a platform for exchanging views related to social, behavioral and educational research. We welcome authors with the warm senses of Mediterranean culture and share the common global ethical views of our academic world.

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Examining Educational Participation in a Developing Country: The Case of Bajo Community of Bone and Luwu Districts within South Sulawesi in Indonesia

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ABSTRACT

Education is a shared responsibility between the government, society, and parents. The involvement of Bajo Community parents in the provision of education is expected to improve the quality of education and human resources. This study aims to reveal: (1) the participation of the Bajo community in education and (2) the form of participation of the Bajo community in education in South Sulawesi. The approach used in this study is a quantitative approach with descriptive exploratory research. This research was conducted in two regencies in South Sulawesi Province, namely Bone Regency and Luwu Regency. The population is all parents of the Bajo community in Bone Regency and Luwu Regency who have children attending elementary, junior high, high school and college as many as 325, with a research sample of 50 people. Data collection techniques used questionnaires and documentation. The data analysis technique used is quantitative analysis technique using descriptive statistical analysis with the percentage formula. The results showed that (1) the participation of the Bajo community in the field of education was still low. Generally, most respondents stated that they did not participate, and only a small number stated that they always and sometimes participated in education; (2) the forms of participation of the Bajo community in education include dedicating their energy, time, ideas, and materials.

Keywords: participation, Bajo community, education

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INTRODUCTION

The Bajo community is spread across various regions of Indonesia, especially around the coasts of Kalimantan, Sumatra, Sulawesi, and Flores. In Sulawesi, Bajo communities can be found around the North coast, the Southeast of Sulawesi, Central Sulawesi, Gorontalo, and South Sulawesi (McWilliam et al., 2021). Bajo people who are also often called sea people or boat people belong to a group of people still largely living traditionally with little influence from the outside modern world, which has left them backward compared to the rest of most of Indonesia (Kusuma et al., 2017). This 'backwardness' is due to the more continental oriented planning and national development policies of more than half a century, from independence (1945) to the period (1998). As a result, the sea, including the Bajo community who live in it, is less touched by development. In addition, there are also assumptions that the Bajo people have a static attitude, only like to live at sea and depend on the sea in their traditional ways, do not like to innovate, are closed and are not able to adapt socio-culturally to the

surrounding environment. The Bajo community initially lived on boats called Bido, moving around in groups to different places according to their choice of fishing location. On this boat they live their lives from birth, have a family until the end of their lives. Therefore, the Bajo people are often called sea nomads or sea gypsies (Kusuma et al., 2017; Radcliffe-Brown, 1993). In subsequent developments, most of them have settled down at the seafront, and some of them are even located and opening new settlements such as the one in Luwu Regency.

The Bajo community cherish a nomadic life with principles such as 'being free at sea and following the movement of sustenance in the sea'. With their nomadic life, they have spread around various parts of Indonesia. In South Sulawesi, Bajo communities can be found around the coast of Luwu, Bone, Selayar Districts, and on the islands of Makassar and Pangkep (Sayuti, 2005; Zacot, 1978).

As stated above, the Bajo Community is still underdeveloped, their economic, social and cultural conditions have not developed as expected. The Bajo community in terms of education are still far behind, especially in the formal education sector (Alifuddin et al., 2021). Their

children do not receive an education either at the elementary school/Madrasah Ibtidaiyah, Junior High School/Madrasah Tsanawiyah, Senior High School, moreover in higher education. This is thought to be due to many factors including; economic factors/parents' income, utilization/exploitation of children's labor, and no less important is the factor of parental attention and participation in education. This is possible because parents, especially fathers, live more at sea so they pay less attention to their children. In addition, because the local government does not involve the Bajo community to participate in the implementation of formal education. It is well known that participation in the provision of education can be a driving force for community empowerment in the educational process which includes the participation of individuals, groups, families, professional organizations, and community organizations in the implementation and control of the quality of education services (Saleh & Mujahiddin, 2020; Wallerstein & Bernstein, 1994). This is in accordance with the mandate of Law Number 20 of 2003 article 54 paragraph 1 that the community can act as a source, implementer, and user of educational outcomes (Law 20/2003, n. d.).

Education is often the focus of attention and the target of community dissatisfaction (Bray, 1996). This happens because education concerns everyone's life. Therefore, education needs improvement so that it is relevant to the needs and demands of society. The arrangement of community participation in the implementation of education is regulated in Government Regulation Number 39 of 1992 concerning Community Participation in National Education (Government Regulation, n. d.).

The essence of the government regulation is that community participation functions to participate in maintaining, growing, improving, developing national education and aims to utilize the potential that exists in society as optimally as possible to realize the goals of national education (Fitriah et al., 2013). In Law no. 20 of 2013 concerning the National Education System, it is specifically stated that in the community there is an Education Council and School Committee or Madrasah Committee, which plays a role in improving the quality of education services which include planning, monitoring, and evaluating educational programs by involving the local community. However, the form and nature of community participation is generally still about the provision of financial donations, for example the payment of the Education Organizing Contribution (SPP) and school committee funding fees (Bjork, 2006; Pradhan et al., 2011). This is inseparable from the limited sources of support from the government. Because it is the obligation and responsibility of the community to assist in the implementation of government-organized education by actively participating in the provision of education and creating learning conditions to realize lifelong education. The cooperation that has been established with various parties in the provision of education still contains various weaknesses, the cooperation should not only be limited to providing funds for the procurement of educational facilities and infrastructure, but it will be much better if it unites steps to increase awareness, togetherness, and parental attention to the importance of education. Community participation in the education process in Indonesia, especially in the province of South Sulawesi, has not taken place as expected. There are many problems that must be faced in connection with the involvement of the community, including the Bajo Community in their participation in building education in their areas. One of the obstacles faced is the existence of erroneous thoughts in society that the implementation of education is carried out entirely by

the government in accordance with the mandate of the 1945 Constitution article 31 (CRI, 1945). Another factor that is considered to have an effect on the low participation of the community in education development, is the existence of a public view that considers education as a long-term asset that can not necessarily be enjoyed by short-term results. People's lifestyles that tend to be consumptive or do not think productively, also affect the process of community participation in educational development. In addition to the factors mentioned above, another factor is that the community expects assistance from the government and other outside parties.

Various facts that are quite alarming in the development of education and its relation to the participation of the Bajo community in South Sulawesi as stated above, are problems associated with finding a comprehensive solution. Community involvement in education can improve the quality of education and the quality of human resources.

Participation means being involved or taking part in an activity. The concept of participation has basically been widely discussed, including by Mikkelsen and Nalle (2004, p. 64) who gives several definitions of participation as thus: (1) participation is a voluntary contribution from the community to the project without necessarily involving in decision making; (2) participation is "sensitizing" the community to increase their willingness to accept and respond to development projects; (3) participation is voluntary involvement by the community in self-determined changes; (4) participation is an active process, which means that a person or group concerned, takes the initiative and uses their freedom to do so; (5) participation is the strengthening of dialogue between local communities and staff who carry out project preparation, implementation, monitoring in order to obtain information about the local context, and social impacts; (6) participation is community involvement in the development of themselves, their lives and their environment. Another definition of participation put forward by Adi (2009, p. 46) is that it is the involvement of a person or community group in the development process both in the form of statements and in activities by providing input of thoughts, energy, time, expertise, capital, or materials as well as participating in utilizing and enjoying the fruits of development. Similarly, Uphoff et al. (1979, p. 4) note that participation is a descriptive term that indicates the involvement of several people with a significant number in various situations or actions that can improve their welfare.

From the discourse put forward by the experts above, participation requires comprehensive mental, emotional, and physical involvement to achieve certain goals. This includes encouragement to involve oneself and contribute to the group responsibly. Participation in a sense has an egalitarian nature because there is no division based on physical differences, taste or ethnicity, religion, institutions, or others.

From the understanding of participation put forward by the experts mentioned above, it can be stated that participation is the active involvement of a person or group of people consciously to contribute to development activities from the planning, implementation, monitoring and evaluation stages. The implementation of participation can be observed from the characteristics such as: the involvement of a person or group to participate in a certain activity; the existence of an ability that is based on a sense of responsibility, group interests and needs, and can enjoy the results.

The involvement of individuals or groups in an activity can be categorized as participation if the involvement has a meaning and role

in the group on the basis of its ability to contribute to the group that it participates in. This participation refers to nine categories of community participation, namely: (1) community initiatives and community participation in voluntary activities; (2) community initiatives and community participation due to an incentive obtained; (3) initiatives in the community and participation through implementation; (4) initiatives from the government and community participation because it is voluntary; (5) initiatives from the government while community participation is due to incentive rewards; (6) initiatives from the government while community participation is due to implementation; (7) the initiative emerges as the share of the government and the community participates voluntarily; (8) the initiative emerges as a share between the government and the community to participate voluntarily; and (9) the initiative is a share between the government and the community, while the community plays an instructive/coercive role.

The concept of classification of participation as stated above shows several ways to develop community group participation in a joint activity on a voluntary basis which can arise, both from within oneself and as a result of encouragement from other parties outside the group itself. The success of education, especially formal education according to Said (2015) is largely determined by various components, including: (1) Environmental input. Environmental input is related to the conditions of the social and natural environment that support or encourage the learning program to run. The elements of the social environment include the development of society in terms of the development of science and technology, culture, economy, social, family, and security. Natural elements cover the entire geographical environment, including rural and urban areas, plains, mountains, coasts, and weather conditions. (2) Input facilities (instrumental input). Input facilities include all sources and facilities used, which support the learning process in achieving the learning objectives that have been set. This input includes program objectives, learning materials, media, methods and techniques, teaching aids, curriculum, educators, program managers and learning resource technicians, and various kinds of facilities that can assist and facilitate the learning process. (3) Raw input. Raw input is addressed to students with various characteristics such as internal characteristics which include physical attributes (age, gender, etc.), psychological (cognitive, experience, interests, attitudes, etc.), and functional (occupation, socioeconomic status, and health). External characteristics such as education, costs and learning facilities, and learning methods and habits in the community. (4) Learning process. The learning process involves educational interactions between raw input (students) and other learning components, especially educators. This process consists of learning activities, counseling and/or training as well as evaluation. Learning activities prioritize the role of educators to help students so that they are active in learning activities, and not emphasize the role of teachers to teach. To support successful learning, guidance is carried out for students. (5) Outputs. Output is meant by the ability of learning outcomes obtained by students after being involved in certain learning situations.

According to Sudjana (2001, p. 37), output is an intermediate goal. The output includes the quantity of graduates accompanied by the quality of behavioral changes obtained through learning activities. This behavior change includes the cognitive, affective, and psychomotor domains in accordance with the learning needs they need. (6) Other inputs. Another input is other carrying capacity that allows students and graduates to use the abilities they already have for the advancement

of their lives. These other inputs include funds, raw materials, production processes, information, employment opportunities, and so on. (7) Impact (outcome or impact). Impact is the ultimate goal of the education program which is also the result achieved by the students and the output. These components include: (1) changes in living standards marked by job acquisition, entrepreneurship, increased income, health, and personal appearance, (2) educating others about the learning outcomes that have been owned and felt by graduates, and (3) increased participation in social activities and community development, both thoughts, energy and funds. As a system, national education functions to develop capabilities and shape the character and civilization of a dignified nation in the context of educating the nation's life, aiming at developing the potential of students to become human beings who believe and fear God Almighty, have noble character, are healthy, knowledgeable, capable, creative, independent and become citizens of a democratic, and responsible. This is in line with the opinion of Kohnstam and Gunning (Ahmadi & Uhbiyati, 2001), that the ultimate goal of education is to form insan kamil or perfect human beings. To achieve the goals of education as mandated by the 1945 Constitution (CRI, 1945) and Law Number 20 of 2003 concerning the System National Education (Law 20/2003, n. d.), then the responsibility for education is a shared responsibility between families/parents, the community, and the government. The pattern of analysis of the responsibilities of the three (tri-centre) educational institutions towards children as the younger generation and the nation's next generation (Eka, 2017), can be described rationally as: (1) the responsibility of the family/parents towards their children includes the encouragement/motivation of love that animates the relationship between parents and children (Priyanto, 2018). This love encourages attitudes and actions that are willing to accept responsibility and devote their lives to their children; (2) encouragement/motivation for moral obligations as a consequence of the position of parents towards their children. This moral responsibility includes spiritual religious values inspired by the One Godhead and respective religions, in addition to being driven by an awareness of maintaining the dignity and honor of the family; and (3) social responsibility as part of the family which in turn will also become part of the community, nation and state, even humanity.

This social responsibility is an embodiment of awareness of family responsibilities followed by blood descent and unity of belief. The responsibility of the government and local government is the embodiment of the nation and state community. The government carries the public trust to manage all aspects of the nation's life, especially in the field of education (Lewis & Pattinasarany, 2009). This responsibility includes the responsibility of the state and society in the form of motivation to preserve the upholding of the independence of the nation and state (Amir, 2013). This responsibility includes fostering national awareness, having a national ideology, and having a constitution. The institutional structural responsibility is a form of state institutional arrangement with each constitutional juridical aspect and responsibility. Funding for education is a shared responsibility between the government, local governments, and the community (Ismanto, 2014). Article 4 of Law Number 20 of 2003 concerning the National Education System (Law 20/2003, n. d.) states that education funds other than educator salaries and official education costs are allocated at least 20% of the State Budget (APBN). Education as a shared responsibility, the government, local government, and the community mobilize existing resources in accordance with applicable laws and regulations.

This means that community participation or participation in education cannot be ignored, whether individuals, families, groups, professional organizations, and other community organizations in the implementation and control of the quality of educational services. The community can act as a source, implementer, and user of educational outcomes. It can be argued that the responsibility for managing formal education programs generally rests with the government and institutions that specifically provide formal education. Formal education, whether organized by the government or the community, requires parental participation in terms of planning, implementation, and assessment.

