

Perceived Stress Scale and Nuclear Awareness among Nigerian Millennials: Implications for Sustainability

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<https://doi.org/10.36263/nijest.2023.02.0418>

ABSTRACT

The ongoing Ukraine war, spike in living cost, Covid-19 pandemics, academic staff union strikes for better funding of education, and urban renewal activities that constitute significant sources of stressors with mental health implication in Nigerian cities. Studies have shown stress can blunt people's sensitivity and ability to make informed decisions. Therefore, no better time than now to assess the perceived stress scale, decision-making process, and nuclear awareness among Nigerian millennials in the face of rising emergencies. Here the study showed significant majority of millennials are lower stress, making good decisions, and nuclear aware. The survey observations were in line with previous studies in the UK and the US, but did not support the same hypothesis. Considerably, the research highlights the concern of Nigerian millennials about the Ukraine conflict, the potential nuclear threat to cities, and increasing inequalities. There is need to rethink a statistical regularity and bridge existing knowledge gaps among respondents on the catastrophic effects of a nuclear world war including the demonstrated disregard for sustainability. It is important because they are not only the future leaders, but this is the millennial generation and the United Nations has stressed the need for greater nuclear awareness. An empirical survey using mixed-method, self-reporting questionnaires with 26 questions was adopted. The randomly sampled 38 Nigerian millennials in Port Harcourt, Akwa Ibom, and Bayelsa states was facilitated by faculty members of institutions in these states the researchers have rapport. The mean score of data collected were analysed. The conclusion is with recommendations for achieving greater sustainability and nuclear education while contributing to the prevention of potential catastrophe for humanity and our architectural heritage by cities' obliteration.

Keywords: Perceived Stress Scale, Decision Making, Nuclear Awareness, Sustainability, Global Trade, Architectural Preservation, Cities Obliteration, Nuclear Winter

1.0. Introduction

Cities are heritage of human civilisation, but can be centers for the mockery of democracy when diversity cannot be accommodated. In Nigeria, the federal character initiative was intended to ensure that all parts that make Nigeria (whole) have a sense of belonging by embracing diversity: in employments, appointments, infrastructural location, and more. However, most policies are article tigers (Davies, et al., 1998 ; Dialoke, et al., 2021; Enyiaz, 2022) Political power is often a means of extending the reach of the family and cronies at the detriment of the larger society. Exclusion, lack of diversity, and Nigerian styled democracy are prognoses for bad governance .with manifestations as nepotism, mediocrity, and unpatriotic citizens. Scholars Enyiaz, (2022) and Howe et al., (2010) supported the view. Immanuel Kant, an authority in environmental ethics, believes though human' activities threatens the planet, but man is the "end" (Alawa, 2014; Walden, 2016). Walden, (2016) said treating someone as an "end" involves seeing them as having a very special kind of value and for that reason meriting a distinctive form of regard. A view supported by biblical Genesis 1 and Genesis 2 with centrality of man in creation. Today , the "garden" is the city.

Sustainability and sustainable development here have different meaning like strategy and planning. Planning is often wrongly interchanged with strategy; even so, sustainability is interchanged with sustainable development. Here, sustainability is liken an “end” while sustainable development is liken to “means” drawing analogy from economics. A view supported by Zyl (2012).

“Strategy” is a top level concern with long term meaningful engagement to be victorious over things beyond the strategist's (planner's) control. In contrast, “planning” engages (means and ends) of the things within the planner's control to optimise victory effort. So, in military, for instance, you developed “strategise” for the enemy and “planned” for your troops, tanks, and more within your power. Schreyogg and Steinmann (1987) emphasis on “uncertainty and complexity as basic elements in strategic management” support the view. As far back as 1987, sustainability was defined by the United Nations (UN) as “meeting the needs of the present without compromising the ability of future generations to meet their own needs,” (UN, 1987).

Tension emanating from deepening inequality and widespread poverty in Nigeria is growing with a tint of geopolitical and religious affiliations even as the Nigerian Content Act (2010) aimed at using Nigerian human and material resources has failed (Ovadia, 2013; Abosede, 2017). Muslims have led Nigeria more than Christians (military and civilian eras combined); even so, the northern region of Nigeria has remained in power more than the southern region. While politicians most often gain votes on the basis of ethnic and religious affiliation, with attendant violence and killings indicate intolerance to diversity. The burning alive of Deborah Samuel, a Christian student of Shehu Shagari College of Education, Sokoto State, in May 2022 by her Muslim classmates is fresh reminder of the intolerance. Also, the “G5 Wike Phenomenon” led by Governor Ezenwo Nyesom Wike of Rivers State in the 2023 Nigeria general election is a reaction against systemic weakening and exclusion of the southern region in the governance of Nigeria. However, it is evident that the northern Nigeria on average is more impoverished, despite being longer in power, and in spite of being rich in natural resources like gold, precious stone, and more (National Bureau of Statistics, 2011; Chanel Television, 2020; Afee and Ireem, 2021).

