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RESEARCH ARTICLE

Critical Effects of Social Distancing and Lockdown on Residents of Oyo State During Covid-19 in Nigeria: The Integration of Socio-Economic Life and Physical Planning

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ABSTRACT

The advent of Corona Virus in 2019 (COVID-19) pandemic in the world has become a health threat to government and challenge to the public. This led to the imposition of social distancing and lockdown policy aimed at preventing the spread of this pandemic among the populace. The submission to these policies may have intrinsic implications on the public, regardless of the public health benefits to be derived. This study aims at assessing the critical effects of social distancing and lockdown for COVID-19 on the residents of Oyo state in Nigeria. The designed questionnaire focused on residents' perception of the COVID-19 and their attitudes towards social distancing and view on lockdown. Questionnaire administration among 1567 participants was through computer based online survey to avoid closed contact and maintain social distancing from the participants. The results submitted that no difference exist ($P < 0.05$) in terms of effects of social distancing and lockdown based on residents' socio-economic attributes. The economic life, religious life, business and movement of people as well as the education of the students, relationship among colleagues and planned events are mostly affected by social distancing and lockdown. This will abate residents' welfare, safety and limiting human right consequently threaten residents' health and social insecurity as well as urban and regional economic implications. This helps to develop potential thoughtful strategies to alleviate public health catastrophe especially amongst informal settlements' residents in Oyo state, Nigeria.

Keywords: COVID-19, Lockdown, Pandemic, Public Health, Social Distancing

Introduction: Coronavirus also known as COVID-19 is a virus categorised under alpha coronavirus and beta coronavirus with the symptom of cold and other mild upper respiratory tract infections in human body [1]. This is similar to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) and its continuous spread has become a pronounced fear to everyone worldwide, Nigeria is no exception. Millions of people around the world have been infected through the pandemic while over 130,000 have died [2,3]. The disease is liable to transmit easily from person to person [4]. Law, Leung and Xu [1] discovered that respiratory droplets most readily transmit SARS-CoV when an infected person coughs or sneezes within a short distance. Besides, the virus could also be transmitted by touching a surface or object contaminated with infectious precipitations followed by touching mouth, nose or eyes and incubated within the average period of 1 to 14 days from the last date of exposure in a person. Every government throughout the world including Nigerian government, is trying to respond to this predicament. Protection-motivation theory embraces threat appraisal and risk perception as determinant factors of the public's willingness to admit and adopt health-protective behaviours like frequent hand washing, physical distancing, avoiding public places, and wearing facemasks during pandemics [5]. Unless accurate residents' risk perceptions are made, effective management of residents' health risks cannot be made.

While Nigerian government continues to look for remedies in terms of vaccines and drugs for COVID-19 pandemic, the preventive measures to curtail the spread of the disease is imposition of social distancing and lockdown policies [2]. The policies were made to counter the effects of COVID-19 pandemic. This entails reducing the amount of contact amongst people within crowd and controlling close contact and interaction within them. Although, the economic and social life of people necessitate social interaction, but social distancing policy strategically minimises interactions and gives room for far-reaching seclusion [6]. Nigerian government considered these policies as effective preventive measures to prevent transmission of the disease. The policies enforce and prevent people from large congregation to maintain distance amongst them. Ideally, reducing the rate of contact and interaction among the people implies that there would be limitation to the transmission of the virus among the people. This embroils resident's ranking the benefits of social distancing and lockdown over its implications. However, the implications of these policies remains mostly indistinct.

The implications of social distancing and lockdown for COVID-19 pandemic poses on Nigerian citizens is significant and necessitates pressing consideration. The implications of COVID-19, policies, especially the lockdown policy, cannot but include regional economic nosediving. Nigeria, being the largest country in Africa, and the largest market for many intercontinental businesses and multinationals, has a lot of impacts on regional and inter-regional economy. Jhinghan [7] while justifying intra-regional and inter-regional economic integration opines that, economic integration especially among the developing economies is needed to accelerate their economic development. This is through encouraging the establishment and growth of manufacturing industries; expanding intra-regional trade; increasing the gains from trade and providing benefits of the extension of competitive markets. Pro-active efforts needs to be made to manage the outbreak of the disease, which may require the input of both the government and the citizens to prevent the spread of the disease [8]. Government must be ready to provide appropriate support on the healthcare workers and facilities to prevent the spread of the COVID-19. The critical effects of social distancing and lockdown for COVID-19 on Nigerian residents is significant and requires urgent attention. This study therefore aims at investigating implications of social distancing and lockdown for COVID-19 in Oyo state for the purpose of proposing strategies to alleviate the effects on the Nigerian residents with particular reference to Oyo state residents. This assumes to be a lesson for other developing countries experiencing the similar effects of social distancing and lockdown for COVID-19.

Research Objectives: This paper focuses on the critical effects of social distancing and lockdown for COVID-19 especially as it affects regional economy. The objectives of the paper are to:

i. examine the effects of Social Distancing and lockdown on the residents of the study area.
ii. evaluate and rank the Residents' perception on effects of Social Distancing and lockdown.
iii. examine the impact of lockdown on urban and regional economy.