It is from the above assertions that the researchers were motivated to conduct this study in the hope that future obstacles that may be considered a hinderance to the process of participation of the Bajo community in education development in South Sulawesi can be identified and solutions can be found, so that the quality of education in this area can provide satisfaction to all parties in future.

METHOD

The approach used in this research is the quantitative approach. There is only one variable in this research, which is participation of the Bajo community, so the type of research used is descriptive and exploratory. To avoid misinterpretation of the title and discussion, it is necessary to formulate an operational definition used in this study, namely (1) the participation of the Bajo Community is the involvement of the Bajo community in the implementation of formal education in South Sulawesi and (2) the form of participation of the Bajo community in education, is in the form of their energy, time, ideas, opinions, and materials. Energy/time is the participation of the Bajo community in physical form, and the opportunities in the implementation of children's education. Ideas are a form of opinion and thought of the Bajo community in the implementation of children's education; and material is a form of participation of the Bajo community in meeting the needs of children, both basic needs and school needs that require money.

This research was conducted in two regencies of South Sulawesi Province, namely Bone Regency and Luwu Regency. Bone Regency is in the hamlet of Bajoe, Bajoe Village, East Tanete Riattang District. While Luwu Regency, it is located in the hamlet of Kambuno, Belopa Village, Belopa District. The research population is all parents of the Bajo community in Bone Regency and Luwu Regency who have children attending elementary school, junior high school, senior high school and tertiary education institution. In Luwu Regency there are 138 who have children who go to school from 201 households. Thus, the research population is 325. The sample is a representation of the population. According to Arikunto (1998, p. 112), "If the population is above 100, then the sampling is around 10-20% but if the population is below 100, there is no need for sampling". The population of this study was 325 parents, so the sample for the Bajo Community in Bone Regency was $15\% \times 187 = 29$ people, and for the Bajo Community in Luwu Regency $15\% \times 138 = 21$. Thus, the total sample size was 50 people.

The types of data in this study are primary data and secondary data. Primary data is in the form of information from Bajo community leaders, and Bajo community parents who have children attending formal education as well as Hamlet heads and Bajo community leaders in Bone Regency and Luwu Regency, South Sulawesi Province.

Secondary data were obtained from various written sources through literature study, and documentation relevant to this research.

Data was collected through questionnaires, according to Arikunto (1998, p. 140), "questionnaires are a number of written questions that are used to obtain information from respondents in terms of reports about their personalities or things that are known".

Based on the opinion above, the researcher compiled a list of questions as a guide to obtain data related to the participation of the Bajo community in education. The parents of the Bajo community filled out the answers to a number of these questions under the guidance of the researcher, and research assistants. In addition to questionnaires, data collection was also carried out through documentation by recording and documenting data obtained from community leaders of the Bajo community at the research site and from various library sources. The data analysis technique used in this study is the quantitative analysis technique using descriptive statistical analysis with the percentage formula. To find out the description of the participation of the Bajo community in education in South Sulawesi based on the results of data processing and the percentage, intervals and categorizations.

RESULTS AND DISCUSSION

The results of the research on the participation of the Bajo community through the respondents described above, and by looking at the trend of the data obtained, it is known that the Bajo community is less concerned about education. They generally stated that they never participated. Only a small proportion of respondents stated that they always or sometimes participate in education. This means that the participation of the Bajo community in education is still low.

The forms of participation of the Bajo community in education are intended to be the involvement of the Bajo community in the form of energy/time, ideas/ideas, or in the form of materials.

The results of the study related to the participation of the Bajo community in education in the form of energy and time, the aspects included: (1) helping children complete the homework given by the teacher, 0 percent said always, 38 percent of respondents said sometimes, and in general or 62 percent stated that they had never participated in the field of education, especially in helping children in completing homework given by the teacher. This means that the participation of the Bajo community in education, especially helping children in completing homework given by the teacher, is in the 33% category or still low; (2) dropping and picking up children to and from school, 12 percent said they always, in general or 70 percent said sometimes, and 18 percent said they never take and pick up children to and from school. This shows that the participation of the Bajo community in education is in the 33% category or still low; (3) preparing breakfast before their children go to school, 18 percent said they always, in general or 68 percent of respondents said sometimes, and 14 percent said they never prepare their children's breakfast before going to school. This shows that the participation of the Bajo community in education, especially in preparing children's breakfast before going to school, is in the 33% category or still low; (4) good communication with the school to improve children's learning achievement at school, 0 percent said never, 10 percent said sometimes, and in general or about 90 percent of respondents said they never had good communication with the school. schools in terms of improving

children's learning achievement at school. This means that the participation of the Bajo community in education is in the category 33% or still low; (5) creating a comfortable learning atmosphere for children at home, 4 percent said they always, 18 percent said sometimes, and in general or 78 percent said they never participated in creating a comfortable learning atmosphere for children at home. This shows that the participation of the Bajo community in education is in the 33% category or still low; (6) establish good communication with fellow Bajo parents to monitor children's interactions, 4 percent said they always, 22 percent of respondents said sometimes, and in general or 74 percent said they never participated in the field of education, especially the participation of the Bajo Community in establishing communication good relations with fellow Bajos to monitor children's interactions. This shows that community participation in education is in the category 33% or still low; and (7) whether or not there was time prepared to participate in education, 4 percent said they always, 5 percent said sometimes, and in general or 76 percent said they never participated in education, especially in preparing time to participate in education. This means that the participation of the Bajo community in education is in the 33% category or still low.

Based on the discussion related to the participation of the Bajo Community in education in the form of energy and time, the average value of 6.0 is in the 33% category, so it can be concluded that the participation of the Bajo Community in education is still low.

The participation of the Bajo community in education is in the form of a numbered questionnaire, the aspects include: (1) whether or not there is attention to education, 10 percent said they always, 32 percent said sometimes, and in general or 58 percent of respondents said they never participated in education. the education sector, especially in paying attention to education, is in the 33% category or still low. This shows that the participation of the Bajo community in education is in the category 33% or still low; (2) whether or not there was any thought in education for their children, 60 percent said they always, 18 percent said sometimes, and 22 percent of respondents said they never thought about education for their children. Thus, the participation of the Bajo community in education, especially when it comes to education for their children, is in the categories: 34%-67% or moderate; (3) participation of the Bajo community in education, especially in attending school invitations to attend meetings, 26 percent said they always, 16 percent said sometimes, and in general or 58 percent said they never attended school invitations. Thus, the participation of the Bajo community in education, especially attending meetings at school, is in the category 33% or still low; (4) participation of the Bajo community in education, especially the activity of giving ideas/ideas when attending parent/student meetings at school 6 percent said they always, 10 percent of respondents said sometimes, and in general or 84 percent of respondents said they never participated in in the field of education, especially giving ideas/ideas when attending parent/student meetings at school. Thus, the participation of the Bajo community in education, especially in giving ideas/ideas when attending parent/student meetings at school, is in the category 33% or still low; (5) participation of the Bajo community in an effort to encourage parents/Bajo community to participate in education, 26 percent said always, 20 percent said sometimes, and in general or 54 percent said they never participated in encouraging fellow Bajo parents to participate in education. Thus, the participation of the Bajo community in education, particularly encouraging fellow Bajo parents to participate in education, is in the 33% category or still low; (6) the participation of

the Bajo community in education, especially in collaboration with the school in formulating ideas/ideas to improve children's learning achievement in school, 8 percent said they always, 4 percent said sometimes, and in general or 88 percent of respondents said they never participated in the field of education, especially in collaboration with the school to formulate a number questionnaire to improve children's learning achievement in school. This shows that the participation of the Bajo community in education is in the 33% category or still low; (7) participation of the Bajo community in education, especially motivating fellow Bajo communities to increase their commitment to efforts to improve the quality of education, 10 percent said they always, 26 percent said sometimes, and in general or around 64 percent of respondents said they never participated in education, particularly to motivate fellow Bajo communities to increase their commitment to improving the quality of education. Thus, the participation of the Bajo community in the development of education, especially motivating fellow Bajo communities to increase their commitment to improving the quality of education is in the category 33% or still low; and (8) the participation of the Bajo community in education to participate in activities at school initiated by parents, 0 percent or no one stated that they always participated in activities at school initiated by parents, 20 percent stated sometimes, and in general or 80 percent stated that they had never participated in the field of education, by participating in school activities initiated by parents. Thus, the participation of the Bajo community in education, especially in participating in school activities initiated by parents, is in the 33% category or still low.

Based on the discussion related to the participation of the Bajo Community in education in the form of ideas, an average of 18.25 is in the 33% category, so it can be concluded that the participation of the Bajo Community in education is still low.

The description of the participation of the Bajo community in the field of education in the form of materials includes: (1) the participation of the Bajo community in education by providing school equipment for their children in general or 90 percent stating always, 10 percent stating sometimes, and 0 percent or no one respondents stated that they never did not provide school supplies for their children. Thus the participation of the Bajo community in education, especially in providing school supplies for their children is in the 68%-100% or high category; (2) participation of the Bajo community in education, especially in paying children's donations at school in general or around 74 percent stated that they always participate in education, especially paying their children's donations at school, 13 percent said sometimes, and 0 percent or none of the respondents stated that they have never failed to pay their child's contribution to school. Thus, the participation of the Bajo community in education is in the 68%-100% category or high; (3) the participation of the Bajo community in education, especially in providing facilities to support children's learning processes at school, 36 percent stated that they always generally or 64 percent said sometimes, and 0 percent or no one stated that they had never participated in education, especially in the field of education. provide complete facilities to support children's learning process at school. Thus, the participation of the Bajo community in education is in the category of 34%-67% or moderate; (4) the participation of the Bajo community in education, in particular giving pocket money to children every time they go to school in general or about 82 percent said they always, 18 percent said sometimes, and 0 percent or no one stated that they never participated in education, especially giving pocket money for children every time they go to school. Thus, the participation of the

Bajo community in education is in the 68%-100% category or high; (5) participation of the Bajo community in education, in particular participating in voluntary donations to schools for school construction/improvement, 14 percent said they always, 14 percent said sometimes, and in general or 72 percent said they never contributed voluntarily to the school for school construction/improvement. Thus, the participation of the Bajo community in education is in the category 33% or still low; (6) the participation of the Bajo community in helping schools to raise funds among the Bajo community, 8 percent said they always, 4 percent said sometimes, and in general or 88 percent said they never participated in helping schools to raise funds in their community. Thus, the participation of the Bajo community in education is in the 33% category or, still low; and (7) the participation of the Bajo community in seeking financial assistance from business and industry for school construction/remediation, only 8 percent said they always, 6 percent said sometimes, and in general or around 86 percent said they never participated in seeking financial assistance from the world. business and industry for school construction/remediation. With a frequency of only 8 percent who stated that they always participate in seeking financial assistance from the business world and industry for school construction/remediation. Thus, it shows that the participation of the Bajo community in education is in the 33% category or still low.

Based on the discussion related to the participation of the Bajo Community in education in the form of material, the average value of 48.57 is in the category of 34%-67% or moderate. Thus, the participation of the Bajo Community in education in the form of energy/time, ideas/thoughts and material, the average value of 24.26 is in the category 33% or still low.

CONCLUSIONS

Based on the results of research and discussion, it can be concluded that (1) the participation of the Bajo community in the field of education, both participation of energy/time, ideas/ideas and materials is still low. Generally, respondents stated that they never participated, and only a small number of respondents stated that they always and sometimes participated in education; (2) the forms of participation of the Bajo community in education include the form of labor/time participation, namely, helping children complete the homework given by the teacher, dropping off and picking up children to and from school, preparing breakfast before the children go to school, making good communication with the school to improve children's learning achievement at school, create a comfortable learning atmosphere for children at home, establish good communication with fellow Bajo parents to monitor children's interactions, and prepare time to participate in education. Participation in the form of ideas/ideas includes: the presence/absence of attention in education, the presence/absence of thoughts in education for their children, attending school invitations to attend meetings, being active in giving numbered questionnaires when attending parent/student meetings at school, encouraging Bajo parents/community to participate in education, collaborate with schools in formulating number questionnaires to improve children's learning achievement at school, motivate fellow Bajo communities to increase their commitment to improving the quality of education, and participate in school activities initiated by parents. Bajo community participation in education in the form of

materials, including: providing school supplies for children, paying children's donations at school, providing facilities to support children's learning process at school, giving pocket money to children every time they go to school, participating in voluntary donations to schools for school construction/remediation, helping schools to raise funds, and helping schools seek funds from business and industry for school construction/remediation: (1) The participation of the Bajo community in the field of education, both the participation of energy/time, ideas/ideas and materials is still low. Generally, respondents stated that they never participated, and only a small number of respondents stated that they always and sometimes participated in education. (2) The forms of participation of the Bajo community in education include the form of labor/time participation, namely, helping children complete the homework given by the teacher, dropping off and picking up children to and from school, preparing breakfast before the children go to school, making good communication with the school to improve children's learning achievement at school, create a comfortable learning atmosphere for children at home, establish good communication with fellow Bajo parents to monitor children's interactions, and prepare time to participate in education. Participation in the form of ideas/ideas includes: the presence/absence of attention in education, the presence/absence of thoughts in education for their children, attending school invitations to attend meetings, being active in giving numbered questionnaires when attending parent/student meetings at school, encouraging Bajo parents/community to participate in education, collaborate with schools in formulating number questionnaires to improve children's learning achievement at school, motivate fellow Bajo communities to increase their commitment to improving the quality of education, and participate in school activities initiated by parents. Bajo community participation in education in the form of materials, including: providing school supplies for children, paying children's donations at school, providing facilities to support children's learning process at school, giving pocket money to children every time they go to school, participating in voluntary donations to schools for school construction/remediation, helping schools to raise funds, and helping schools seek funds from business and industry for school construction/remediation.

Based on the results of the research and discussion as well as the conclusions above, it can be suggested that: (1) to promote education for all, the government should pay serious attention to the involvement of the Bajo community in education, because with serious attention by the government will be followed by a high increase in participation by the Bajo community which will facilitate improving the quality and widening access to education in realizing the goals of national education; (2) to improve the quality of education and wider access to education, the Bajo Community and Bajo community leaders are expected to actively participate in education, either in the form of labor/time, ideas/ideas, or participation in the form of materials.