Instead of tapping the minerals for better quality of life and environment, the resources are mined by criminals who account for the terrorist gangs and activities plaguing the northern region. So, the absence of diversity also left with sustainability. The Covid-19 pandemic struck in 2019, followed by 8 months ASUU strike pressing for academic excellence in 2020, next ENDSARS Protest in 2021, Russia-Ukraine war in 2022, urban renewal demolitions, Naira scarcity and general election crisis in 2023. Combined have forced once thriving organisations to go underground while new businesses sprout, some flourished. How are millennials coping?

What lessons are there from history? Dinosaurs' unsustainable consumption and their fate is good lesson discussed here but later (“Victoria Jaggard's 2019 Why did the dinosaurs go extinct?”). In Nigeria, the analogue generation is pushing the nation into debt, despite Cato Institute warnings that public debt can be detrimental to economic development. Today, Nigeria's debt to service ratio is “the worst in the world” with 92 percent of revenue spent without corresponding infrastructure on ground. Yet Punch Editorial (2022) noted another N21trillion loans is before the Assembly; if consented to, will mortgage two generations from 2022. On continental scale, America, Asia, and Europe have unsustainably exploiting and plundering Africa, but the nuclear free continent is now faced with a new risk of nuclear world war and “nuclear winter”. Are America, Asia, and Europe on the path on self extinction like the Dinosaurs? The issues above are considered here, including heritage as concept that needs to be expanding in its scope with call to actions.

1.2 Dimensionality

The fact is that, stress is composed of a multitude of stressors (Agogo et al., 2018). For the survey, dimensionalities include nuclear technologies awareness, decision-making, and impact of nuclear education and awareness among millennials. Also important is the understanding an effective education technique (data visualisation and place-based technique). Fischer et al., (2021) stated six technology characteristics to include usefulness, complexity, reliability, presenteeism, anonymity, pace of change, while Ragu-Nathan et al., (2008) stated five digital stressors (i.e., overload, invasion, complexity, insecurity, uncertainty) with work overload becoming “techno-overload” for the dimension scale. Yet Ayyagari et al., (2011) linked technology characteristics (e.g., unreliability) to work overload, (Fischer et al., 2021).

1.3 Knowledge as heritage

Scholars (Martens, 1985; While and Short, 2011; Vit-Suzan, 2014; Lehrer, 2020; Gin, 2023) supported the argument that knowledge is heritage. Knowledge, gold and alike resources have significant involvement in architecture sometime with strong personal or group attachments. Painting in verses and caves, bronze sculptures and utensils of Benin, Greek, and Romans extractions have provided archaeologist with useful insights on the built-up values, the places, and people. Also, structural strength from steel and reinforced concrete, cement, gold and more have transformative architectural landings in history. From the Roman built largest dome span complex construction, the Pantheon, to the world's richest man, Mansa Musa's university, showcased Knowledge as heritage. Mansa Musa's estimated to be worth USD 400billion. Clarke (2022) reiterated what was said by Perucchio (n.d.) that the ancient Romans "had a high mastery in using timber framing in a way that no other earlier cultures had developed." Britannica,(2022) reported, Mansa Musa in 1327 built the Sankore University in Timbuktu that flourished in the 1500s. The university accommodated 25000 students with law, philosophy, theology, and mathematics taught; while according to a UK University the mathematics taught in Sankore University 600 years ago are advanced and remain relevance today, Plate 1.

1.4 Situational appraisal

The dominant role of situational appraisal in the stress process (e.g., Lazarus and Folkman, 1984; Cummings and Cooper, 1998) is not in doubt, for which introspective measures resulted. The Conversation, Chatham House, ICAN, are few of significant organizations that have continually called for introspective thinking by placing the nuclear threat discourse at par with Climate change, recently. Also, for researchers concern with stress and ICT, "the main data collection methods are self-report questionnaires (Fischer and Riedl, 2017). In particular, in the context of the current wave of digitalization" (Fischer et al., 2021); the same method will be used here in the situational understanding of Millennials following heighten nuclear threat, "fake news", and "Millennials as the unluckiest generation", (Dam, 2020). In Nigeria, the additional stress from industrial actions, rising unemployment, spike in prices, protest, and a generation plunged into reckless debt by older generations as leaders. Cumulatively, as emergence are calls for (1) Millennials, the digital generation, to take back their "Age" by revolution (Greene, 2020). The strongholds are resisting the desires of the digital generation that included "Generation X" or "Gen X", those born between 1981 and 1996; "Generation Z" or "Gen Z" are post-millennial, those born between 1997 and 2012, (Kagan,2023) . The Millennials like Gen X and Gen Z demand more transparent and inclusive world.