Literature Review: The spread of COVID-19 globally has resulted to global confusion, loss of lives and global economic predicaments [9]. As a result, every country undergoing the pandemic crises imposes social distancing and lockdown measures to curtail the spread of COVID-19 virus, transmission and deaths [3,6]. The case of COVID-19 was firstly reported in Wuhan of China in December 31, 2019 [10] and her residents were not allowed to leave their homes and the city, except with permission through the institution of lockdown policy in January, 2020 in order to prevent further spread of the disease [9]. According to the study of Musinguzi and Asamoah [9], the imposition of the lockdown policy to restrict the movement of residents and social interactions resulted to reduction in the initial exponential increase in the spread of COVID-19 and fatality rate. Musinguzi and Asamoah [9] described social distancing as a thoughtful exertion instituted to discontinue or reduce the spread of highly infectious or contagious diseases. The actions embrace partial or total closing of social events such as religious activities, businesses and travelling, as well as other activities that may boost social interactions and proliferate the spread of the virus.

In observing the social distancing, people are restricted to their homes except for important issues with permission. The preventive measures to the spread of COVID-19 focused on four aspects of effective infection control and isolation according to Law, Leung and Xu [1]. These include confirmed cases, close contact handling, community prevention and protection on healthcare workers. It is the responsibility of the government through the assistance of the health workers to identify the confirmed cases with the aid of temperature check for every returnees from overseas countries. The effectiveness of tracing close contact person of the confirmed cases is also important to detect any other suspected case of COVID-19. All the closed contacts are to be instructed to report at the government's isolated centres for home quarantine and proper treatment until fully recovered. This aims at minimising the spread of the virus. The preventive measure that will focus on protection of healthcare workers will necessitate the use of personal protective equipment such as surgical mask, face shield or goggles, gloves and isolation gowns with strict infection control to prevent the droplet and contact transmission with viruses [1].

Singh, Singh, Maldonado, Tweed, Blanchet and Graham [8] are of the opinion that, Governments in countries with a high number of refugees should give priority to the host populations through integration of refugee into the COVID-19 strategy to prevent the transmission of the disease among the host population. Franch-Pardo, Napoletano, Rosete-Verges and Billa [11] reviewed the implementation of geographical and geo-spatial analysis to highlight current geospatial-analytical methods in the interpretation of the environmental effects and consequences of COVID-19. Xie, Campbell and Zhang [12] discovered in their study that social distancing compliance measure was not significantly correlated with education or income level of the participants, even though female and older participants tend to be more compliant with social distancing order and this consequently affects their businesses. The poorest populations are at risk of COVID-19 with chronic conditions that can increase mortality rate. The effects of social distancing through COVID-19 on residents' economy and unemployment status will abate residents' welfare and safety consequently threaten their health and social security [13]. Crawley, Loades, Feder, Logan, Redwood and Macleod [14] in their own study opined that social distancing and lockdown policies have multiple effects on children education, well-being and protection. Educational situation in many countries has changed since first case of coronavirus (COVID-19) infection was detected and increasing. Georgia was one of 188 countries worldwide that suspended the education process as at April, 2020 [15]. Block, Hoffman, Raabe, Dowd, Rahal, Kashyap and Mills [6] developed three distancing strategies and evaluated their effectiveness to reduce the effects of the pandemic and aid compliance of the strategies in a post-lockdown era. The social distancing strategies are to be more moderate contact-reduction policies.

The social distancing strategies designed by Block, Hoffman, Raabe, Dowd, Rahal, Kashyap and Mills [6] include limiting interaction to a few repeated contacts similar to forming social bubbles; seeking similarity across contacts; and thirdly, strengthening communities by triadic strategies. Although, the three strategies significantly slow the spread of the virus, but the most effective approach is the strategic reduction of interaction with repeated contacts [6]. Strategic social network-based decrease of interaction strongly improves social distancing effectiveness in order to reduce the risk of the pandemic. However, majority of the individuals need to interact across various social groups. There would be interaction among people in workplace, social gathering, and place of worship as well as among extended family. As a

result, Block, Hoffman, Raabe, Dowd, Rahal, Kashyap and Mills [6] opined that employing only one strategy might not be practical compared with a combination of different strategies.

The focus of community prevention, according to Law, Leung and Xu [1], necessitates the Nigerian government to declare the closure of all institutions at all levels in order to prevent assembling of students and some business premises, including markets as well as business transactions that are crowd-pulling. The government also propagates policies of social distancing and lockdown to prevent close contact and enhance traveling restrictions for all non-essential travel among the people. Besides, government encourages people on the use of facemask, hand wash hygiene, avoidance of closed contact with COVID-19 patients, covering of mouth by tissue when coughing or sneezing and other simple hygiene measures. Nigerian government declared these policies in order to prevent further community occurrence and stop the spread of the disease. Government of some states provide online teaching through radio and television, while some institutions are providing online teaching to students through social media. However, the effectiveness of these kinds of online teaching cannot be measured because of the irregularity of electricity and ineffective network service by communication service providers in these states. Some students with poor financial background with no or limited access to regular electricity and internet facilities would be disadvantaged to learn through these media. Mask wearing is useful and low-cost to lockdown, social distancing and hand washing policies according to Cheng, Lam and Leung [16] in the absence of an effective COVID-19 vaccine. This is to control the harm at source for the protection of essential workers who cannot stay at home, to help reducing increase in transmission and controlling future influenza epidemics. Various scholars have revealed that government imposition of social distancing and lockdown has certainly reduced the spread and infection of the virus. However, the effects of these policies are yet to be examined, especially in the context of Nigerian cities. It is on this basis, this paper attempts to examine the effects of the policies on Nigerian cities' residents.