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An Assessment of Social Networking Sites Addiction Among Female Undergraduate Students in Kwara State, Nigeria

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ABSTRACT

Online access of information and other purposes through social networking sites are becoming more easier day by day due to increased penetration of internet and affordability ubiquitous nature of computer devices and platforms. What is the pattern and trend of social networking sites addiction (SNA) among female undergraduate students. This study employs descriptive research design using survey method. Sampling was by simple random among female undergraduate students in two selected universities in Kwara state of Nigeria. This study engages four objectives to guide the research. Findings revealed the most popular social networking sites, factors responsible for SN usage, different causes for SN addiction and solutions to SN addiction. There was no significant relationship between age and SN addiction, while there is a strong positive significant relationship between course of study and SNA and a positive significant relationship between institutions and factors affecting SNA. It was concluded that certain factors and causes were responsible SNA among female undergraduate students. Recommendations on how to avoid SNA were provided.

Keywords: social networking sites, social networking addiction, private universities, female undergraduate students, software, online social networks

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INTRODUCTION

The ease of access to internet and technological devices such as smartphones is making the use of social media a very common practice. Social media use today has become an integral part of life and living today. The high rate of penetration of internet has been linked with the use of social media. The world population of active users of social media is put at 3.8 billion (Statista, 2020). It has been estimated among young people aged 15-24 that internet penetration rate is 94% in the developed while it is 67% in developing countries (International Telecommunication Union, 2017). Also 71% of internet users have been found to use majorly social media (Statista, 2018), this value is expected to increase by year 2021. Over the last decade, the use of social networking sites has grown exponentially and is promoting constant and uninterrupted changes in society's behaviour (Guedes et al., 2015).

One prominent society behaviour is addiction. Users of social networking sites can become addicted to social media. Even though internet addiction may not be easily noticed in individuals, but when users become engrossed in the online internet activities like games and social networking it can lead to addictive behaviours (Griffiths, 2017). This form of social networking sites addiction is known as behavioural

addiction. Behavioural addiction is defined as uncontrollable impulses and desire for incentives to perform an action that harms the person or someone else, these include technological addictions like internet, game, smartphone and social media addiction (Senturk, 2017). This behavioural addiction of social media can cause physical, mental, cognitive and social harm to the users (Mayda, 2015). Behavioural addiction to internet activities has become an increasing serious negative issue to the society (Rachubinska et al., 2021). The addictive use of social networking sites has been tagged "technological addiction" with characteristics similar to internet gaming disorder and its tentatively included in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders as a disorder (American Psychiartry Association, DSM APA, 2013).

Social networking addiction includes defining characteristics such as being concerned about social media, having a strong motivation to use social media, and to devote too much time to social media while it impairs other activities, jobs, studies, relationships, psychological health and well-being (Andreassen et al., 2017). Some reports indicated that the abusive use increases real life isolation, paradoxically bringing further damage to real life relationships (Guedes et al., 2016).

Generally, students constitute the largest population of social networks users world over. Olufadi (2016) reported that people subscribed to more than one social networking sites. This implies a likelihood of addiction. It has been reported that most people especially the higher education students use a greater part of their time on social networking sites (Alnjadat et al., 2019). Different effect of social media usage among students have been reported due to rise in the subscription of these students to different and many social networking sites platforms in the last ten years (Alahmar, 2016; Kulidtod & Pasagui 2017).

Consequently, social networking addiction is causing more harm to the individual and society at large than good. Studies around the world have been carried out on gender variation as a factor of social networking usage (Alnjadat et al., 2019). There is scarce research in Nigerian higher institutions on social networking sites addiction as it relates to gender differences. Therefore, it might be difficult to determine the causal relationship and to identify the determinants of social networking sites addiction among female undergraduate students. Against this background there is the need to assess the level of involvement of young undergraduate female students in social networking addiction.

Objectives of the Study

The following objectives were set in the course of this research:

1. identify the social networking sites commonly used by the female undergraduate students in Kwara State, Nigeria;
2. ascertain the factors that promote the use of social networking sites by female undergraduate students in Kwara State, Nigeria;
3. identify the causes of social networking sites addictions among female undergraduate students in Kwara State, Nigeria; and
4. suggest solutions to curtail social networking sites addictions among female undergraduate students in Kwara State, Nigeria.

Hypothesis of the Study

The following research hypotheses were tested at $\alpha = 0.05$ level of significance.

1. There is no significant relationship between age and the use of social networking sites by female undergraduate students in Kwara State.
2. There is no significant relationship between the course of study and factors promoting social networking sites addiction by female undergraduate students in Kwara State.
3. There is no significant relationship between the factors promoting social networking sites addiction and the Universities in Kwara State.

LITERATURE REVIEW

Social networking sites are virtual communities where users create individual public profiles, interact with real-life friends, and meet other people based on shared interests (Griffiths, 2012). Social networking sites are web-based services that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, view and traverse their list of connections and those made by others within the system (Dhingra, 2011). Social networking sites allow individuals to construct a public

profile, more or less visible according to default of site and user discretion, create a list of other users with whom they interact and view list of contacts made by other users within the site (Webrey, 2011). social networking sites refers to technological platforms that gives ease access to users to communicate and interact with one another through creation, editing, and sharing of new forms of textual, visual and audio content (The Europa World of learning, 2012).

Social networking sites provided a global scale communication platform by enabling people to access other people that are ordinarily not easy or possible to reach (Tutgun-Unal, 2020). Social networking sites helps in engagement of online communication through various channels and applications that are interconnected. Akyazi and Tutgun-Unal (2013) averred that social networking sites has helped in promoting the dominant culture of participation. The long tail and mass participation characteristics of social networking sites has made this possible, allowing many users over a long period of time and distance to be reached and involved in communication. Online social networks participatory culture allows social bonding through individual's sharing of information about their activities using various formats like images, video and texts with the intention of attracting other people's reactions (Tutgun-Unal, 2020).

With improvement in speed and availability of internet across the globe, individuals can now choose from an array of social networking sites like Facebook, Twitter, Instagram, Snapchat, etc, (Ryan et al., 2014; Whiting & Williams, 2013). Most commonly used social networking sites among undergraduates was Facebook with about 90% of them using the platform (Grunwald.com; 2018). Skiera et al. (2015) reported that Facebook was one of the most popular social networking sites among both male and female students. Tutgun-Unal (2020) reported in a study among new media and journalism students that Instagram was the most preferred application with 98.3% followed by Youtube with 87.1%, then Twitter was 78.8%, Facebook was 55.3% while Snapchat, LinkedIn, pinterest and Swarm were 34.1%, 32.9%, 23.5% and 20.0% respectively.

Facebook, Myspace have been identified as highly used by millions of people to connect and share thoughts (Ellison, 2018). We are Social, (2018) identified Youtube as the most widely used social media platform. Aksoy, (2018) identified popular social networking sites applications such as Facebook, Twitter, Instaram, Snapchat, WhatsApp, Google+, Wikipedia, LinkedIn and Reddit. According to Kuss and Griffiths, (2017) commonly popular social networking tools are Facebook, Snapchat, Instagram and instant messaging providers like Whatsapp, Facebook Messenger, Twitter, Microblogs and game sits like World of Warcraft.

Several reasons have been alluded to why there is high usage of social media. Higher institutions students have affirmed positive use of social media. A study conducted in Australia in 2018 affirmed that positive use of social networking sites have resulted into successful academic performance (Sutherland, Davis, Terton, Visser (2018). In another similar study conducted among students of Petroleum Instituted in Abu Dhabi, it was found that students with high GPAs were reportedly high users of social networking sites and applications (Tayseer et al., 2014). It was found in China and Iraq in 2016 that social media was a useful tool in the learning process through: assignment discussions, course work, getting updates on class schedules, getting news, getting locations for classes, exchange of information among the

students and sharing other course work related concerns (Alahmar, 2016; Boateng & Amankwaa, 2016).

Negative results have also been reported for usage of social networking sites on academic performance of undergraduates students. Studies across different countries have shown that students who stay too long on social networking sites with the purpose of chatting have a high propensity to decline in their academic performance (Gok, 2015; Okyeadie & Nizam, 2016; Paul et al., 2012). It has been reported also that when students engage in social networking activities during studies they will lack attention and become distracted. This will invariably affect their academic performance (Okyeadie & Nizam, 2016).

Gender is a major differential of social network sites usage, Muscanell and Guadagno (2012) worked on the influence of gender and personality on individual's use of social networking sites. They reported that female undergraduate students uses social networking sites more than males for academic purposes (Alkaabi & Albion, 2017). (Okyeadie & Nizam, 2016). In a study in United Arab Emirate in (2010) found that female university undergraduate students uses Facebook more for the purpose of extending their social network, accessing more information and experiences (UAE population statistics in 2018). Skiera, Hinz and Spann (2015) reported that the number of friends of female students is negatively related to their academic performance. Zalavadiya et al. (2016) upheld that undergraduate female users of networking sites seek out intimate friendship, romantic partners and keeps their identity to be kept secret.

Rachubinska et al. (2021) reported that 27.2% of women were prone to the risk of Internet addiction in a study conducted among young Polish women (Rachubinska et al., 2021). Similar researches among students in Britain showed a risk of Internet addition at 18% while in Italy the incidence rate is 0.8% (Weinstein & Lejoyeux (2010)). In USA and Europe, the Internet addiction rate among female students ranges from 1.5% to 8.2% (Young, & De Abreu, 2011).

Causes of Social Network Addiction

Various factors have been attributed to be responsible for addiction as studies are still on-going to determine these contributory factors and the extent of contribution. It has been suggested that environment plays a very vital role, but other major factors identified are certain behaviours and personality traits. These traits include depression anxiety, hostile/aggressive behaviour, impulsivity, psychotic behaviours, neuroticism, shyness, low self-esteem, and dis-social personality traits (Dong et al., 2011; Niewiadomski et al., 2015). Findings have upheld that people were addicted to social networking sites because it makes life look real and emotionally enriching to meet friends online (Koc & Gulyagci, (2013).

Engagement with social networking sites has been pointed that it can enhance feelings of social connectedness and well-being (Allen et al., 2014; Leist, 2013; McDaniel et al., 2012). In a recent study conducted by Lee et al. (2017) it was suggested that locus of control, self expression and utilitarian benefits were antecedents of smartphone addiction. The major activity on smartphone is the use of online social networking sites. A related finding was reported by Chen et al. (2017) that perceived enjoyment, mood regulation, pastime and conformity were the major factors responsible for social network addiction on smartphone.

Kandell (1998) opined that undergraduates were more prone to become addicted to social networking sites because: there is ample time, the ease of use of the platform, internet access without restraint, peer

pressure factors, limited supervision from parents, course of study requirement of students using the internet due to assignments and projects, communication with friends and mentors. Zalavadiya et al. (2016) found that virtual communities like social networking sites gives females a sense of belonging, and enables them to express their felling and emotions with others in privacy and convenient ways. It has been reported that availability of social networking sites on smartphone and "Fear of Mission Out" (FOMO) were principal factors responsible for social networking sites addiction (Griffiths & Kuss, 2017; Griffiths et al., 2014, Oberst et al., 2017). Hou et al. (2019) affirmed that social networking site addiction has also been attributed to ubiquitous nature of the platform and ease of access to internet in the present age.

Solutions to Curtail Social Network Addiction

Since addition to social networking sites is still an issue being debated and yet to be properly categorised, the diagnoses will be a challenge so also the treatment. Therefore, there is no "gold standard" for treating addiction (Rachubinska et al., 2021). The relative initial consensus among researchers is therapy (Young, 2009), this therapy should be focused on how patients can implement control over the social networking activities rather than total abstinence. The treatment coupled with prevention strategies should include cognitive behavioural therapy. The therapies should include introduction of new element schemes that will reduce internet activities, family support programmes should be targeted at breaking predefined harmful patterns and control the intensity of internet use (Young, (2009).

Prasad et al. (2013) stated that solutions to the problem of addiction to social networking sites is through parental counselling, general counselling, also the use of certain software could be of help. Such software has the ability to block the social network sites or limits the access to social networks sites for certain period. Zalavadiya et al. (2016) concluded that parents and institutional management have a responsibility of watching over the female students to stop emerging addiction.

Within the Nigerian context, Eke et al. (2014) suggested the following measures to curtail addiction of social networking sites among Nigerian students: students to plan and moderate their use of social networking sites, enactment of laws that prohibit or punishes students using smartphone or visiting social networking sites during class hours, creating awareness of the danger inherent in using social networking sites to students by the institution authorities. Others are proper education and consciousness on the part of the users to manage their personal profile properly to avoid identity theft and provision of laws guiding information access and dissemination by students.

METHODOLOGY

This study adopts descriptive survey design. Two university within Kwara state was used, with a sample population of 233 respondents. The respondents for the questionnaire were randomly selected female undergraduate students across different faculties. The questionnaire was administered to all the respondents with a responsive rate of 94.2% giving a total of 220 copies of the questionnaire returned and useable.