(a)



(b)

Plate 1: Architectural Heritage of Cities: (a) Timbuktu: University of Sankore, Timbuktu, (b) Rome First African Emperor (AD 145-211) was so unreported like Cleopatra. Septimus Severus became Emperor AD 193 was one of the most important who built the Hadrian wall- English Heritage but ancient and modern literature have been economical about his African root and wrapped in white plaster of Paris(pop) as though he was Whiteman. Credit AJP cited Dr. Simon Eliot

1.5 Shocking insights, crisis, and heritage

The Russia's attack on Ukraine indiscriminately includes heritage sites. Morman (2023) stated the world oldest architecture built with Mammoth bones were unearthed in Mezhirich, Ukraine. The unearthed dome buildings date from 19280 – 11700 BC. Lofgren and Klekot (2012) discussing the origin of heritage stressed both the “spoil” and the “monument” were established for protection as heritage by the “modern political organisation and bodies” while an entire professional class emerged, occupied with their preservation.

Daily things are changing including the traditional roles of professions. As part of the emerging new world, the way things are perceived and interacted with is changing. Stakeholders are challenging the status quo and demanding recognition of their heritage with Farley and Pollock (2022) calling for “a more critical understanding of this field”, Figure 2. So, here heritage as concept is extended into new debatable realm based a free-choice theory: knowledge as heritage and impacts. Then, Africans have also as heritage the painful incidents and knowledge of slavery and “whiteness” as heritage. Like tangible heritage, the knowledge of plundering the continent and “whiteness” are the “Mecca” and “Jerusalem” of African youths' emotional thought. Thus, often revisited and expressed when and wherever the opportunity arises.

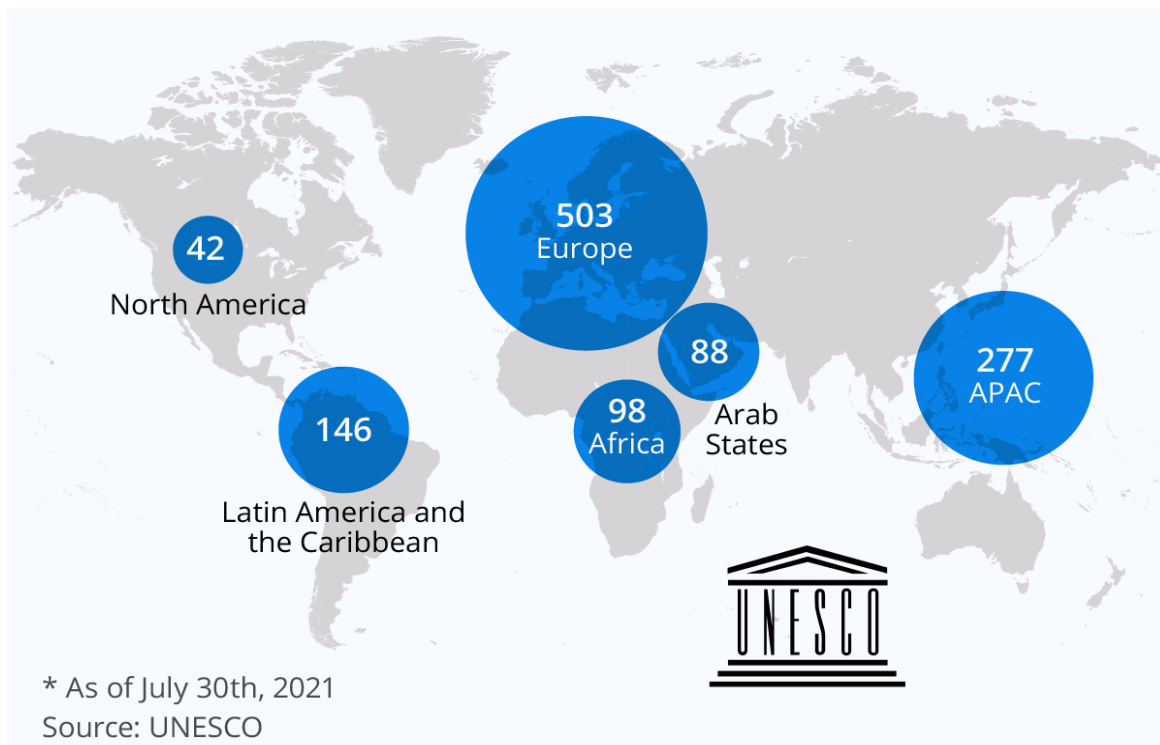


Figure 1: Europe home to the most world heritage sites: Number of UNESCO heritage sites per region sites per region