One of the fundamentals of Urban and Regional planning is the interdependence of public institutions and the private life of individuals that fill the living space, whether at local, state/provincial and regional/national levels. Social distancing and lockdown policy violates this fundamental right of the people. The extensive, complex and rapidly changing socio-political and socio-economic structures of our urbanised and industrialised system requires codification and standardisation of the spatial interaction between public institutions and private life. This is why Knox and Pinch [17] postulates that "the public sphere and the citizens who populate it can be seen as one of the four fundamental categories of the social organisation characteristic of the modern societies. The others are the economy, civil society and the state" in the work of Knox and Pinch [17], they justify the necessity of working together of the public and private spheres of life which can be narrowed down to public welfare and individual's comfort within the living space. These include freedom of assembly and association, inviolability of the home and those related to the transactions of private owners of property in the sphere of the civil society. According to Matthews, Sarstedt, Hair and Ringle [18], understanding the relationship between people (society) is an essential components of urban design. It can therefore be concluded that the spatial activities of man is determined by the nature of his environment, which is environmental determinism, an exaggerated concept of the relationship between man and his environment.

In Urban and Regional planning, the relationship between the society and space cannot be overemphasised. Matthews, Sarstedt, Hair and Ringle [18] assert that it is difficult to conceive of 'space' as being without social content and, equally, of society without a spatial component. In all spheres of life, and public policies and regulations therefore, spatial dimension/consideration must be an integral component. This is because, policies and regulations are made for the public, and the major focus of Urban and Regional planning is public welfare, which cannot be achieved without gainful conciliation between man and the space. This makes physical planning and intelligent forethought. In the relationship between man and environment, there are three conflicting principles/concepts that worth being discussed in this paper. They are: Environmental Determinism, Environmental Possibilism and Environmental Probabilism. In the analysis of Kashef [19], Environmental Determinism is a situation whereby the physical is a sole determinant factor of human activities and behaviour. He however dispel the concept by asserting that Urban space can be configured and re-configured by social and cultural changes and not vice-versa, because people are not passive. Humans are dynamic, the space is dynamic (natural

and man-made), so spatial planning and management is dynamic. Kashef [19] concluded that human behaviour is thus inherently situational, embedded in physical but also 'social', 'cultural' and 'perpetual' – contexts and settings. Porter, Phillips and Lassar [20] and Bell, Fisher, Baum and Greene [21] dispel Environmental Determinism. Porter, Phillips and Lassar [20] came up with the concept of Environmental Possibilism whereby people choose from among the environmental opportunities available to them; while Bell, Fisher, Baum and Greene [21] propounded Environmental Possibilism, suggesting that in a given physical setting, some choices are more likely than others. Possibilism and Probabilism recognise the non-stagnant nature of man and environment. Government policies, technology and other variants can change human activities at any given time in any given environment, which the policy of 'social distancing' and 'lockdown' due to COVID-19 had proved.

As enunciated earlier, urban dwellers are the worst hit by the corona virus pandemic, and the reason is that urban population live more closely than the rural and central settlement dwellers. In physical planning, urbanisation is known to be one of the major problems confronting the governments and urban administrators in the developing countries, including Nigeria; Oyo state, particularly Ibadan, is not an exception. Indigenous cities, such as Ibadan the capital city of Oyo state, and political headquarter of the south west geopolitical zone, is bedevilled with blight and slums. Indigenous neighbourhoods such as Bere, Oritamerin, Ayeye Gege to mention but a few are notorious slums, characterised by space congestion, lack of basic infrastructure and public utilities, population of all kinds and social mishap such as crime, unwanted pregnancy, sexual abuse, drug consumption, low-paid informal jobs and so on. Poverty, ignorance and poor nutrition lock the urban poor in an environment where infectious diseases, such as pneumonia, diarrhoea, and tuberculosis (TB) are rife. Wilkinson (1994) opines that, 'the urban poor have greater health risks than their richer neighbours in their own city. Studies in Accra, Ghana and Sao Paulo, Brazil showed that in the urban poor, mortality from infectious and parasitic diseases was double that for the urban rich in their own city. This is not surprising, given the poor sanitation and water conditions.

Urbanisation and development of slum is largely due to certain push factors from the rural areas particularly, lack of infrastructure such as roads, potable water, electricity, and absence of public utilities like basic healthcare delivery, good schools for their children, especially secondary and tertiary, job opportunities for school leavers, healthy accommodation; and lack of modern farming equipment; and urban pull factors, which are presumed presence or availability of the infrastructure and utilities mentioned above. People who do not have urban credentials or have therefore been forced to the cities, with the assumption of access to better living; on getting to the city, they would discover that they are not fit into urban life, principally due to lack of required resources to access the basic facilities and job opportunities. They therefore constitute an army of unemployed and unemployable marginal urban men. The consequence therefore, is to illegally occupy vacant lands with make-shift structures and sometimes, uncompleted buildings. Their living areas would start as squatter settlements, which develops to blight and later grows to become slum with the characteristics listed earlier in this section.