Table 1 shows that 100 (45.4%) of the respondents were from College of ICT, 58 (26.4%) were from college of engineering and Technology, 35 (15.9%) were from College of Agricultural Sciences,

Table 1. Distribution of the respondents by Faculty

Faculties	Frequency	Percent (%)
College of Agriculture.	35	15.9
College of Arts.	27	12.3
College of Engineering & Technology.	58	26.4
College of ICT.	100	45.4
Total	220	100.0

Table 2. Distribution of the respondents by level of study

S/N	Level of study	Frequency	Percentages (%)
1	100	37	16.8
2	200	67	30.5
3	300	60	27.3
4	400	43	19.5
5	500	13	5.9
	Total	220	100.0

Table 3. Mean and standard deviation scores of social networking sites used by female undergraduate students in Kwara State, Nigeria

S/N	Types of Social Networking sites	SD	D	A	SA	Mean	SD
a	Facebook.	6(2.7%)	38(17.3%)	0(0%)	176(80%)	3.57	0.87
b	Whatsapp.	0(0%)	8(3.6%)	50(22.7%)	162(73.6%)	3.42	0.53
c	Wechat.	50(22.7%)	80(36.4%)	43(19.5%)	47(21.4%)	2.40	1.06
d	Twitter.	2(0.9%)	3(1.4%)	21(9.5%)	194(88.2%)	3.28	0.45
e	Instagram.	0(0%)	5(2.3%)	50(22.7%)	165(75.0%)	2.58	0.49
f	Tumblr.	11(5.0%)	60(27.3%)	119(54.1%)	30(13.6%)	2.76	0.74
g	Linkedin..	30(13.6%)	82(37.3%)	78(35.5%)	30(13.6%)	2.49	0.89
h	Qzone.	46(20.9%)	21(9.5%)	119(54.1%)	34(15.5%)	2.63	0.98
i	Youtube.	0(0%)	0(0%)	24(10.9%)	196(89.1%)	1.11	0.31
j	Google+.	148(67.3%)	53(24.1%)	11(5.0%)	(3.6%)	1.22	0.75
k	Pinterest.	93(42.3%)	42(19.1%)	68(30.9%)	17(7.7%)	2.04	1.02
l	MySpace.	46(20.9%)	43(19.5%)	102(46.4%)	29(13.2%)	2.52	0.96
m	Snapchat.	159(72.3%)	12(5.5%)	46(20.9%)	3(1.4%)	1.51	0.86
n	Flickr.	46(20.9%)	32(14.5%)	107(4.6%)	35(15.9%)	2.60	0.99
o	Skype.	158(71.8%)	17(7.7%)	13(5.9%)	32(14.5%)	1.63	1.10
Weighted Mean 2.12							

Table 4. Mean and standard deviation scores of factors promoting the use of social networking sites by female undergraduate students in Kwara State, Nigeria

S/N	Factors promoting Social Networking sites	SA	A	D	SD	Mean	SD
a	For communication.	2(0.9%)	218(99.1%)	0(0%)	0(0%)	3.00	0.00
b	For research and academic purpose.	17(7.7%)	200(90.9%)	1(0.5%)	2(0.9%)	3.07	0.27
c	For interpersonal relationship.	18(8.2%)	202(81.8%)	0(0%)	0(0%)	3.08	0.27
d	To be informed, updated and relevant.	14(6.4%)	206(93.6%)	0(0%)	0(0%)	3.06	0.24
e	To kill boredom and relieve stress.	9(4.1%)	210(95.4%)	0(0%)	1(0.5)	3.04	0.13
f	For staying in touch with friends and loved ones.	4(1.8%)	215(97.7%)	0(0%)	1(0.5)	3.02	0.13
g	To keep an updated and attractive profile.	35(15.9%)	183(83.2%)	0(0%)	2(0.9%)	3.16	0.36
h	To find and reunite with old friends.	35(15.9%)	185(84.1%)	0(0%)	0(0%)	3.16	0.36
i	To organize discussion forums and pages.	34(15.5%)	183(83.2%)	0(0%)	3(1.4%)	3.15	0.36
Weighted mean 3.10							

while 27 (12.3%) were from College of Arts respectively. This implies that majority of the respondents were from the College of ICT.

Table 2 showed that 37 (16.8%) of the respondents were in 100 level; 67 (30.5%) were in 200 level; 60 (27.3%) were in 300 level; 43 (19.5%) were in 400 level; while 13 (5.9%) were in 500 level. This implies that majority of the sampled respondents were in 200 level.

Research Question 1: What are the Social Networking Sites Used by Female Undergraduate Students in Kwara State, Nigeria?

Table 3 revealed that the types of social networking sites used mostly by female undergraduate students in Kwara State, Nigeria were Facebook ($\bar{x}=3.57$, $SD = 0.87$); Whatsapp ($\bar{x}= 3.42$, $SD = 0.53$); Twitter

($\bar{x}= 3.28$, $SD = 0.45$); Tumblr ($\bar{x}= 2.76$, $SD = 0.74$); ; while least used social networking sites were Youtube ($\bar{x}= 1.11$, $SD = 0.31$), Google+ ($\bar{x}=1.22$, $SD = 0.75$); Snapchat ($\bar{x}=1.51$, $SD = 0.86$).

Research Question 2: What are the Factors Promoting the Use of Social Networking Sites by Female Undergraduate Students in Kwara State?

The results in **Table 4** revealed that some of the factors promoting the use of social networking sites by female undergraduate students in Kwara State, Nigeria were to keep an updated and attractive profile ($\bar{x}=3.16$, $SD = 0.36$); find and reunite with old friends ($\bar{x}=3.16$, $SD =0.36$); organise discussion forums and pages ($\bar{x}=3.15$, $SD = 0.36$); For interpersonal relationship ($\bar{x}=3.08$, $SD = 0.37$); for research and

Table 5. Mean and standard deviation scores of causes of social networking sites addiction by female undergraduate students in Kwara State, Nigeria

S/N	Causes of social Networking addiction	YES	NO	Mean	SD
A	Are you a member/user of a multiple social networks?	206(93.6%)	14(6.4%)	1.06	0.24
b	Do you prefer to interact with people on social networks rather than face to face?	169(76.8%)	51(23.2%)	1.23	0.42
C	Have you ever ignored a responsibility like an assignment or chores because of social networks?	208(94.5%)	12(5.5%)	1.05	0.22
D	Has anyone ever commented on the amount of time you spend on social networks?	187(85.0%)	33(15.0%)	1.15	0.35
E	Do you use social networking sites to seek health related issues?	164(74.5%)	56(25.5%)	1.25	0.43
F	Do you use social networking sites to gain relief from fatigue and stress?	205(93.2%)	15(6.8%)	1.07	0.25
G	Do you become disturbed, frustrated or angry when a social network goes down or is unavailable?	183(83.2%)	37(16.8%)	1.17	0.37
H	Do you have more friends on your social network than you do in real life?	171(77.7%)	49(22.3%)	1.22	0.41
I	Are you usually surprised by how much time you spend on Social Networks?	181(82.3%)	39(17.7%)	1.18	0.38
J	Trying to bow to peer pressure	32(14.5%)	188(85.5%)	1.85	0.35
K	Have you ever experienced drop in productivity and output due to use of social networking sites?	200(90.9%)	20(9.1%)	1.09	0.28
L	Desire to compare with other users	116(52.7%)	104(47.3%)	1.47	0.50
M	Have you ever being distracted due to the use of social networking site?	217(98.6)	3(1.4%)	1.01	0.16
Weighted mean 1.21					

Table 6. Mean and standard deviation scores of solutions to social networking sites addiction by female undergraduate students in Kwara State, Nigeria

S/N	Solutions to Social Networking Sites Addiction	SA	A	SD	D	Mean	SD
a	To reduce the time spent going through your social networks page.	193(87.7%)	24(10.9%)	3(1.4%)	0(0%)	3.86	0.38
b	To engage more verbal conversations with people than you do on phone.	177(80.5%)	37(16.8%)	2(0.9%)	4(1.8%)	3.76	0.55
c	To keep away your devices when you are with your friends.	187(85.0%)	21(9.5%)	6(2.7%)	6(2.7%)	3.77	0.55
d	To engage in real-life group discussion than on social networking sites group discussions.	162(73.6%)	18(8.6%)	16(7.3%)	5(2.3%)	3.55	0.62
e	To engage in self-developing activities when alone/bored.	183(83.2%)	34(15.5%)	1(0.5%)	2(0.9%)	3.81	0.46
f	To get rid of notifications.	137(62.3%)	68(30.9%)	5(2.3%)	10(4.5%)	3.51	0.75
g	To delete / uninstall the social networking applications.	161(73.2%)	28(12.7%)	19(8.6%)	12(5.5%)	3.54	0.86
h	To make yourself busy with other activities.	140(63.6%)	62(28.2%)	15(6.8%)	3(1.4%)	3.54	0.68
i	To do self-reflection / assessment on a regular basis.	175(79.5%)	24(10.9%)	8(3.6%)	13(5.9%)	3.64	0.81
j	To create your own reward system.	174(79.1%)	24(10.9%)	6(2.7%)	16(7.3%)	3.60	0.75
Weighted mean 3.62							

academic purpose" ($\bar{x}=3.07$, $SD = 0.27$); and to be informed, updated and relevant ($\bar{x}=3.06$, $SD = 0.24$).

Research Question 3: What are the Causes of Social Networking Addiction by Female Undergraduate Students in Kwara State?

The result from **Table 5** revealed that causes of social networking sites addiction include. trying to bow to peer pressure ($\bar{x}=1.85$, $SD = 0.35$); desire to compare with other users ($\bar{x}=1.47$, $SD = 0.50$); use social networking sites to seek health related issue ($\bar{x}=1.25$, $SD = 0.43$). Least causes of social networking sites addiction were being distracted due to the use of social networking sites ($\bar{x}=1.01$, $SD = 0.16$); ignoring responsibility like an assignment or chores because of social networks ($\bar{x}=1.05$, $SD = 0.22$); being a member/user of a multiple social networks? ($\bar{x}=1.06$, $SD = 0.24$).

Research Question 4: What are the Solutions to Curtail Social Networking Addictions by Female Undergraduate Students in Kwara State?

The results in **Table 6** showed that identified solutions to social networking sites addiction by female undergraduate students in Kwara State, Nigeria were – reduce the time spent going through social

networks page" ($\bar{x}=3.86$, $SD = 0.38$); engage in self-developing activities when alone/bored ($\bar{x}=3.81$, $SD = 0.46$); keep away your devices when you are with your friends ($\bar{x}=3.77$, $SD = 0.63$); engage more in verbal conversation with people than on phone ($\bar{x}=3.76$, $SD = 0.55$). Least identified solutions were to get rid of notifications ($\bar{x}=3.51$, $SD = 0.75$), to delete / uninstall the social networking applications. ($\bar{x}=3.54$, $SD = 0.86$) and to make yourself busy with other activities. ($\bar{x}=3.54$, $SD = 0.68$).

Testing of the Hypotheses

This section presents the statistical results of the hypotheses formulated for the study along with their interpretation and discussions. The three null hypotheses formulated were tested at $\alpha = 0.05$ level of significance.

Hypothesis one: There is no significant relationship between age and use of social networking sites by female undergraduates in Kwara State, Nigeria

The results in **Table 7** revealed that the mean and standard deviation scores of age were ($\bar{x} = 1.60$, $SD = 0.56$), while those of use of social networking sites were ($\bar{x} = 2.03$, $SD = 0.33$). The results also

Table 7. Summary of test of relationship between age and use of social networking sites by female undergraduate students using Pearson Product moment correlation

Variable	Mean	SD	N	Correlation®	Sig.P	Remarks
Age	1.60	0.56	220	0.107	0.114	Not Significant
Use of Social Networking Sites	2.03	0.33				

Sig p < 0.05

Table 8. Summary of test of relationship between course of study and factors promoting social networking sites addiction among female undergraduate students in Kwara State, Nigeria using Pearson's Product moment correlation

Variable	Mean	SD	N	Correlation®	Sig.P	Remarks
Course of study	6.36	0.15	220	.000	1	Significant
Factors	2.86	2.88				

Correlation is significant at p< 0.05 level

Table 9. Summary of test of relationship between institution and factors promoting social networking sites addiction among female undergraduate students in Kwara State, Nigeria using Pearson's Product moment correlation

Variable	Mean	SD	N	Correlation®	Sig.P	Remarks
Institutions	1.75	0.44	220	0.00	0.45	Significance
Factors	2.86	0.15				

**. Correlation is significant at the 0.01 level (2-tailed)

showed that there is no significant relationship between age and use of social networking sites by female undergraduate students in Kwara State, Nigeria ($r = .107$, $df = 219$ $p > 0.05$). It could be deduced that age did not influence the social networking sites addiction among the female undergraduate students. Hence, null hypothesis one was accepted.

Hypothesis 2: There is no significant relationship between course of study and factors promoting social networking sites addiction by female undergraduate students in Kwara State, Nigeria

The results in **Table 8** revealed that the mean and standard deviation scores of course of study were ($\bar{x} = 6.36$, $SD = 0.15$), while those of factors were ($\bar{x} = 2.86$, $SD = 2.88$). The results also showed that there is a positive significant relationship between course of study and factors promoting the use of social networking sites by female undergraduate students in Kwara State, Nigeria ($r = .000$, $df = 219$, $p < 0.05$). Hence, it could be deduced that course of study positively influenced factors promoting use of social networking sites by female undergraduate students in Kwara State, Nigeria. Thus, the null hypothesis two was rejected.

Hypothesis three: There is no significant relationship between institutions and factors promoting the social networking site addiction

The results in **Table 9** revealed that the mean and standard deviation scores of institutions were ($\bar{x} = 1.75$, $SD = 0.44$), while those of factors promoting social networking sites addiction were ($\bar{x} = 2.86$, $SD = 0.15$). The results also showed that there is a positive significant relationship between institutions and factors promoting the use of social networking sites by female undergraduate students in Kwara State, Nigeria ($r = .000$, $df = 219$, $p < 0.05$). Thus, the null hypothesis three was rejected. Hence, it could be deduced that the universities influence factors promoting social networking sites addictions among female undergraduate students.

DISCUSSION OF FINDINGS

From the result of the findings, it was observed that major social networking sites used by female undergraduate students were principally Facebook, Whatsapp, Twitter and Tumblr. The popularity

of Facebook and Twitter was in agreement with other authors like Aksoy (2018) and Griffiths (2017), Whatsapp popularity was supported by Griffiths (2017). Whatsapp high popularity was upheld by Griffiths, (2017). Low popularity of Qzone, Google+ and Snapchat was discovered in this research, the low popularity of Snapchat and Google+ was contrary to the findings of Aksoy (2018), and Griffiths (2017), which also upheld high popularity of Snapchat contrary to the result of this findings. The grand weighted mean for popularity of social networking sites was 2.12, which is a bit higher than half of the Likert scale of four that was used showed that the popularity of social networking sites is not all very highly popular.