2.0. Methodology

2.1 Materials

i. Millennials and Port Harcourt City

Millennials play a significant role in development and are the focus of this study (Greene, 2020; Time, 2013; Dam, 2020). Port Harcourt is a strategic city in Nigeria, representative of what is happening in the country. Abu and Orisa-Couple (2022) supported this view in their report on mental health in Port Harcourt. Tertiary institutions in Port Harcourt were targeted for the study due to their expected higher level of awareness and as a possible baseline for future studies. The authors' diverse backgrounds (health, Blockchain, and architecture) provided a learning experience for both authors. “There is growing interest in

the inquiries into how people perceive the new digital environment and its impact on the individual, organizations, and society (Legner et al., 2017; Parviainen et al., 2017)” (Fischer et al., 2021).

i. Lecturers.

Who facilitated in the distribution of questionnaire online link in randomised way with clear instructions to respondents (colleagues and students), Table 1. WhatsApp platforms groups created received the online link.

Table 1: Research facilitators and their institutions

Lecturers	Faculty/School/Department	Institution
Dr. O. Abu	Sociology	University of Port Harcourt:
Dr. C.U.K. Nwogu	Marketing	Port Harcourt Polytechnic
Arc. D. Fenibo	Environmental Sciences	Port Harcourt Polytechnic
Arc. I. Chima	Environmental Sciences	Port Harcourt Polytechnic
Ms. A. Bala (MSc. Distinction)	Architecture	Akwa Ibom State Polytechnic/ Rivers State University
Ms. M. Allison (Distinction)	Health Information Management	Bayelsa State College of Health Tech
Allison J	GBA/UCL CBT	HeaveanWorld Church Youths / Students groups (millennials)

Questionnaire used for the study is available at: <https://forms.gle/b4iinUgyAKRSazEX7> shared through WhatsApp . A csv file was automatically generated with 26 questions or items, Figure 2. To ease data understanding, visualization involved pictures, histograms, bar and pie charts. To test the significance and generalizability of findings, z-scores and p-values were used.

$$\text{Sample Size} = K^2 (s^2)/m^2$$

Where

K is a constant, confidence level (CL)

K is 1.96 for 95% CL or 1.65 for 90% CL

s is standard deviation

m is desired margin of error

Mean of the items were counted and categorised

Proportion of mean was use.

Mix method was used; targeting insights (nuclear awareness and nuclear decision-making) and the percentages quantities of stress (Budi and Moran, 2021). Scholars (Sharm, 2020; Budi and Moran, 2021; Warren and Warren, 2022) supported 25-40 sample size as well as the use of sample standard deviation, and sample mean to represent the population (N) and population standard deviation(s) where they are not known for a randomly selected sample size.

R-Language, and Excel; online p-value & z-score calculator, WhatsApp were useful. Unknown were Population Mean and Population Standard Deviation. So, proportion will be used with 95% confidence level, threshold p-value of 5% meaning the null hypothesis has only 5% chance of being true. Smaller calculated p-value than the threshold pvalue implies statistical significance and rejection of the null hypothesis while accepting the alternate hypothesis even though not necessarily true (Andrade, 2019).

ii. Method and measure

The State of New Hampshire Employee Assistance Program “Perceived Stress Scale” (PSS) template was adapted as the survey instrument. The PSS was used because it elicits world’s view perception which is most important in determining outcomes in difficult moments: suicide to triumph. Originally developed in 1983, PSS remains a popular choice for helping people understand how different situations affect our feelings and perceived stress” (NHEAP, n.d.). Common method bias (CMB) was reduced by ensuring internal consistency and sufficiency of data points for modelling. Respondents were rigorously from initial 200 volunteer (consistent with 80/20 Rule) selected based on criteria:

- Very conversant with Port Harcourt, Abuja and Lagos: lived in these cities each cumulative of 5years in each city. Because nuclear attack simulation on this cities and associated impacts/responses are necessary.
- Willingness to voluntary participates in second stream of 10minutes maximum: WhatsApp chat.
- All those who completed the questionnaire in less than 3 minutes were rejected.
- All those who failed the engagement question were filtered out; for lack commitment. Engagement question requested respondents to choose particular answer irrespective of their choice.
- Those who did not participate in the second stream WhatsApp chat were filtered out.

A clear statement of purpose, assurance of privacy, and non-delivery of ambiguous nor leading questions as guide. A 5-point Likert scale of 0 to 4 was adopted. Scale-2 was not a neutral point, but negative or part of high stress. Neutrality is tantamount to supporting a nuclear attack. So, mean $0 \leq X < 2$ is categorised as positive lower stress and positive behaviour; $2 \leq X \leq 4$ is negative higher stress and negative behaviour. The accumulated scaled points were analysed and the mean (X) categorized as lower-stress (Yes) and higher stress (No). Gelman and Stern,(2006) discussion on variable and dependent variables and others (Adam et al., 2017 cited Moore and Benbasat, 1991; Netemeyer et al., 2003; MacKenzie et al., 2011) served as sources for refinement based on recognized frameworks.