Definitions of slums varies, but Booth, Martin and Lankester [22] define four features that a slum community can be identified with viz:

i. The housing is substandard, and often made of discarded materials that provided some shelter – not all shelters are homes.
ii. The residents have limited access, or no access at all, to civic services such as water, electricity and sanitation.
iii. Houses are usually small and crowded together.
iv. The land is always occupied without the owners' consent.

n slum communities, residents may pay rent to a fellow slum-dwellers, usually a slum landlord, who 'owns' the land. In turn, he would usually pay off officials or police, or gain the support and protection of a local politician. In practice, many slum-dwellers are both dependent, and in fear of slum landlords, who may demand their loyalty-and votes-in return for offering them security [22]. Out of four features listed above, number three (iii) shows that both housing and population densities are abused in a given slum, which even without general outbreak of epidemic, encourages spread of diseases, especially the infectious ones. These features are also evidences of difficulty, if not impossibility of observing social distancing, and compliance with lockdown could not have yielded the expected result, especially in the slum of despair. In the slum of hope, relative compliance with the policies may be achieved, but with close monitoring. The study focuses on social, economic,

marital, educational and religious life of the residents as well as movement of people, their relationship among neighbourhood residents and place of work/school, planned events and depression. As the spread of COVID-19 increases, obeying the policies of social distancing and lockdown is not a matter of individual choice, but rather a compulsory and civil responsibility of every individual. As a result, their effects need appropriate attention.

Methods and Materials: Quantitative technique through the administration of structured questionnaire was used in the study to collect data. The questionnaire centred on respondents' socio-economic background and their perception on the pandemic. The socio-economic questions were designed as multiple-choice questions. The section on the residents' perception on the pandemic consists of six sub-sections, adopting a five-point scale of 1 to 5 to evaluate their perception on the pandemic. However, no provision was made for neutral option according to the suggestion of Toyin Sawyerr and Yusof [23], to enable the respondents having stand in answering the questions. The 5 points Likert scale format ranges from strongly disagree with 1 point to strongly agree with 5 points on the effects of social distancing and effects of lockdown for COVID-19 respectively. To avoid closed contact with the respondents and maintain social distancing, computer based online survey questionnaire administration was conducted between May 7, 2020 and May 30, 2020. SurveyMonkey online platform was adopted to collect data among 1567 respondents due to its effectiveness in collecting data when social distancing is to be observed among larger respondents without distance barrier from as wide a geographical band of the country as possible. Data were collected without adopting any statistical technique to determine the sample, but through WhatsApp, Facebook Messenger and email addresses.

The analysis of the data started with downloading the data and saved as Excel format followed by importing the data into the SPSS for further analysis. The use of descriptive, one-way ANOVA, mean and standard deviation and average index as well as raking index were used for the analysis. Descriptive analysis was used to examine the frequency distribution of variables such as the socio-economic and effects variables. One-way ANOVA was to determine the effects of social distancing and lockdown for COVID-19 as relates to the respondents' socio-economic attributes. Average index and ranking analysis deals with the determination of the effects and effects of social distancing and lockdown for COVID-19.

Analysis of Results

Validity and Reliability of Data: Validity and reliability test with the aid of SPSS Version 22 confirmed that the statistical data are significant. The validity through Kaiser-Meyer-Olkin (KMO) measures sampling adequacy and Bartlett's test of sphericity. Cronbach's Alpha accessed the internal consistent reliability of the survey instrument. The Reliability and Adequacy Test for the entire variables were performed in this study. The result of the Cronbach's coefficient alpha of Reliability test indicated greater reliability and Kaiser-Meyer-Olkin (KMO) of Validity test also showed that the instrument truly measured what it supposed to measure. The aggregate Cronbach's alpha coefficient value of 0.911 as shown in Table I was considered sufficiently reliable and good internal consistency [23-26]. The study also recorded higher respondents of 1567 administered questionnaires with KMO value of 0.845 implies reliable, adequate and valid survey sampling [27].

In addition, validity and reliability test for each section of the questionnaire was performed to confirm the significance of each statistical data in each sections. This was conducted on all the variables and met the specification of some scholars that specified that a Cronbach's alpha coefficient of an item between 0.52 and 0.7 should be considered sufficiently reliable and good internal consistency [23-25,28,29]. Application of maximum likelihood parameter estimation with listwise deletion of missing cases was made. The result of the reliability and adequacy test indicates greater reliability with Cronbach's alpha coefficient ranges from 0.684 to 0.898 while Kaiser-Meyer-Olkin (KMO) of validity test also showed that the instrument truly measured what it supposed to measure as shown in Table I.

Table I: Reliability and Validity Test

Variables	Number of Items	Cronbach's Alpha coefficient	Aggregate Cronbach's Alpha coefficient	Kaiser-Meyer-Olkin (KMO)
Awareness	8	0.649		0.721
Sources of Awareness	8	0.719		0.684
Preventive Measures	23	0.889		0.884
Worry about COVID-19	9	0.913	0.911	0.896
Effects of Social Distancing	12	0.904		0.898
Effects of Lockdown for COVID-19	11	0.875		0.886

Source: Field Survey, 2020.