On factors promoting the use of social networking sites, it was found that all the factors were rated at 3.0 or greater on a Likert scale of 4. This showed that all the factors were highly important in the use of social networking sites. The factors include both social and academic factors. This showed that with proper education and awareness of right use of social networking sites, users can maximise the benefits inherent in social networking sites. The grand weighted mean was 3.10, this showed that all the factors played a very significant role in the use of social networking sites by female undergraduates and in essence, the best can be got from social networking sites usage by female undergraduate students.

Causes of addiction to social networking sites were all found to have very level of support with percentages above 70% with the exception of just two factors with one have percentage of support of above 50% while the second and the least factor has a percentage of 14%. It can be deduced therefore that the rate of addiction to social networking sites among female undergraduate students was very high. The female undergraduate students have so many good reasons to be addicted to social networking sites. Various reasons that have been proposed by authors like (Chen et al., 2017; Zalavadiya et al., 2016) were also upheld by this study. Certain traits or behaviour were found to promote addiction to social networking sites such as anxiety, hostile/aggressive behaviour, impulsivity, psychotic behaviours, neuroticism, shyness, low self-esteem, and dis-social personality traits, these have been earlier reported by Dong et al. (2011) and Niewiadomski et al. (2015). Findings have upheld that people were addicted to social networking sites because it makes life look real and emotionally enriching to meet friends

online (Koc & Gulyagci, 2013). this was also corroborated in this study as respondents affirm that using social media was like real-life and they have more friends even on social networking sites than real-life.

The overall weighted mean for the various process of curbing social networking sites addiction was found to be 3.62 on Likert scale of four. This affirms the fact that all hope is not lost in reducing social networking addiction. The respondents affirms that suggested methods will be very highly effective if introduced, promoted and adopted by social networking users. Methods like reducing the time spent going through social networking sites, engaging in self-developing activities when alone/bored have been reported Eke et al. (2014). Reduction of time spent on social networking sites, switching off notification on smartphone were other solutions rated highly that were in tandem with the work of Prasad et al. (2013).

CONCLUSION AND RECOMMENDATION

It can be concluded that female undergraduate students follow the most common pattern of social media platform usage. Also, there was a very high level of addiction to social networking sites by female undergraduate students. There is hope for breaking addiction of social networking sites among female undergraduate students through various means. If one method does not work effectively another will work.

Recommendations: based on the findings of this study, the following recommendations were suggested:

Female undergraduate students have an array of social networking sites to select from and they can select those that will meet their basic needs and not necessarily those that will get them addicted unnecessarily.

Each person is to examine the factors that disposes them to social networking sites addiction and adopt appropriate method that can help them to overcome.

Female undergraduate students should be ready to take precautionary measures to avoid addiction to social networking sites.

Each person should explore the most appropriate method of curbing social network sites addiction.

Factors found to promote social networking site addiction were more of personal factors, then individuals are to work more on themselves rather than the technology to put an end to social networking sites addiction.

Courses that have to do with online usage due to assignment should be able to decipher real form ephemeral. They should draw line between academic use of online so that they will not be addicted without much progress.

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Towards Understanding Test Score Pollution in Ghana: Test Preparation Practices, Test Administration Situations and External Factors as Predictors

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ABSTRACT

Background: Test score pollution explains how multifaceted factors affect the truthfulness of a test score interpretation. The pressure to raise test scores has resulted in practices which pollute the inferences we make from these scores. Issues of accurate testing remains relevant in the space of any testing environment in Ghana and beyond. This study explored the different sources of test score pollution considered test preparation practices (teacher factor), test administration situations (testing environment), and external factors (parents and community pressure).

Methods: The study was nested into the quantitative approach using descriptive survey. Basic school teachers (n=353) and parents (n=123) were selected from three districts (South, North and Central Tongu) in the Volta region using G*Power software. A validated and standardized instrument (with alpha coefficient of .783 and correlation coefficient of .823) was used to obtain the data. The obtained data was analyzed using SPSS v.25 and interpreted with linear multiple regression after the data had met all the required assumptions.

Findings: The results revealed that all the predictive factors that is test preparation practices (t=4.73, Sig=.007, CI_{95%}), test administration situations (t=4.20, Sig=.006, CI_{95%}) and parents and community pressure (t=2.69, Sig=.000, CI_{95%}) predicted test score pollution in the selected districts. However, among all the predictor variables, test administration situations (testing environment or conditions) were identified as having much influence on test score pollutions in the districts (R²=.652, 65.2%, Sig=.000, β=.616, CI_{95%}).

Conclusion: The study concluded that due to test score pollution, most test practices in Ghana are not at its optimal best. Clearly, the demand and the pressure to raise test scores results pollute and contaminate the interpretations, inferences and decisions that are made from these test scores.

Keywords: scores, test, practices, pollution, test administration

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INTRODUCTION

Undoubtedly, test is an essential tool that helps to quantify constructs which helps one to make a value judgment about the degree to which a construct might probably exist in an individual (Akaranga & Ongong, 2013; Akyeampong, 2007; Amedahe, 2000; Anane, 2008). In Ghana and across the globe, evidence suggest that test results are increasingly becoming the benchmark for measuring an institution's success. We share in the statement that humans are living in an era of increasing interest in accountability which is driven by tests and its outcomes (Azizeh & Mansoor, 2010; Bachman et al., 2013). Standardized tests continue to be touted as the most important measure

and predictive of student performance (Akyeampong, 2007; Buzick & Jones, 2015; Chalak & Tavakoli, 2010).

Practically, when scores go up, the administrators and politicians are happy and act as though achievement has gone up, but the smile is not that achievement had improved (Chapman & Snyder, 2019). In general, there is more rhetoric than evidence about the consequences of assessment and too often policy debates emphasize only on one side or the other of testing effects coin (Bachman et al., 2013; Cohen et al., 2017). In the case of Ghana, people are of the view that student's pass their examinations without much evidence to show in their potentials in the job place and as society would want them to function. These perceptions seem to be normal, especially, when a test is seen as an attempt to determine how an individual would function in a set of

actual situations (Azizeh & Mansoor, 2010; Bachman et al., 2013; Dolly & Williams, 1983).

It is worthwhile to note that the high pressure to produce high test score in many educational institutions have urged many teachers and testers to train and prepare test takers to complete their tests just for higher scores (Bachman et al., 2013; Dreisbacha, & Keogh, 2012). Literature suggests that demand to raise test scores has resulted in conditions and practices which pollutes and contaminates the interpretations and inferences that are made from test scores (Akaranga & Ongong, 2013; Bachman et al., 2013; Filson & Brown, 2018; Flipppo & Caverly, 2008). This implies that the increased use of standardized achievement tests has come the pressure to raise scores, which in turn leads to increase in test score pollution. The pollution seriously affects the truthfulness of test score interpretations and puts into doubt the reasonableness of the many of the uses of the test scores (Flipppo et al., 2019; Genshaft & Kirwin, 2018; George & Mallery, 2012).

Studies in the field of general education have established the influence of testing on the process of teaching and learning (Gerald, 2018; Grant, 2015; Gyimah, 2012). Test results across the world are used as an indicator of the performance of teachers, schools, and the accountability of the education system (Haladyna, 2016; Haladyna et al., 1991).

In the current climate of dissatisfaction with public education, the standardized achievement tests scores have been the operational definition for educational achievement and raising test scores has been equated with educational improvement (Bachman et al., 2013; Chalak & Tavakoli, 2010). The misuse and overuse of test results, high pressure to produce high test score, high stakes nature of many uses, equating test scores with educational improvements have urged many teachers and testers to train and prepare test takers to complete their tests. The demand to raise test scores has resulted in conditions and practices which pollutes and contaminates the interpretations and inferences that are made from test scores (Filson & Brown, 2018; Haladyna et al., 1991, 2018).

In preparing students for standardized achievement testing, test preparation practices (teacher role), test administration situations (testing environment or conditions) and external factors (parents and community activities) could be indicative of students' performance for that matter their true score (Haladyna et al., 2018; Hargett, 2016; NCME, 2014). For example, in test preparation, many teachers utilize a variety of strategies which aimed at maximizing student performance. Within the measurement and testing literature, several researchers have written about the potential consequences, both good and bad, of using particular test preparation practices (Akaranga & Ongong, 2013).

Largely, some authors have asserted that factors such as test anxiety, motivation, self-esteem, inhibition, stress, fatigue, concentration, attention, interest, setting, policies of the school, administration, location, and the examiner effect are among the factors that have impact on test scores (Chalak & Tavakoli, 2010; Haladyna et al., 2018; Jones et al., 2019). These factors are specific to the administration of the test and pollute or contaminate test results or interpretations that are made from test scores (Buzick & Jones, 2015; Grant, 2015; Haladyna et al., 2018). The society accessibility to test results also pushes schools to provide any support necessary for raising test scores which results in practices that leads to test score pollution (Haladyna et al., 2018; Mereku, 2000).

MATERIALS AND METHODS

Research Design and Sampling Procedure

Quantitative approach using descriptive survey was adopted for this study. Quantitative approach was deemed appropriate for this study based on the rationale that we wanted to quantify social phenomena and collect and analyze numerical data that will reflect the phenomenon under investigation (Hargett, 2016; Mitchell, 2007).

The total population of the study was made up of all the basic teachers and parents in the districts. Sample size for the study was 352 teachers and 123 parents. G*Power software was used to use to obtain the sample. The rationale for using the software is based on the assumption that it enables researchers to do analyses for many different t-tests, regression test, F tests, Chi-square (χ^2) tests, z-tests, and some exact tests. G*Power also enable researchers to compute effect sizes and to display graphically the results of power analyses

Instrumentation and Data Analysis Procedure

The instrument used for data collection contained indicators that measured test preparation practices (teacher factor), test administration situation (testing conditions or environment) and external factors (parents and the community pressure). The instrument was validated and proven reliable and standardized for data collection. To estimate the validity, content and construct validity were employed.

To evaluate the reliability evidence, internal consistency using alpha coefficient and correlation coefficient were computed. For alpha coefficient, .783 was obtained and .823 was obtained for correlation coefficient. The items on the questionnaire were close ended and were used to measure the predictors. The items on the questionnaire were multiply scored on a four-point Likert type scale. The items on the Likert scale scored ranging from four (4) for strongly agreed to one (1) for strongly disagree for positive statements. Negative statements that were captured were scaled in the reverse form in the coding process.

The obtained data was collated and edited without altering the responses. After coding, the data was entered into the computer and processed using the statistical package for social sciences (SPSS v.25) and interpreted with the linear multiple regression (LMR) using the stepwise selection. Using the stepwise selection, we combined the predictors variables in a forward and backward selection matter.

In the approach, we began with a null model, then we added the single independent variable that makes the greatest contribution toward explaining the dependent variable, and then iterates the process. Additionally, a check was performed after each such step to see whether one of the variables has now become irrelevant because of its relationship to the other variables. In our case, all the predictors were relevant as such were not removed.

The justification for selecting the multiple linear regression (LMR) using the stepwise selection approach was to show the direction and magnitude of the predictive variables (TAS¹, TPP², and PCP³) on the dependent variable (test score pollution). The use of the LMR allowed us to identify the unique contribution of each predictor to the outcome variable (TSP).

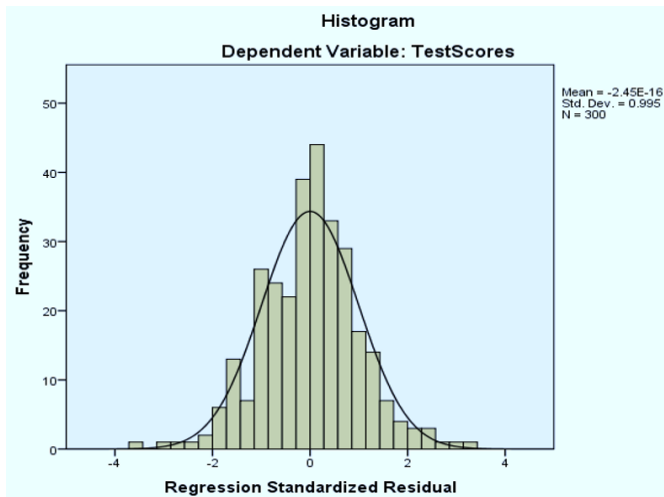


Figure 1. Normality plot

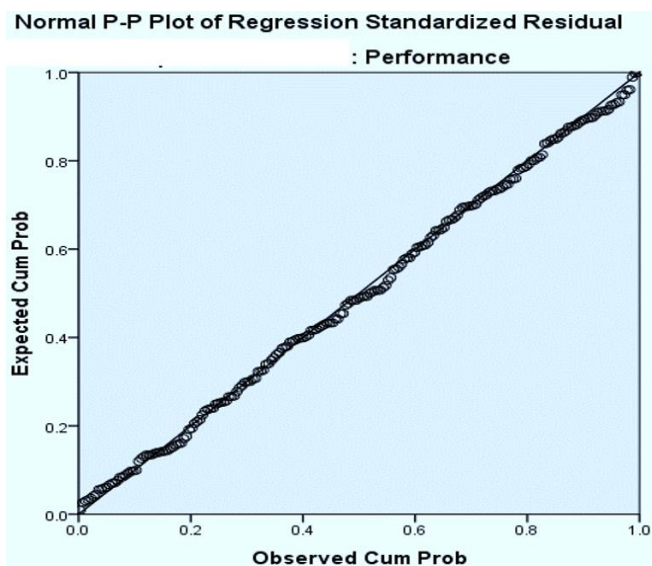


Figure 2. Diagnostic test of normality and linearity

FINDINGS

Statistically, we sought to find out how test preparation practices (teacher factor), test administration situations (testing conditions or environment) (test administration situation) and other external factors (parents and community pressure) are associated with test score pollution. To achieve this, LMR was deemed appropriate for the analysis. However, prior to performing multiple regression test, certain assumptions **must** be met. All these assumptions were **tested**, and the data was proven normal. One of these assumptions is normality of the study variables.