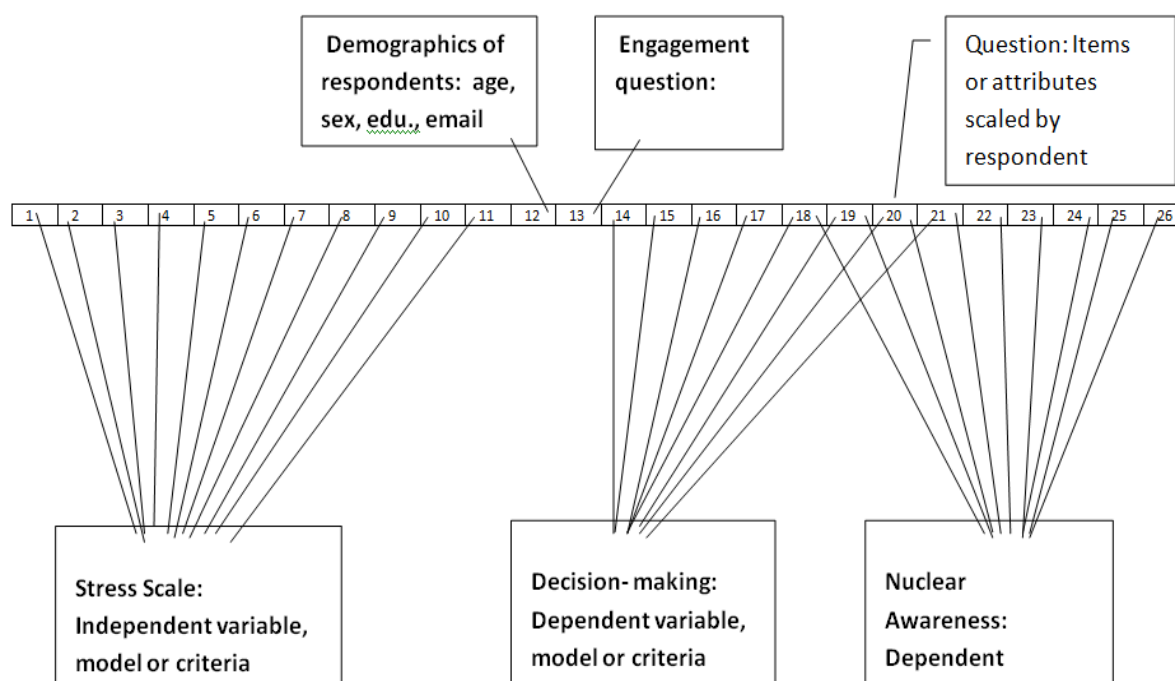


Figure 2: Questionnaire showing items and three variables. Credit Allison J.

Note: (1) Ideation of main questions on physical stress (confinement, black sooth, reduced consumption, stench and open refuse, high cost, coping with daily routine, etc.) and psychological stress (uncertainty of academic program, coping with daily routine, cultism, failure, abuses, etc.). (2) Existing stress behavioural theories with statistical significance tests were useful. (3) Second stream conversations by WhatsApp were targeted at eliminating or reducing common method bias (CMB) and further insights. (4) Validation of the instrument through data collection procedures, quality checks, and comparison with existing alternatives. CMB reduced by randomizing questions, ensuring clarity and privacy for respondents, (Podsakoff et al., 2003, 2012).

i. Limitations

The sample consists of only 20 percent female participants which does not represent 2021 national population of 49.48 percent female (Statista, 2023). Also, 20 percent of initial volunteer though rigorously selected may have unknown impact. The potential impact of this gender imbalance on the results is uncertain. Limited time and financial resources constrained the study's scope. The presence of Common Method Bias (CMB) is inevitable (Podsakoff et al., 2003). Using a single questionnaire to collect both dependent and independent variables easily contribute CMB. Yet attrition rate may be higher when administering multiple questionnaires compared to a single questionnaire. As midway, participants were

asked to voluntarily be available at their convenience for a 10-minute WhatsApp conversation for further clarifications and insights.