Critical Effects of Social Distancing: The study moves further to hypothesise if there is any difference in terms of residents' perception on effects of social distancing based on residents' socio-economic attributes. This aims at finding any significant relationships between residents' socio-economic attributes and their perception on effects of social distancing. The performance of One-way ANOVA-test application was made to review the socio-economic variables. The results submitted that no difference exist ($P < 0.05$) in terms of effects of social distancing based on all their socio-economic attributes as shown in Table II.

Table II: One-way ANOVA-test: Effects of Social Distancing

		Sum of Squares	df	F	Sig.
Gender	Between Groups	37.271	42	5.269	.000
	Within Groups	256.666	1524		
	Total	293.937	1566		
Age	Between Groups	441.613	42	7.961	.000
	Within Groups	2012.867	1524		
	Total	2454.480	1566		
Marital Status	Between Groups	1129.809	42	8.200	.000
	Within Groups	4999.578	1524		
	Total	6129.387	1566		
Religion Affiliation	Between Groups	34.857	42	5.401	.000
	Within Groups	234.186	1524		
	Total	269.043	1566		
Educational Level Attained	Between Groups	171.470	42	7.088	.000
	Within Groups	877.853	1524		
	Total	1049.324	1566		
Employment Status	Between Groups	718.004	42	7.620	.000
	Within Groups	3418.952	1524		
	Total	4136.956	1566		
Household Size	Between Groups	73.576	42	4.656	.000
	Within Groups	573.387	1524		
	Total	646.962	1566		
Estimated Monthly Income	Between Groups	710.062	42	7.283	.000
	Within Groups	3537.532	1524		
	Total	4247.594	1566		

Source: Field Survey, 2020. Significant at 0.05 level (two tailed).

Residents' perception on Effects of Social Distancing: Although, various variables that assess the effects of social distancing were already computed to transform into a single variable as the overall residents' perceptions on 'Effects of Social Distancing'. The mean and standard deviation scores (3.93 and 0.84463 respectively) analyses carried out as shown in Table III indicates that the result certifies that the deviation from mean score is high. This determines the overall residents' risk perception on COVID-19. However, effects of social distancing on different issues were investigated in this study. This aims at determining the level of residents' perception as par the effects of social distancing during COVID-19 pandemic. Residents were to select from options to indicate the level of their agreement on the effects of social distancing through 5-point Likert scale between strongly disagree represented by 1 point and strongly agree represented by 5 points as shown in Table III.

Table III: Critical Effects of Social Distancing

Items	1	2	3	4	5	Sample	Total Index	Average Index	Rank
Social life of the people	140	75	225	375	752	1567	6225	3.97	7th
Economic life of the people	105	70	215	350	827	1567	6425	4.10	5th
Religious life of the people	80	85	185	327	890	1567	6563	4.19	4th
Marital life of the people	330	230	320	245	442	1567	4940	3.15	12th
Education of the students	65	60	120	282	1040	1567	6873	4.39	2nd
Movement of people	75	70	210	270	942	1567	6635	4.23	3rd
Relationship among neighbourhood residents	90	85	330	365	697	1567	6195	3.95	8th
Relationship among staff in the place work/school	60	115	235	380	777	1567	6400	4.08	6th
Limits human right	205	210	317	295	540	1567	5456	3.48	10th
Cancellation of planned events	35	45	115	235	1137	1567	7095	4.53	1st
Leads to depression	195	197	425	305	445	1567	5309	3.39	11th
Leads to loneliness	120	167	375	305	600	1567	5799	3.70	9th

Note: (1 = Strongly Disagree; 2 = Disagree; 3 = Fairly Agree; 4 = Agree; 5 = Strongly Agree)

The economic life, religious life and movement of people as well as the education of the students, relationship among colleagues and planned events are mostly affected by the social distancing with average index scores of 4.10, 4.19, 4.23, 4.39, 3.95 and 4.53 respectively. Cancellation of planned events has the highest average index of 4.53 followed by education of the students with average index of 4.39 while movement of people takes the third position with average index of 4.23 as shown in Table III. The social life, marital life and relationship among neighbourhood residents are also affected by the social distancing because of COVID-19 with average index score that is above 3.00 which is 3.97, 3.15 and 3.95 average index respectively.

Critical Effects of Lockdown for COVID-19 Pandemic: The study also hypothesises if there is any difference in terms of residents' perception on effects of lockdown for COVID-19 pandemic based on residents' socio-economic attributes. This aims at finding any significant relationships between residents' socio-economic attributes and their perception on lockdown for COVID-19 pandemic. The performance of One-way ANOVA-test application was made to review the socio-economic variables. The results submitted that no difference exist ($P < 0.05$) in terms of effects of lockdown for COVID-19 pandemic based on all their socio-economic attributes as shown in Table IV.

Table IV: One-way ANOVA-test: Effects of Lockdown for COVID-19 Pandemic

		Sum of Squares	df	F	Sig.
Gender	Between Groups	52.089	43	7.628	.000
	Within Groups	241.848	1523		
	Total	293.937	1566		
Age	Between Groups	290.129	43	4.748	.000
	Within Groups	2164.350	1523		
	Total	2454.480	1566		
Marital Status	Between Groups	653.915	43	4.230	.000
	Within Groups	5475.472	1523		
	Total	6129.387	1566		
Religion Affiliation	Between Groups	53.905	43	8.874	.000
	Within Groups	215.138	1523		
	Total	269.043	1566		
Educational Level Attained	Between Groups	140.750	43	5.487	.000
	Within Groups	908.574	1523		
	Total	1049.324	1566		
Employment Status	Between Groups	529.578	43	5.200	.000
	Within Groups	3607.378	1523		
	Total	4136.956	1566		
Household Size	Between Groups	128.997	43	8.821	.000
	Within Groups	517.965	1523		
	Total	646.962	1566		
Estimated Monthly Income	Between Groups	617.884	43	6.029	.000
	Within Groups	3629.710	1523		
	Total	4247.594	1566		

Source: Field Survey, 2020. Significant at 0.05 level (two tailed).