Figure 1 presents the normality of the multiple regression test. The clustering of the variables at the center of the normality curve shows that the data was normal and multiple regression could be performed. According to Nitko (2001), a straight normal probability plot is an indication of normality and linearity. Gerald (2018) noted that when multiple regression assumptions are met, it produces a reliable result.

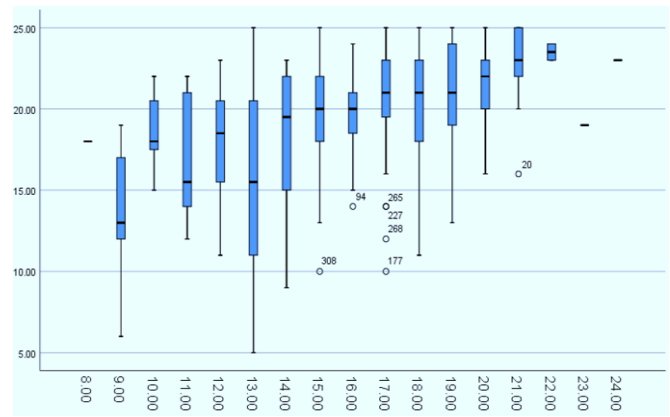


Figure 3. Means plot test of normality and Linearity

Table 1. Results of multicollinearity diagnostic test of study variables

Predictor variables (factors)	Factor1 (X1)	Factor2 (X2)	Factor3 (X3)
Test administration situation (TAS)	1.00	.039	.042
Test preparation practices (TPP)		1.00	.436*
Parents & community pressure (PCP)			1.00

Note. Source: Field survey (2021); Sample: Teachers (n=353) & Parents (n=123); Dependent variable: TSP; & Independent variables: TPP¹, TAS², PCP³

From Figure 2, a reasonable straight line could be seen from the plot demonstrating normality and linearity of the data. This, therefore, means that conducting multiple regression test was justified.

Similar interpretation and understanding are recounted and displaced in Figure 3. The histogram plot of standardized predicted values versus standardized residuals, showed that the data met the assumptions of normality of variance and linearity, and the residuals were approximately normally distributed.

Table 1 indicates the results of multicollinearity diagnostic test of the variables. The problem of multicollinearity is said to exist when independent variables used in the study (X1, X2, and X3) are highly correlated with each other. The study followed literature to test this assumption. It is assumed that correlation coefficient of 0.70 or more between independent variables is assumed to demonstrate evidence of multicollinearity problem (NCME, 2014; Nolen et al., 2016). From Table 1, the highest correlation coefficient is .436 (X2*X3) which is less than 0.70. and the least high correlation coefficient is .039 (X1*X2). This gives evidence that there was no problem of multicollinearity in the dataset. Having tested for the assumptions, running multiple regression was deemed appropriate.

Table 2 illustrates the descriptive statistics (means and standard deviations) of the associated factors that predicted test score in the three districts. From the analysis, the maximum score after the data was transformed was 60.00 (max.=60.00) and the minimum score was 15.00 (min.=15.00). This implies that mean values must fall with the minimum and the maximum range (15.00-60.00). On the Kurtosis values, the results show that the variables follow a normal distribution this is based on the reason that the kurtosis values were within the acceptable limit for normal distribution of ±2 (Nitko, 2001) indicating that the data was normal (not skewed).

The results in Table 2 indicate that test administration situation (TAS) recorded the highest mean and standard deviation (M=45.62, SD= 1.097, K=.519, T=352, P=123, CI95%). This was followed by test preparation practices (TPP) with the mean and standard deviation

Table 2. Descriptive statistics of the predictive variables

Associated factors	Mean	Standard deviation	Skewness		Kurtosis		n-sample
			Stat.	Standard error	Stat.	Standard error	
Test administration situation (TAS)	45.62	3.223	1.9416	-1.100	.519	1.39	T=353, P=123
Test preparation practices (TPP)	37.78	1.097	1.8423	-.081	.794	-.030	T=353, P=123
Parents & community pressure (PCP)	22.83	7.090	2.0534	.009	.954	-.400	T=353, P=123

Note. Source: Field survey data (2021); Max. score: 60.00; Min. score: 15.00; CI95%; & Sample: Teachers (n=353) & Parents (n=123)

Table 3. Multiple regression analysis of the predictors of test score pollution

Model	Unstandardized coefficients		Standardized coefficients	Cal. t-value	p-value p> t	Rks	n
	B	Standard error	Beta (β)				
(Constant)	72.508	9.069		2.61	.000(CI95%)	-	T=353, P=123
TAS	1.425	2.134	.616	4.20	.006(CI95%)	HP	T=353, P=123
TPP	3.381	3.104	.473	4.73	.007(CI95%)	MP	T=353, P=123
PCP	3.249	.133	.396	2.69	.000(CI95%)	LP	T=353, P=123

Note. Dependent variable: TSP; Independent variables: TPP1, TAS2, PCP3; HP-High predictor; MP-Moderate predictor; LP-Low predictor, n-Sample; T-Teachers; P-Parents; Rks-Remarks; & CI-Confidence interval

Table 4. Results of multiple regression analysis of contribution of each the predictors

Predictors	R	R ²	Adjusted R ²	Change statistics	Rank order	Rks
				R ² change		
Test administration situation (TAS)	.604 ^a	.377	.673	.652 (65.2%)	1 st	HP
Test preparation practices (TPP)	.822 ^b	.705	.763	.218 (21.8%)	2 nd	MP
Parents & community pressure (PCP)	.895 ^c	.874	.897	.130 (13.0%)	3 rd	LP

Note. Source: Field survey (2021); Sample: Teachers (n=353) & Parents (n=123); CI95%; Dependent variable: TSP; Independent variables: TPPa, TASb, PCPc; HP-High predictor; MP-Moderate Predictor, & LP-Low predictor

(M=37.78, SD=7.090, K=.794, T=352, P=123, CI95%). Parents and community pressure (PCP) recorded the least mean and standard deviation (M=22.83, SD= 3.223, K=.954, T=352, P=123, CI95%). From this descriptive analysis, one could conclude that test administration situational (TAS) factors are more associated with test score pollution than all the other predictors. However, in order to determine whether these differences in the mean scores were statistically significant, we further conducted regression analysis to give more statistical evidence to confirm the findings.

Table 3 presents the results for the multiple regression analysis. From the results, it is evident that all the three independent variables (test administration situation, test preparation practices and parents and community pressure) were statistically significant at p-value of 0.05 indicating that all the predictive factors contribute to test scores pollution. For example, test administration situation as predictive factor was statistically significance (t=4.20, β =.616, Sig.=.000, CI95%, T=352, P=123), test preparation practices also produced a significance result (t=4.73, β =.473, Sig.=.007, CI95%, T=352, P=123), and finally, parents and community pressure yielded a significance result (t=2.69, β =.396, Sig.=.000, CI95%, T=352, P=123). Nonetheless, when measuring the standardized beta values, the highest factors upon the dependent variable are test administration situation (beta=.616), test preparation practices (beta=.473) and finally, parents and community pressure (beta=.396). when assessing the beta values, the results suggest that among all the predictive factors, test administration situation (testing conditions or environment) was identified as having much influence on test score pollution in the selected districts.

Table 4 shows how each of the predictors contributed to test scores pollution (in percentage terms) in districts. Using the R² square change statistics from **Table 4**, it was evident that X1 (test administration situation) contributed more than all the other factors. That is R² change statistic value of .652 (CI95%) representing 65.2%. Factor X2 (test

preparation practices) contributed R² change statistic value of .218 (CI95%) representing 21.8% indicating the second contributor. Factor X3 (parents and community pressure) contributed R² change statistic value of .130 representing 13% showing the third contributor. The implication to this analysis is that predictor1 (X1-test administration situation) was identified as the best predictor of scores pollution in the selected districts in the Volta region of Ghana. This suggest and explains that to improve rigorous and valid testing practices in the districts, much attention should be given to situations or conditions that surround test administration.

DISCUSSION

The study established evidence to suggest that test scores are polluted with activities of test administration situation, teachers as well as external influence of parents and community. The results give abundant evidence to believe that scores of students ride on situations or conditions that surround test administration. That is to mean that how tests are administered reduce the fairness and the validity of the test scores. The paper is discussed using the three predictors (TAS, TPP, and PCP) in the study.

Test Administration Situations (Testing Conditions or Environment)

In our study, we were guided by the fact that test administration situation refers to all those factors that are specific to the organization and administration of tests and their situations. They are factors affecting test scores, their inferences, interpretations, and validity (Haladyna et al., 2018; NCME, 2014). In our study, it was revealing that how tests are administered contribute highly to test score pollution leading to error scores. The results give ample evidence to assert that in

Ghana, it does appear that little effort is put in place to control or hold some variables constant during test administration process.

Contextually, our findings place itself with other authors who accrued similar evidences in their studies. For example, the work of NCME (2014) and Thomas et al. (2001) found that factors such as test anxiety, motivation, self-esteem, inhibition, stress, fatigue, concentration, attention, interest, setting, policies of the school, administration, location, and the examiner effect are among the factors that have impact on test scores. One common striking evidence among all these studies is that these factors are specific to the administration of the test and may pollute or contaminate test results or interpretations that are made from test scores.

Sequel to other related work, test anxiety, time of the test, examiners attitudes were regarded as some of the highly possible situational factors that contribute to test score pollution. For instance, in a validation study by Mitchell (2007), it was contended that test anxiety was deemed as an important situational factor and has received great deal of attention. Test anxiety as test administration situations can affect the results of tests and scores (Amedahe, 2000; Tabachnick et al., 2007; Thomas et al., 2001; Wall, 2018).

Relatedly, another factor that was found to pollutes test score in test administration situation was time limit. Timed testing compared to extending time limits or increasing or providing extra time may affect the results obtained through tests (Anane, 2008; Buzick & Jones, 2015). On the other hand, teachers' attitude toward teaching, tests and even students may affect the results of the tests. It can have an impact on student achievements (Cohen et al., 2017; Genshaft & Kirwin, 2018). This factor as a situational factor may increase or decrease performance of the students. Standardized tests may create some kind of discouraging climate for teachers which in turn affect the profession and their attitude toward the test and consequentially may contaminate the results of test.

Test Preparation Practices (Teacher Factor)

The results from the study suggest that teachers in their quest to prepare their students for tests could pollute the scores. Most teachers are influenced by the activities of the school authorities to produce higher scores for their students. Most of these teachers engage in these practices in order to save their image as well as to protect their job. The evidences accrued in this study were reiterated in the work of Chalak and Tavakoli (2010) and Chapman and Snyder (2019), who similarly pointed out that test preparation activities may be regarded as ethical (such as training in test-wiseness skills, checking answer sheets to make sure that each has been properly completed, increasing motivation) or non-ethical (such as scoring high, presenting items similar, identical or parallel to those on the test) but the important point is that test preparation activities affect the validity of uses, inferences and interpretations that we make from test scores. Teachers in their quest to produce higher score for their students are likely to be engaged in unethical practices that could contaminate or pollute the true score of students. To this end, these practices of teachers could affect test score and are considered as test contaminants.

External Factors (Parents and Community Pressure)

On the external factors which carved and used in this study as parents and community pressure was recounted as one of the predictive factors that contribute to test scores pollution. The results gave abundant evidence to believe that pressures exacted by parents and the

community, or the society compel many students to contaminate their scores. Most of these students engaged in these malpractices activities in order to satisfy the desires and curiosities of society and parents. Similar to this, Tamakloe et al. (2005) believed that the most important source of test score pollution is attributed to external factors. Also, Dolly and Williams (1983) claimed that the most dangerous pollution is the misinterpretation and over-interpretation of test scores which lead to many of the other sources of contamination.

Akin to the above related empirical propositions, the study of Chapman and Snyder (2019) also found that external factors could have a great effect on the test scores of students. This therefore suggest that to maintain an optimal level valid scores for students, a great deal of attention needs to be given to the external factors. The findings from this study are not far from that of NCME (2014) who examined different study skills and concluded that ineffective instructions by parents and community can lead to learners' test scores pollution.

CONCLUDING REMARKS

From the study, we could infer that the pollution of test score could be as a result of some measurement errors such as teacher influence, test administration situation and parent and community pressure. This is to suggest that most of the scores of students are not representative of their true abilities and skills. To promote or to provide accurate and reliable test results, it is incumbent on testing authorities to pay much attention to measurement errors (test administration situation, test preparation practices and parents and community pressure) that could dilute students' scores. Obviously, the reason for the test score pollutions in the three districts could be as a result of teachers viewing West African Examination Councils (WAEC) as a tool of accountability of the quality of teaching in their schools. In line with the test administration situations or the testing environment or conditions, it is highly possible that most of the testing environments are not rigorous enough to contain students and invigilators behaviors and attitudes. To worsen the phenomenon, pressure and comparisons from parents and community members could compel teachers and students to travel every mile to get their scores better. Until all these measurements errors (test administration situation, test preparation practices and parents and community pressure) that pollute test scores are control to some extent, most students' scores will be hypothetical and may not reflect their true abilities and skills.

Authors contributions: SN: conceived the study, drafted the methodology, performed all analysis as well as the graphs, and concluded the paper; SA: drafted the introduction; TB & SN: discussed the paper; & SN, SA, & TB: reviewed multiple drafts and suggested additions, amendments, and variations. All the authors approve final version of the article.

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Data availability: Data generated or analysed during this study are available from the authors on request.