2.2 Ideation of "Physical Stress"

Changes in the physical environment, including abuses, air pollution (e.g. "Black sooth" from hydrocarbon activities in Port Harcourt), urban renewal (e.g. heavy traffic associated with road blocks and diversions for construction works) can cause stress. Technological advancements, such as the introduction of the Metaverse and dependence on online platforms, have created virtual environments that mimic physical ones. For example, Gen Z relies heavily on online algorithms and shopping platforms (Paul, 2017). The understanding of physical and psychological stress was useful in developing the questionnaire. Millennials are important because this is their generation and they future leaders whose decisions can impact cities and their cultural heritage. Stress as external stimuli that forces one to act has evolved in theory of modern time with modern approach to the conceptualization of stress entails a transaction between the individual and the environment (i.e., stress as a process, Lazarus and Folkman, (1984) noted Fischer et al., (2021). Fischer et al., (2021) and Adams et al., (2017) cited multiple sources have extensively discussed stress: digital, physical and psychological stress that guided this study.

For example, in modelling nuclear awareness, the focus in second stream conversation here included nuclear technologies, media role (nuclear awareness for the purpose of opposing nuclear attack or nuclear world war in a wider sense (e.g., prevent, "nuclear winter", destruction of heritage, obliteration of cities). Technologies for nuclear simulation for education impact before and after data collected, analyzed, and compared was influenced by Fischer study. Fischer et al.,(2021) discussed digital stress scale (DSS) and "Digital technologies include, amongst others, mobile technologies (e.g., cell phones), network technologies (e.g., the Internet), communication technologies (e.g., e-mail), and generic application technologies (e.g., for word processing)."

3.0 Results and Discussion

3.1 Observed patterns statistical significance.

To evaluate the measurement model, the items structure for the PSS were first roughly checked for its internal consistency, convergent validity, and discriminant validity (Hair et al., 2019; Sarstedt et al., 2019) and satisfactory, Figure 2. For categorisation of result, each model (variable) was first considered separately using proportion of mean as in Table 2. In Table 3, the proportion of means as aggregate of the variable were calculated and categorised. From the analysis, the stress model showed 50% "Lower Stress" and 50% "Higher Stress" of the sample. The same proportion was observed for Nuke awareness, but 75% was for quality decision-making. All models combined showed 55% success (Success, or Yes, or positive behaviour) and 45% failure (Failure, No, or negative behaviour). The null hypothesis were retained, Table 2, Table 3.

3.2 Discussion

WhatsApp chat presented an opportunity for greater engagement and demonstration of its potency as research tool for a second stream of data collection to reduce CMB. Although unconventional for research purposes, the 10-minute or less duration of individual or group chats on WhatsApp proved sufficient for clarification without causing time or endurance stress. The questionnaire focused on: feelings and thoughts during the last month and each of 26 items to indicate the frequency respondent felt or thought a certain way. While few questions are alike, there are differences and respondent treated every item separately. The significant test failed to reject the null hypothesis from various perspectives leading to two decision, Table 2, and Table 3. (1) "Over 50 percent of millennials are stressed, nuclear illiterate, making poor decision." (2) Dismiss the 2.6 percent adamant self-reporters "not willing to say no to nuclear world war" as mere coincidence, Figure 7 and Figure 8. The second decision arrested attention here because the 2.6 per cent is not just mere figure; there are human faces behind it. Therefore, it is the article's opinion that while "dismissing" is in line with statistical regularities, history and historic events like "September 11" are significant warning demanding for rethink; Osama and Al Quda, Yusuf and Boko Haram fit into the 2.6 percent maybe once neglected or dismissed. Figure 2, Figure 3, Figure 4, and Figure 5 are worrisome observations, but to be dismissed. Subsequent headings will briefly explain of each model, impact of place-based nuclear education.

Table 1 : Items count, Models, and formulas: each model, associated hypotheses was analyzed separately with its items, including one tail significance test. - Allison, 2023

Variables	Observation: items Count		% Yes (Y)	% No	Sd = P(1-p)	Test for Yes z-score = (Y-x)/sd	C _Z = ±1.96 @ CL=95%	p-value
	0 ≤ X < 2 (Yes)	2 ≤ X ≥ 4 (No)						
<i>Stress</i>	lower stress 7	higher stress 7	50 = 0.5	50 = 0.5	0.25	Z=0	-1.96 < 0 < 1.96	0.5, not sign
<i>Decision-Making</i>	Quality or good decision 3	Poor or bad decision 1	75= 0.75	25= 0.25	0.19	Z=1	-1.96 < 1 < 1.96	0.16, not sign
<i>Nuke Awareness</i>	Aware 2	Ignorant 2	50= 0.5	50= 0.5	0.25	Z=0	-1.96 < 0 < 1.96	0.5, not sign
Hypothesis	Categorizing items into Yes or No (binary) implies mean ,x = 0.5							
<i>Stress H_o</i>	Over 50% of millennials are experiencing lower stress level.						Retained	
<i>H₁:</i>	Less than 50% of millennials are experiencing lower stress level.							
<i>Decision Making H_o</i>	Over 50% of millennials are making quality or good decision.						Retained	
<i>H₁:</i>	Less than 50% of millennials are making quality or good decision.							
<i>Awareness Nuke H_o:</i>	Over 50% of millennials are demonstrating higher level of nuclear awareness.						Retained	
<i>H₁:</i>	Less than 50% of millennials are demonstrating higher level of nuclear awareness.							