Residents' perception on Critical Effects of Lockdown for COVID-19: Similar to effects of social distancing, various variables that assess the effects of lockdown for COVID-19 were computed to transform into a single variable as the overall residents' perceptions on 'Effects of lockdown for COVID-19'. The analysis carried out on mean and standard deviation scores of 3.05 and 0.93674 respectively as shown in Table V indicates that the result confirms that the deviation from mean score is high. This determines the overall residents' risk perception on COVID-19. Moreover, effects of lockdown for COVID-19 on different issues were investigated in this study to determine the level of residents' perception as per the effects of lockdown for COVID-19. Residents were to choose from options to indicate the level of their agreement on the effects of lockdown for COVID-19 through 5-point Likert scale between strongly disagree represented by 1 point and strongly agree represented by 5 points as shown in Table V.

Table V: Critical Effects of Lockdown for COVID-19

Items	1	2	3	4	5	Sample	Total Index	Average Index	Rank
Victim of unexpected situation beyond my control to help myself	365	245	377	240	340	1567	4646	2.97	6th
Led me not to believe anybody around me	477	360	305	220	205	1567	4017	2.56	10th
Affected my income/business	180	110	257	265	755	1567	6006	3.83	1st
Brought fear into my heart	400	305	322	230	310	1567	4446	2.84	7th
Brought the fear of death into my heart	632	285	265	165	220	1567	3757	2.40	11th
Brought the fear of loss of job into my heart	497	270	320	190	290	1567	4207	2.69	8th
Brought the fear of interacting with people tested positive of the virus into my heart	270	215	315	292	475	1567	5188	3.31	4th
Brought the fear of interacting with those that come from an area with a high rate of infection into my heart	210	155	360	377	465	1567	5433	3.47	3rd
Brought the fear of unable to get medical care for myself and my family members into my heart	305	215	397	350	300	1567	4826	3.08	5th
Leads to misunderstanding among family members	500	297	330	230	210	1567	4054	2.59	9th
Leads to mutual understanding and love among family members	115	90	397	400	565	1567	5911	3.77	2nd

Note: (1 = Strongly Disagree; 2 = Disagree; 3 = Fairly Agree; 4 = Agree; 5 = Strongly Agree)

According to Table V, the result reveals that the average index scores for each attribute that measures effects of lockdown for COVID-19 is almost identical with average index score ranging between 2.40 and 3.83. Effects of lockdown for COVID-19 is fairly high if not high. Effects on income/business has the highest average index scores of 3.83. This is followed by the positive effect of mutual understanding and love among family members with average index scores of 3.77 while few family members that exhibit misunderstanding during lockdown policy has the average index scores of 2.59 and ranked 9th position. Fear of interacting with those that come from an area with a high rate of infection has an average index of 3.47 while fear of interacting with people tested positive of the virus has an average index of 3.31. Although, lockdown brings different kinds of fear to the people with identical average index scores as shown in Table V, the fear of death has the lowest average index with 2.40 and ranked 11th position.

Discussion

The effects of social distancing and lockdown for COVID-19 pandemic are not affected by socio-economic attributes of the respondents. The economic life, religious life and movement of people as well as the education of the students,

relationship among colleagues and planned events are mostly affected by the social distancing. This is in line with the discovery of some scholars that, the spread of COVID-19 globally resulted to global economy and children education predicaments [9,14,15]. Social distancing policy against the gatherings of any type such as social and religion gatherings are also greatly affected. The gathering, if it has to be held, should not consists more than ten individuals with enough distance in the sitting arrangement. This has to lead to cancellation of all gatherings and events of more than ten individuals. As a result, it reduces movement and has stronger effects on the social, economic and religion life of the citizens. The effects of social distancing through COVID-19 on residents' economy and unemployment status abate residents' welfare and safety consequently threaten their health and social insecurity. The effects of social distancing through COVID-19 on residents' economy and unemployment status abates residents' welfare and safety, consequently threatens their health and social insecurity. The effects of social distancing and lockdown that led to school closure reduces the travel pattern of both students and teachers at all levels. The travel patterns of parents also reduced. The parents that supposed to travel with their children and take the children to their various schools are restricted immediately because of the policy. School calendar has to be cancelled and eventually leads to extension of the period for institutional calendars. The implications of this is that, students that are restricted to home and prevented from school as a result of social distancing and lockdown, to have opportunity of meeting their friends will be exposed to domestic violence and social disorders. Other effects of the social distancing because of COVID-19 include social life, marital life and relationship among neighbourhood residents. Social distancing leads to depression and loneliness among the residents. Depression and loneliness among the residents resulted from inability of the residents to move out and travel as they desire. This implies that, there is limitation to the human right within the period of social distancing resulting from COVID-19. It restricts personal freedom in the areas of movement, gathering, relationship, interaction, friendship and cost-effective activities.