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A Discourse on the Effectiveness of Health Communication on COVID-19 Infodemic and Conspiracy Theory in Nigeria

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ABSTRACT

Communication is a necessity for the survival of society. In the face of so much misinformation or fake news in public domain, threatening public health, it has become even more important and needed. Whereas health communication is important in the fight against diseases especially those that have assumed the pandemic status, effective health communication is needed mostly, if the desired result and set objectives must be realized in record time. One important role communication plays in fighting diseases is that it helps eliminate misinformation as well as disinformation. COVID-19 came with all forms of conspiracy theories and fake news across various social media platforms, breeding some form of danger on public health. Such requires effective health communication. Health belief model is the theoretical framework for this paper. Through the use of summative evaluation design by consulting existing research documents in book chapters, journal article and online materials, the paper established that health communication possesses the required powers to quench all forms of infodemic and conspiracies regarding coronavirus. The paper emphasizes that in the face of infodemic and conspiracy theories regarding COVID-19, effective health communication becomes important and can be relied upon to help in quality communication to vulnerable groups on the risk and dangers associated with misinformation. The paper suggests that best ways government and other stakeholders can sustain efforts at stemming the tide with regards to misinformation in public domain without infringing on personal liberties of citizens is to improve efforts aimed at countering fake news across same platforms where fake news thrives.

Keywords: health communication, pandemic, COVID-19, infodemic, conspiracy

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INTRODUCTION

Coronavirus pandemic took the world by surprise. Strategies from varied angles have since been deployed to fighting the disease. On one front, science led efforts – which was to research and find a cure to COVID-19, and on the other, communication has also been deployed to ward-off all forms of manipulative and misleading information in circulation occasioned by the search for relevant information as to preventive and curative measures. Therefore, the fight was from two angles or sides. The two actions against the pandemic were taken by authorities and organizations simultaneously in order to ensure all-encompassing efforts to reduce its impact on the world and its people.

Nonetheless, the pandemic presented difficult times as people were forced to adopt new forms of communication following several restrictions put in place to stop the spread of coronavirus. New media platforms especially social media became popular, and a lot of people were exposed to information therein. Social media also became the major source of information owing to their ubiquitous nature – and that

equally gave rise to all manner of information being shared and reshared on platforms such as Facebook, YouTube, WhatsApp, and so on. Infodemic and conspiracies found their ways into these platforms and unsuspecting users bought into many of such and acted in manners deemed to have put their health in danger.

During health crisis, the most viable tool for combating tough situations is health communication as it possesses both the informative and persuasive advantages. In a COVID-19 era, where infodemic and conspiracy theories thrive in society, health communication becomes a useful tool. The situation the world founds itself in the middle of coronavirus was not unexpected. Quoting Larson (2018), Mheidly and Fares (2020) talked about the impact a major outbreak will have on society due to the contributions of emotions to be spread through digital means. Here comes COVID-19 infodemic and conspiracies largely distributed through new media platforms. No doubt that advancement in ICTs and digital media played significant roles in magnifying the impact of COVID-19-related fake news, and conspiracies and such is not good news for public health efforts. The spread of misinformation has in several ways undermined public health

efforts – with respect to issues such as vaccination and health-protective behaviors (van der Linden, 2022). People who are exposed to conspiracy theories and fake news tend to take decisions that may hurt them and public health of the population if not controlled. The foregoing, therefore, underscores the importance of health communication in any society.

During any health crisis, the importance of health communication becomes greater and there is no over flogging the point in research owing to its significance in public health architecture. Health communication has to do with all forms of health-related human communications (Berry, 2007). Health communication is “the study and use of communication strategies to inform and influence individual and community decisions that enhance health” (The Community Guide, n. d., para. 1). It involves the use of strategies and channels to deliver health-related messages to individuals, communities, and groups such as health professionals, decision makers among others in order to help them make informed decisions. It makes use of a variety of tools including digital ones to reach its goal.

Statement of the Problem

As observed above, the coronavirus pandemic era presented difficult times with respect to the spread of misinformation and fake news. In other words, there was overabundance of information – a situation which became confusing as people found it difficult to sift through information. During the outbreak, social media platforms immediately became awash with all manner of information – with some pointing to curative and prevent measures to help the population navigate through the period. This became a problem because of the danger inherent in taking decisions based on the information to which an individual is exposed. It is on this basis that the importance of health communication is emphasized. In a pandemic such as that of the COVID-19 era, health communication becomes useful owing to the proliferation of misinformation across social media platforms.

Several studies such as Bensi et al. (2020), Finset et al. (2020), Oxman et al. (2022), and Venkateshiva and Gupta (2020) have all highlighted the importance of health communication. However, the problem occasioned by infodemic and conspiracy theories related to the COVID-19 pandemic is one that requires continuous study and probing. Therefore, this study through summative evaluation in form of a discourse focused on a number of conspiracies and infodemic that trended during the outbreak whilst delving into the impact and efficacy of health communication in helping to deal with the challenge.

Research Objectives

The study objectives are, as follows:

1. Find out the effectiveness of health communication in the fight against COVID-19 related infodemic and conspiracies.
2. Highlight coronavirus-related infodemic and conspiracies shared in Nigeria in the midst of the outbreak.
3. Ascertain the dangers in the spread of COVID-19 infodemic and conspiracies.
4. Find out the impact of health communication on coronavirus-related infodemic and conspiracy theories.

CONCEPTUAL REVIEW

For a better understanding of concepts used in this study, it is important to review or clarify each. Therefore, the concepts of health communication, infodemic, and conspiracy theory are clarified, and meanings provided. In the study, the term health communication is used interchangeably with communication while conspiracy theory, infodemic, and misinformation are also used throughout the paper to explain the deliberate spread of falsehood to sway people – which may lead them to do something or do nothing.

Health Communication

Health communication is a term that describes the use of strategies targeted at an individual or group of individuals of which the primary goal is to help them reach informed decisions regarding their health. According to Rural Health Information Hub (n. d.), “Health communication includes verbal and written strategies to influence and empower individuals, populations, and communities to make healthier choices” (para. 2). Like risk communication, health communication relates to public health emergencies – but both are tailored towards the improvement of health outcomes with the use of specific strategies targeting audiences that are at risk with useful health-related information (Ratzan et al., 2020; Schiavo, 2013).

Health communication has been identified to be useful to virtually all areas of human life and wellbeing (Nichols, 2018). Nichols (2018) further emphasizes that health communication play important roles in three key areas of disease prevention, health promotion and quality of life. In other words, health communication is important to the general wellbeing of an individual and the society at large. Due to its importance in the general wellbeing of people, health communication requires thorough research efforts. Therefore, Nichols (2018) suggests an establishment of a standardized approach to enable developers and evaluators make inputs based on research endeavors as it is the only way to achieve effective health communication. In this study, health communication is used to refer to all forms of health-related communication targeted at the people to elicit positive behavioral change in lifestyle especially during the COVID-19 pandemic in Nigeria.

In modern times, technology is changing the ways health information is delivered to the people. According to Brennan (2020), with the advancement in technology comes more choices and increased sophistication in the means through which health information and biomedical data are delivered just as much as it aids in interrogating the shared information. In other words, through the sophistication in technology, medical information delivery is diversified – and the recipient of such information also have at their disposal several options to interrogate or probe the information to which they are exposed. Health communication and health information technology (IT) have also been described as being central to public health, health care and society’s general perception to health (Healthy People, 2022). Put in another way, IT and health communication can be seen as the central nervous system of public health and health care.

Infodemic

Infodemiology is an emerging research area or area of study. It has to do with determinants and distribution of health-related information on the internet with the sole aim of improving public health (Eysenbach, 2011). In the same category of words is the newly coined

“infodemic”. According to Zarocostas (2020), the word was introduced to underscore the danger of misinformation in managing disease outbreaks especially with the knowledge that such can impact negatively on the fight against the spread. Infodemic can be seen as excessive information disseminated online and offline to advance the agenda of individuals or group of individuals, most time false, deliberately put forward to undermine public health (WHO, 2020). What the United Nations labelled *infodemic* is the rapid spread of misinformation about COVID-19 (Ephraim, 2020).

COVID-19 is one of the most significant health challenges of the 21st century (Rains et al., 2020). While the World Health Organisation (WHO) leads the fight against COVID-19, a more dangerous global epidemic of misinformation is affecting coordinated efforts aimed at combating the disease. It is the epidemic of information spreading through new media platforms especially social media that the WHO Director General Tedros Ghebreyesus called *infodemic*. Undoubtedly, infodemic is posing a serious threat to public health (Galvão, 2020; Zarocostas, 2020). Such threat could manifest and cause serious behavior-related public health crisis that would be difficult for the world to fight – which is why it is considered dangerous to healthcare in general.

Somehow, there is a significant relationship in the meanings of infodemic and pandemics. Whereas pandemics refers to the outbreak of a disease, infodemic has to do with the outbreak of unreliable news/information or false rumors (Tangcharoensathien et al., 2020). In any case, infodemic relates to information without a verifiable origin or source but thrives on heresy – and with the use of social media in modern times, its rapid spread has assumed unimaginable degree and proportion.

Conspiracy Theory

Whenever an event takes place and then it is attributed to be as a result of a plot or conspiracy which could just be speculative or based on evidence, then conspiracy is said to be at play (Basham, 2003, 2018). It is possible for people to hide under the cover of conspiracy to advance a plot or motive or execute a plan especially in political circles. Health-related areas are also known to have witnessed certain conspiracies. Whenever, health-related conspiracies crop-up, the impact and harm it can cause to public health are sometimes in unimaginable proportions. In relations to this, Bligh et al. (2020) posit that conspiracy might seem entertaining when it starts as fun but could be dangerous. With conspiracy come a high degree of cynicism and the tendency for people to disobey recommendations from authorities (Igoe, 2020).

Conspiracy theory and disinformation are tools used by two or more powerful actors in an attempt to provide explanation to causes of social and political events of significant importance (Douglas et al., as cited in De Coninck et al., 2021). It can also be seen as explanation or narrative provided for historical events in which agents act in secret with a significant causal role (Coady, as cited in Napolitano & Reuter, 2021). According to Axelsen and Emberland (2020) explanations that relate to wicked and secret actions and wicked plots or plans of a group of conspirators are examples of conspiracy theories. In other words, such powerful people often churn out all manner of explanations or provide information and paint them as truth or genuine information.

In a digital age where people can easily have access to information, coupled with unhindered information flow, conspiracy theories easily spread, and people get it from across platforms. In a study by Duffy and

Allington (2020), it was found that people easily believe conspiracies. Duffy and Allington (2020) further reveal that while some people get their information from mainstream media such as TV, radio, newspapers, and magazine, most young people relied on social media platforms such as Facebook, YouTube, Twitter, and WhatsApp among others. Duffy and Allington (2020) allude that reliance on social media is becoming a trend amongst young people who referred to themselves as digital citizens.

LITERATURE REVIEW

Health communication has been described as a key aspect of the entire chain process useful during health crisis (Benski et al., 2020). Further, Benski et al. (2020) explained that it is therefore a significant note to ensure the development of appropriate materials to effect behavior change and that becomes a key aspect with respect to COVID-19 pandemic. Taking a cue from the position of Finset et al. (2020) that with the pandemic came an explosion of information on a global scale, the need to ensure that all forms of misinformation from across spectrum is countered became much more glaring. Indeed, whenever communication involves humans, there is always an increase in the production of information noise – including false and misleading information types (Lazer et al., 2018).

The use of ICTs and associated technologies is not so novel with respect to health communication as the practice has been on for a while. Arghittu et al. (2021) lend credence to the foregoing that public health has made use of modern ICTs to reach various group of persons in the society for some time now. Relatedly, the use of social media reportedly had huge impact on previous pandemics such as the H1N1 virus as much as it had on the COVID-19 pandemic as it became a useful tool for health risk communication (Budd et al., 2020; Klemm et al., 2016; Tang et al., 2018). The foregoing speaks to evidence as to the effectiveness of communication and platforms with respect to pandemics as evident from recent ones such as the H1N1 and COVID-19.

However, there are evidences that social media and other digital media are susceptible to the sharing of infodemic and conspiracy which are considered dangerous to public health. According to the WHO (2020), misinformation may be harmful to humans because when people are exposed to it, they could develop some form of resistance capable of making them ignore proper medical advice. The WHO described such situations as enablers for the virus to continue to thrive. The COVID-19 outbreak also generated a wave of low-quality and unreliable information which potentially hurts society's capacity to fight back any form of pandemic (Gallotti et al., 2020). Further, Gallotti et al. (2020) aver that the impact of complex cases of infodemic vary from country to country and unlike the expected outcome, certain G8 countries such as Russia and Germany were more susceptible to infodemic. In other words, when compared to some developing countries, the aforementioned countries stood far more vulnerable to risk of infodemic.

COVID-19-related misinformation, disinformation and conspiracy theory occasioned potentially damaging and far-reaching impacts, effects, or damages (De Coninck et al., 2021). For example, in a study, Saiful et al. (2020) found that several persons were exposed to widespread social media-mediated misinformation where it was suggested that consumption of highly concentrated alcohol could

disinfect the body and therefore kill coronavirus – a situation which according to the study also resulted in close to 800 deaths – with over 5,800 hospitalizations across the globe. On the basis of the foregoing, Hepp (2020) argues that COVID-19 pandemic and the health crisis that followed can be seen as one of the first deeply mediatized global pandemics. Another example was that people in Nigeria rejected the coronavirus vaccine as a response to the information to which they were exposed (Wonodi et al., 2022).

However, properly planned, structured, and executed health communication is seen as a potential solution to the issue of misinformation and conspiracy theories in a pandemic era. This is based on the conclusion of a study by Wonodi et al. (2022) that in the face of vaccine hesitancy, there is the need for adaptive strategies and messages. In other words, well-structured health communication messages are needed to spread information on the efficacy and safety of such vaccine.