Table 2: Items count, Models, and formulas: all models combined with single hypothesis was analyzed with all items, including one tail significance test-Allison, 2023

Variables	Items count sample mean x: 0.5 (binary)		% Yes (Y2)	% No	Sd = P(1-p)	Test for Y z-score = (Y2-x)/sd	C _Z = ±1.96 @ CL=95%	p-value
	0 ≤ X < 2 (Yes)	2 ≤ X ≥ 4 (No)						
Total	Y2 = 12	10	0.55	0.45	0.25	0.2	-1.96 < 0.2 < 1.96	0.42, not sign
Hypothesis	Categorizing items into Yes or No (binary) implies mean , x = 0.5							
<i>Combined models H_o</i>	Over 50% of millennials are experiencing lower stress level, making good decision, and nuclear aware.						Retained	
<i>H₁</i>	Less than 50% of millennials are experiencing lower stress level, making good decision, and nuclear aware							

i. Brief focus on each model

➤ Stress model

Measures categorised as “lower stress” or “higher stress” yielded a 0.5 probability of either event occurring. Looking at the stress model, observation showed 50% of measured items were less than scale-2. So, hypothetically over 50% are “lower stress”, but significance test proved otherwise (sd 0.25, z-score $0 < 1.96$, p-value $0.5 > 0.05$). Thus, not significant and retaining the H_0 : less than 50% are in lower stress). The stress model significance test supported over 50% of study sample (millennials) are lower stress, yet Plate 2 speaks volume.

➤ Decision model

On the decision-making, the model showed 75% of measures in the less than 2 scale which imply good handling of decision, but with significant test not sufficient to reject H_0 : Poor decision making (sd 0.25, z-score = $0.82 < 1.96$, p-value = $0.16 > 0.05$). Thus, is not significant. No evidence to reject H_0 : Poor nuclear decision).

➤ Nuclear awareness model

On nuclear awareness the observation showed 67% of measures (items) scaled less than 2, which hypothetically imply sufficient awareness, but the significant test has not sufficient evidence to reject H_0 : poor nuclear awareness (sd 0.25, z-score = $0.82 < 1.96$, p-value = $0.21 > 0.05$). Thus is not significant). The conclusion is that significant higher stress exists among millennials. So, nuclear awareness is poor, including decision-making. Scatter plot diagram showed positive relationship between decision and awareness, but inverse relationship of both models to stress model, Figure 10. The study supports existing theories of stress and related impact on decision and awareness, Bogdan and Pizzagali, (2006) stated acute stress blunt rewards responsiveness and is depression risk factor.

ii. Impact: nuclear attack and education

Only 63.2 percent of sample has heard about nuclear war or threat before Russian attack 2022 while 10.5 Percent have not heard even at the point of self-reporting. Yet 26.3 percent for the first time heard about nuclear war in 2022 following Russian attack, Figure 6, Figure 7, Figure 8. This is not only consistent with recent theoretical knowledge of low nuclear awareness (Ingram, 2023), but also an indication of civic responsibility knowledge gap and indictment on our institutions. Otherwise can empower citizens to hold their leaders accountable and increase anti-nuclear attack or nuclear weapon deployment or acquisition: “evil weapon”.

iii. Importance of familiar places in the simulated attack

Earlier in the 38 sample, though 63.2 percent that had knowledge of nuclear war or attack on Hiroshima and Nagasaki in National Geographic and History Channels, it did not change their support for nuclear war. The 2.5 percent is of concern demanding a regular update of related measurement. This is important whether the finding is statistically significant or not because the respondent are real humans. There was need to explore further, the underlying reason for being adamant in support of nuclear world war. However, a simulation of nuclear attack with 20 kiloton yields (equivalent of Nagasaki atomic bomb) and 50 megaton yield nuclear bombs at 180m above ground with 15mph wind at the Air Force Base. The 50 megaton nuclear bomb (Russia’s highest tested nuclear bomb Tsar Bomber equivalent) impacted Chibok in Bauchi State. These are all well known cities and places (PH/Airforce Base, Abuja/Gwadalaga, and Lagos/Shagamu), with clearly remarkable outcome: as high as 89.03 percent drop. Further studies on the hypothetical impact claim of simulation with places are required.



Unintended Consequences of Urban Renewal in Port Harcourt metropolis: forced into homelessness students turned class rooms home and vulnerable to drug, drop out, and crime.