Economically, the lockdown policy impacted negatively, since people could not go out freely to trade and exchange their goods and services were stalled. Income and business of the residents are the most affected by the lockdown. This supports the discovery of some other scholars [12]. Majority of the residents cannot go to their daily businesses except few residents having shops in front of their residences. Besides, patronage of business is also affected. As a result, the income of the majority of residents is affected. This is against the principle of Economic Integration as opined by Jhinghan [7]. Although, the effects of lockdown for COVID-19 on income/business is negative, the positive effect leads to mutual understanding and love among family members. In view of the fact that, every member of the family could not go out for their daily activities, their staying together at home enhances better interaction among the family members and consequently leads to mutual understanding among them. This negates the belief of Block, Hoffman, Raabe, Dowd, Rahal, Kashyap and Mills [6] who were of the opinion that majority of the individuals need to interact across various social groups, among people in workplace, social gathering, and place of worship as well as among extended family. Despite this positive effect on majority of the family members, few family members exhibit misunderstanding during lockdown policy. Moreover, lockdown brings different kinds of fear to the people with identical average index scores. These fears include the fear of death, fear of job loss, fear of interacting with people tested positive of the virus, fear of interacting with those that come from an area with a high rate of infection and fear to get medical care for family members.

Conclusion and Policy Implications: The spread of COVID-19 has been so enormous and transmission of the virus has posed great health threat on population and health workers. This led to social distancing and lockdown policies within the nation. The policies are developed as the main preventive orders to play a critical role in stemming the spread of the virus. The policies are also the main strategies to reduce the fatality rate, especially in the absence of vaccine and proper treatment. As a result, every individual is encouraged to avoid close physical contact, relationship and interactions. However, there are various effects of these policies, which ranges from social, economic, religious and educational effects. Despite these effects, people are not ready to risk their life for COVID-19 by not taking into consideration the cost of paying for these effects. This study has identified effects of social distancing and lockdown for COVID-19. The economic productivity of the manufacturing sector and traders lowered. Definitely, producers of the raw materials and the traders, who could not

transport their produce to the market were negatively affected. As a result, both urban and regional economies were negatively affected.

Nigerian government imposing the social distancing and lockdown policies prevent Nigerian populace from attending large gatherings and from going to their places of work. These policies also result to closing of institutions at all levels, closing of businesses and limiting people's freedom in moving from places to places. There is need for policies that can resolve the side effects of social distancing and lockdown on individual economy, educational status of the students and social life of the community. Since the imposition of the social distancing and lockdowns have no specific day to end, the author is of the opinion that government needs to get Nigerian residents prepared to face the challenges of social distancing and lockdowns. At the same time, Nigerian government should take it as part of her responsibilities in making provision for essential commodities for the people; otherwise, prolong social distancing and lockdowns may have severe adverse effects on Nigerian residents and consequently results to another type of pandemic and occurrence of other diseases.

This article has examined the responses of the people on what effects the social distancing and lockdown have on the communities and assessed how these policies have actually affected various aspects of life. This article has contributed to the body of knowledge by unfolding that these policies needs to be strategized in informal settlements in order to stop the spread of the virus. This is because, the policies will be difficult to implement in informal settlements where their social and family ties may not allow them to observe social distancing. This article therefore pontificates that, the COVID-19 pandemic which occasioned lockdown and social distancing is antithetical to both urban and regional economies as trade liberation, trade infrastructure, foreign investment and technology counter-trade, regional institutions, balance of payment support, credit facilities and fiscal incentives were negatively impacted. In turn, Physical Quality of Life Index (PQLI) and Human Development Index were in the negative. This revelation opens way for future researches to determine behavioural hindrance on social distancing and lockdown mitigation strategies to COVID-19.

This article has contributed to the existing research on revealing the effects of social distancing and lockdown policies on the residents, which suggests the effective measures through which government policies during pandemic like this can reduce the effects on the residents. It also demonstrates that integration of Urban and Regional Planning principles or considerations into the public policies is fundamental to successful implementation and sustainability of polies. Government policies in time like this should balance the costs and benefits of policies to be imposed on the residents. The effects of social distancing and lockdown are enormous on the economic life of the residents. This implies that residents are ready to trade-off between lives and economy. The residents do not mind to sacrifice their employment in order to save their lives. That means, saved lives is more beneficial to them than their employment in an attempt to comply with social distancing and lockdown orders. Social distancing and lockdown, though for the benefit of the public, is violation of space freedom and environmental democracy.