THEORETICAL FRAMEWORK

Theoretical framework for this paper is health belief model. The quest by public health departments to understand the reason behind people's decision to use or not to use preventive measures in the 1950s, informed the development of Health belief model (Glanz, 2016). HBM was first developed by Godfery Hochbaum, Stephan Kegels, and Irwin Rosenstock (Jahanlou et al., 2013). The theory postulates that what influences people to take action with regards to disease or outbreak is their belief on whether or not they are at risk as well as their perceptions of what they stand to gain from the said action. Put differently, health belief model rests upon the understanding that an individual will take action regarding his health if the persons believe or is convinced that a negative health problem can be avoided through the action, or if the person expects a positive outcome if the recommended action is taken or have confidence that the recommended action can successfully be taken.

The theory's major constructs are perceived susceptibility and perceived severity, perceived benefits and perceived barriers, cues to action and self-efficacy. Perceived susceptibility is the belief that an individual can get a medical condition. In this case, health communication helps enlighten the public on their susceptibility to COVID-19 and since the world is still in the process to defeating the virus, the dangers are clear for everyone to see. In other words, the dangers are visible.

Perceived severity is how serious an infection could be and consequences of exposure. Health communication highlights specific consequences of the risk of COVID-19 and the need to be wary of the disease. Perceived benefits have to do with belief on the efficacy of the risk/impact-reduction actions advised. In line with this, health communication presents the positive effects or impact if the people adhere strictly to advised protocols by government agencies. Perceived barriers are the visible psychological costs of the behavior advised for prevention. Health communication that is effective also take on the possible side effects (if any) of certain precautionary measure – whether psychological or physical. Cues to action are strategies to unveil readiness. In this regard, health communication provides guide on what to do and how to do what. It also promotes awareness as well as provides periodic reminders.

The above was evident in the periodic SMS sent by the Nigeria Center for Disease Control (NCDC) on the measures to take to avoid

contracting coronavirus. The last construct of HBM is self-efficacy which was added recently – and it has to do with the confidence an individual has on his ability to take the recommended action to prevent a condition. If a particular individual takes the recommended action, chances are that the chances of severe impact of exposure to a disease is reduced.

According to Glanz (2016), health belief model can be applied to health concerns especially those that have to do with prevention and asymptomatic. This theory provides a base for this study because it helps to put in perspective the importance of health communication in the fight against COVID-19 infodemic and conspiracy theory. In other words, against all forms of conspiracy and infodemic on coronavirus, health belief model (through the use of health communication) presents possible ways to avoid negative health consequences that comes with believing alternative facts about COVID-19.

METHODS

The method adopted for this study is the summative evaluation design in form of a discourse. As a research methodology, evaluation research includes a series of enquiries which seeks to assess or appraise programs, practice, or activity in order to provide useful information as to the success or otherwise (Kellaghan, 2010). For the study, the use of existing documents in books chapters, journals and online materials proved useful in the discourse. The method is considered appropriate because the study is an evaluative discourse on the effectiveness of health communication on COVID-19 infodemic and conspiracy theories in Nigeria. It is only appropriate to discuss health communication adopted during the outbreak in order to ascertain its effectiveness and impact.

DISCUSSIONS

Effective Health Communication in a Pandemic: Analysis of COVID-19 Times in Nigeria

With massive misinformation on coronavirus across social media platforms, health communication became imperative owing to the danger misinformation has on public health. COVID-19 presented difficult times with respect to sifting between truths and outright falsehood just as several seeming legitimate sources of information fell prey to the global epidemic of information. A situation which called for concerted efforts against the hydra-headed problem which has to do with deliberate spread of certain information aimed at manipulating people to think or see certain unreal as real, untruths as truths, outright falsehood as genuine or legitimate information.

For example, information across social media platforms during the outbreak suggests that COVID-19 was manufactured in a laboratory with population control as the motive and that Asians especially the Chinese are to blame. There exists no evidence to back such claims. Other falsehood that permeates platforms borders on preventive and curative measures – include the insinuation that excessive consumption of alcohol can do magic when it comes to prevention, and that COVID-19 can be spread by mosquitos. Such information and abundance of it does not only confuse the people but also mislead.

In the case of Nigeria, information across social media platforms suggests that Nigerians and blacks in general have some form of

immunity against SARS-CoV-2 and that remains the simple explanation why predictions that Africa would be worst hit has not come to pass. Another piece of information that was quickly accepted by a vast majority of the people was the erroneous belief that COVID-19 cannot survive in Nigeria and other parts of Africa due to the climate conditions. Africa is known to be generally hot, and people then bought the idea that coronavirus cannot survive tropical region weather conditions – most parts of the Africa continent fall in the category.

Undoubtedly, the information shared across various social media platforms made the population vulnerable and put people in a dangerous slope and as such complicated the fight against the disease. Here comes health communication. Nigeria set up a committee to lead the fight against COVID-19 – the Presidential Task Force against COVID-19 was inaugurated to serve as advisory organ to the government on possible ways out of the era. In partnership with the NCDC, there was massive health communication through various mediums – mobile phones, billboards, traditional media which include radio, television, newspapers and magazines and social media platforms. Whereas the government-led efforts did a lot to arrest the situation, the Nigerian media did not fold its arm as it showed commitment to fight off the menace (Ifijeh, 2020). For example, Channels TV started a program tagged “COVID-19 Update” to keep people informed about the disease and what efforts are being employed to push back its impact or effects. TVC, AIT, NTA, and other broadcast organizations also developed programs and public service announcements to keep their audience educated and informed about coronavirus. The print media chiefly led by newspaper organizations also constantly kept the people informed on dangers posed by COVID-19 and need for cooperation from all to ensure a successful navigation out of the pandemic era. This aligns with the social responsibility principle of the press.

NCDC periodically sent text messages to Nigerians warning of self-medication and educating the populace on the need to get tested. When COVID-19 peaked in the third quarter of 2020, the government agency used social media platforms such as WhatsApp and the verified Twitter handle @NCDCgov to educate and enlighten the population on the symptoms to watch out for as red flags. This is in line with health belief model that when people are exposed to messages on the severity of a disease, they tend to take information serious and not easily swayed by acts of misinformation. For example, the SMS circulated by NCDC on some of the symptoms, at a point, was sent on a daily basis to ensure people know the danger they may be exposed to and therefore the need to take action. The agency in conjunction with PTF also championed health promotion programs across various media platforms. Therefore, NCDC embarked on effective health communication to ensure the people can choose between fact and fiction, falsehood, and truth.

Highlights of COVID-19 Infodemic and Conspiracies

Several conspiracies emerged following the COVID-19 outbreak. Let us consider a few, as follows:

1. Coronavirus is a creation of a laboratory in China to reduce population or to disorganize other countries so the Asian country can be better positioned to become the biggest economy of the world. Though the conspiracy theory as promoted aligns with the turn of events, there is no evidence to support the claim – at least for now.

2. 5G launch is somewhat related to COVID-19 and the radiation from the technology can kill birds and are signs of the end time. Videos circulated online to back this claim. Though it has been refuted, the damages on people's psyche are enormous. In Nigeria, the information that the escalation of COVID-19 infections elsewhere especially Europe and America can be attributed to 5G was floated by Christ Oyakilomhe – the President of Believers Loveworld AKA Christ Embassy. According to Ephraim (2020), this led to UK government sanctioning Loveworld News; a religious channel owned by the church with bases in UK and Nigeria.
3. Bill Gates is investing heavily on COVID-19 vaccine to advance his satanic agenda which will be implemented by ensuring that anyone that refuses to be vaccinated will not have access to several things which include, but not limited to travel abroad, financial inclusion among other deprivations.
4. The Nigerian government imposed the idea of the index case on the world to be able to siphon monies that will be allocated to the fight against COVID-19.
5. Hydroxyl chloroquine is the answer to COVID-19. Authorities are hiding the efficacy of the common drug to adhere strictly to instructions from those who implement the agenda of the new world order. Those who control the world also have shares in large pharmaceutical companies and want to make money through massive vaccine sales.
6. Melanin in the skin of Africans and black people world over is a good thing and prevents coronavirus. This erroneous belief stems from the scientific research that dark people possess more melanin than those with light skin. However, there is no scientific discovery thus far that proves this with regards to COVID-19.
7. The use of hot tea and a mixture of garlic and ginger help cure COVID-19.
8. COVID-19 will soon fizzle out especially during hot period as it cannot survive under harsh weather conditions.

Dangers in COVID-19 Related Infodemic and Conspiracy Theory: The Nigeria Scenario

Dangers, no doubt, abound when there is high consumption of misinformation especially across social media platforms. People tend to make health-related decisions based on information available to them. Pandemic or epidemic outbreaks are usually critical times for public health, and viral false information just like viral contagion usually comes with devastating effects. For example, in the wake of ebola outbreak in 2014, WhatsApp messages circulated online with one suggesting that a mixture of warm water and salt either for bathing or drinking is a preventive measure for the disease. At least two persons were reported dead after consuming the substance (WHO, 2014).

During COVID-19 outbreak, conspiracy theory and infodemic posed both public health concerns and security challenges to the Nigerian government. Information shared across various social media suggested that COVID-19 might just be a ruse and that government invented the idea just to make money from international organizations and donors. Those who believe such information and ignored warnings from government agencies appeared to be more vulnerable when compared to those who believed the disease exist and adhere strictly to safety protocols advised by the government agency saddled with

fighting the disease in Nigeria – the NCDC. Conspiracy theory on the origin of the virus also led to tensions in certain parts of Africa and Nigeria towards Chinese. This resulted in security concerns as government beefed up security around Chinese investments in Nigeria to forestall any form of attacks or vandalism. Companies in Lagos, Ogun and FCT were surveilled to ensure no xenophobic attack on Chinese interests in the country.

A dreaded danger posed by infodemic on COVID-19 is religious misinformation belief. It is common in Africa and elsewhere for religious people to promote the idea their faith can save them from diseases. It is same with COVID-19; people believe that their faith in religion is capable of saving them from COVID-19 (Barua et al., 2020). Barua et al. (2020) further explains that in Bangladesh and Brazil, religious leaders either organized special COVID-19 program or admonished people to visit worship centers – a move many believe can trigger an increase in infections since social distancing is recommended as one of the preventive measures. In Nigeria, certain religious organizations insisted on organizing programs (Okoye & Obulor, 2020) – a move that was seriously opposed by government. However, it is worthy of mention that religious leaders later worked with government in ensuring safe re-opening of churches and mosques with strict observance of COVID-19 safety protocols of guidelines.

Impact of Health Communication on COVID-19 Infodemic and Conspiracy Theories

Health communication has numerous impacts on the fight against COVID-19. We consider the following impact on COVID-19 infodemic and conspiracies:

1. Improves public health information. By presenting accurate information, health communication opens a window for further communication that can help people reach informed decisions about their health. Once people are well informed about their health, public health is improved.
2. Discourages alternative facts. Health communication provides the opportunity for people to sift alternation facts from real facts, truth from fiction, imaginations from realities. This leads to informed decision also capable of improving the health conditions of the populace. When the population is armed with the right kind of information, chances of taking wrong decisions about their health are unlikely – and this can also help improve the general wellbeing of the people over time. In other words, public health, in the long run, is improved through health communication.
3. Conspiracy theory and COVID-19 infodemic can lead to distrust between the government and the governed. Health communication provides a platform for a dialogue. Through effective health communication, government can present information to the citizens with the expectation that the people will believe and act when necessary. This way, it becomes a win-win situation.
4. Health communication to a large extent contributes to positive behaviors. As more and more people imbibe the recommended behaviors for the prevention of COVID-19 infection in Nigeria, they improve on their behavioral patterns which in turn have positive impact on fighting other diseases such as HIV/AIDS among others. This also aligns with the HBM

construct of perceived benefits as behavioral changes may have far-reaching impact on public health architecture in the future.

CONCLUSION

Health communication is indeed effective on COVID-19 conspiracies and infodemic. Rumors, fake news, and conspiracy theories pose great threat to public health and the best way to fight back is to implement a carefully planned and executed health communication. This paper has discussed the impact, dangers of COVID-19 infodemic and conspiracy theories. The paper also highlighted conspiracies and infodemic that went viral as the world struggle to fight Coronavirus pandemic. The paper revealed several conspiracy theories that trended during the period, with the most significant having to do with the origin of the virus – being that it was produced in a lab to depopulate certain countries to the advantage of China – the Asian country where the first case was recorded.

The paper also concludes that there are certain dangers associated with the spread of conspiracy theories and misinformation. One of the most significant is that through such information, certain persons in the society can be led to take unwise decisions with respect to their health. When they are exposed to information on curative or preventive measures, decisions can be taken that may harm individual members of the society – a situation that will further jeopardize public health response. On the impact of communication, the paper concludes that with carefully designed health communication, the quest to counter all forms of infodemic and conspiracies will be relinquished.

Recommendations

On the basis of the findings of this study and the discussions as presented above, the following recommendations are made.

1. Members of the public must learn to take information from constituted authority and avoid rumor mills spreading fake news and conspiracies across social media platforms such as Facebook, Twitter, WhatsApp among others. In order to achieve this, individuals must learn how to differentiate between genuine sources of information and others often considered as fake.
2. The government must engage all stakeholders in the fight against fake news. Government must avoid the weaponization of the term against perceived political enemies or dissenting voices. Therefore, setting up a special unit in National Orientation Agency (NOA) and other government agencies to also counter fake news constructively by providing accurate information on matters will be the reasonable way forward.
3. Concerned agencies and NGOs should partner to develop programs to enable fact-check and a public campaign carried out to educate the people on the dangers fakes news pose to them as individual and public health in general. Such concerned agencies of government to champion this cause should be led by the NOA and NITDA in a bid to build a synergy that would work.
4. Government must ensure that a strong presence on social media platforms is sustained to monitor engagement across platforms and refute dangerous information when the need arises and must also resist the temptation of a policing of the virtual spaces in ways that infringes on personal liberties of

members of the public. This is because when policies are made to overregulate social media, individual members of the public may not be encouraged to follow government handles or pages – a situation that may lead to missing vital information that could be shared across such platforms.

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