References

1. Law S, Leung AW, Xu C. Severe acute respiratory syndrome (SARS) and coronavirus disease-2019 (COVID-19): From causes to preventions in Hong Kong. *Int J Infect Dis*. May 2020;94:156-163. doi:10.1016/j.ijid.2020.03.059
2. Gupta S, Nguyen TD, Rojas FL, et al. Tracking Public and Private Responses to the Covid-19 Epidemic: Evidence from State and Local Government Actions. 2020;Working Paper 27027:1-77. Located at: NBER Working Paper Series.
3. Brodeur A, Grigoryeva I, Kattan L. Stay-At-Home Orders, Social Distancing and Trust. 2020;IZA DP No. 13234:1-32.
4. Cortegiani A, Ingoglia G, Ippolito M, Giarratano A, Einav S. A systematic review on the efficacy and safety of chloroquine for the treatment of COVID-19. *Journal of Critical Care*. 2020;In Press:1-5. doi:10.1016/j.jcrc.2020.03.005
5. Dryhurst S, Schneider CR, Kerr J, et al. Risk perceptions of COVID-19 around the world. *Journal of Risk Research*. 2020:1-13. doi:10.1080/13669877.2020.1758193
6. Block P, Hoffman M, Raabe IJ, et al. Social network-based distancing strategies to flatten the COVID-19 curve in a post-lockdown world. *Nature Human Behaviour*. Jun 2020;4(6):588-596. doi:10.1038/s41562-020-0898-6
7. Jhinghan ML. *The Economics of Development and Planning*. 40th ed. Vrinda Publications Ltd; 2013.
8. Singh L, Singh NS, Maldonado BN, Tweed S, Blanchet K, Graham WJ. What does 'leave no one behind' mean for humanitarian crises-affected populations in the COVID-19 pandemic? *BMJ Global Health*. 2020:1-3. doi:10.1136/bmjgh-2020-002540
9. Musinguzi G, Asamoah BO. The Science of Social Distancing and Total Lock Down: Does it Work? Whom does it Benefit? *J Gen Med*. 2020;17(6:em230):1-3. doi:10.29333/ejgm/7895
10. Temsah MH, Al-Sohime F, Alamro N, et al. The psychological impact of COVID-19 pandemic on health care workers in a MERS-CoV endemic country. *J Infect Public Health*. Jun 2020;13(6):877-882. doi:10.1016/j.jiph.2020.05.021
11. Franch-Pardo I, Napoletano BM, Rosete-Verges F, Billa L. Spatial analysis and GIS in the study of COVID-19. A review. *The Science of the total environment*. Jun 8 2020;739:140033. doi:10.1016/j.scitotenv.2020.140033
12. Xie W, Campbell S, Zhang W. Working Memory Capacity Predicts Individual Differences in Social Distancing Compliance during the COVID-19 Pandemic in the U.S. 2020
13. Why inequality could spread COVID-19. 2020. https://doi.org/10.1016/S2468-2667(20)30085-2
14. Crawley E, Loades M, Feder G, Logan S, Redwood S, Macleod J. Wider collateral damage to children in the UK because of the social distancing measures designed to reduce the impact of COVID-19 in adults. *BMJ Paediatr Open*. 2020;4(1):e000701. doi:10.1136/bmjpo-2020-000701
15. Basilaia G, Kvavadze D. Transition to Online Education in Schools during a SARS-CoV-2 Coronavirus (COVID-19) Pandemic in Georgia. *Pedagogical Research*. 2020;5(4):1-9. doi:10.29333/pr/7937
16. Cheng KK, Lam TH, Leung CC. Wearing face masks in the community during the COVID-19 pandemic: altruism and solidarity. *The Lancet*. 2020;doi:10.1016/s0140-6736(20)30918-1
17. Knox P, Pinch S. *Urban social geography: an introduction*. Routledge; 2014.
18. Matthews LM, Sarstedt M, Hair JF, Ringle CM. Identifying and treating unobserved heterogeneity with FIMIX-PLS. *European Business Review*. 2016;28(2):208-224. doi:10.1108/ebr-09-2015-0095
19. Kashef M. Architects and planners approaches to urban form and design in the Toronto region: A comparative analysis. *Geoforum*. 2008;39(1):414-437.
20. Porter D, Phillips P, Lassar T. *Flexible Zoning: How it works*. Urban Land Institute, Washington, D.C.; 1988.
21. Bell PA, Fisher JD, Baum A, Greene TC. *Environmental Psychology*. 3rd ed. Holt, Rinehart and Winston, Inc., London; 1990.
22. Booth BE, Martin K, Lankester T. *Urban Health and Development: A Practical Manual for use in Developing Countries*. Macmillan Education (Global); 2012.
23. Toyin Sawyerr P, Yusof NA. Student satisfaction with hostel facilities in Nigerian polytechnics. *Journal of Facilities Management*. 2013;11(4):306-322. doi:10.1108/jfm-08-2012-0041

24. Hair JF, Black WC, Babin BJ, Anderson RE. *Multivariate Data Analysis: Overview of Multivariate Methods*. Seventh Edition ed. Upper Saddle River, New Jersey: Pearson Education International; 2010.
25. Khozaei F, Ayub N, Hassan AS, Khozaei Z. The Factors Predicting Students' Satisfaction with University Hostels, Case Study, Universiti Sains Malaysia. *Asian Culture and History*. 2010;2(2):148-158.
26. Newton P, Meyer D. The Determinants of Urban Resource Consumption. *Environment and Behavior*. 2010;44(1):107-135. doi:10.1177/0013916510390494
27. Field A. *Discovering Statistics Using SPSS*. Third ed. SAGE Publications Ltd; 2009.
28. Pallant J. *SPSS Survival Manual-A Step by Step Guide to Data Analysis Using SPSS for Windows*. 3rd Edition ed. Open University Press; 2007.
29. Foubert JD, Tepper R, Morrison D. Predictors of student satisfaction in university residence halls. *The Journal of College and University Student Housing*. 1998;27(1):41-46.