Plate 2: Stress in Port Harcourt Metropolis: urban renewal and homelessness. Credit: Allison, 2022

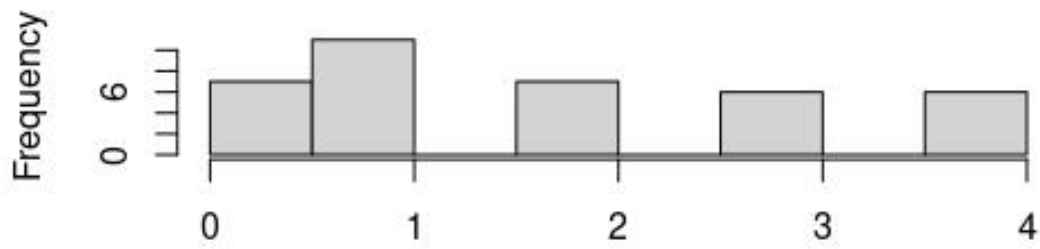


Figure 2: In the last month, how often have you been able to control self and important belongings in your life? Categorization of observed mean: $0 \leq X < 2$ is “lower stress level”; $2 \leq X \leq 4$ is “higher stress level”

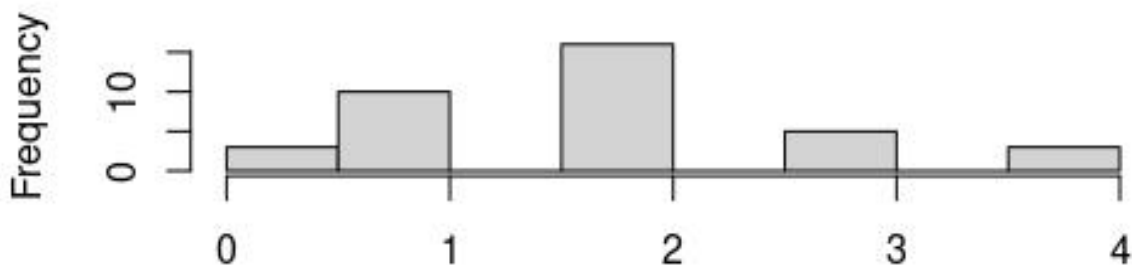


Figure 3: In the last month, how often have you felt nervous and stressed-up? Categorization of observed mean: $0 \leq X < 2$ is “lower stress level”; $2 \leq X \leq 4$ is “higher stress level”

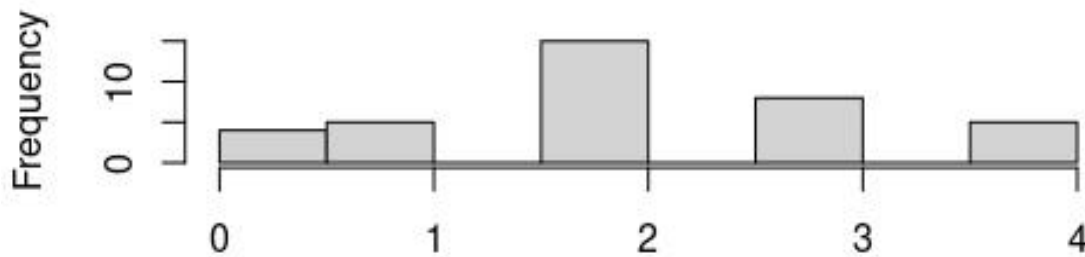


Figure 4: In the last month, how often have been able to quarrels and violence of over prices of market or something happened unexpected? Lower stress scale (very normal) 0-1 to higher stress (very bad experiences)

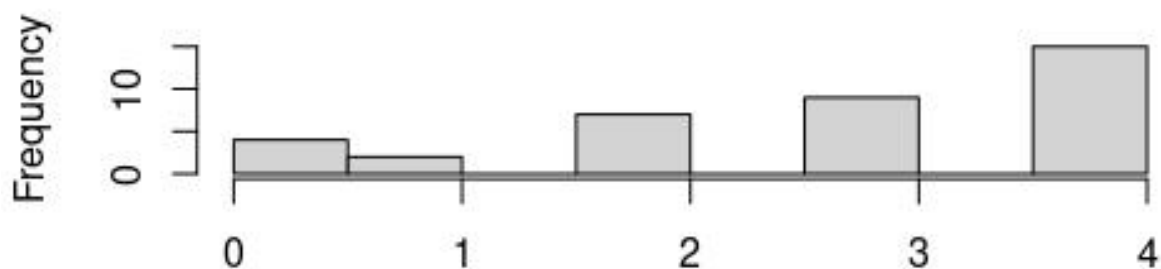


Figure 5: In the last month, how often have you been able to cope with continuing with your school life? Categorization of observed mean: $0 \leq X < 2$ is “lower stress level”; $2 \leq X \leq 4$ is “higher stress level”

0 / 38 correct responses

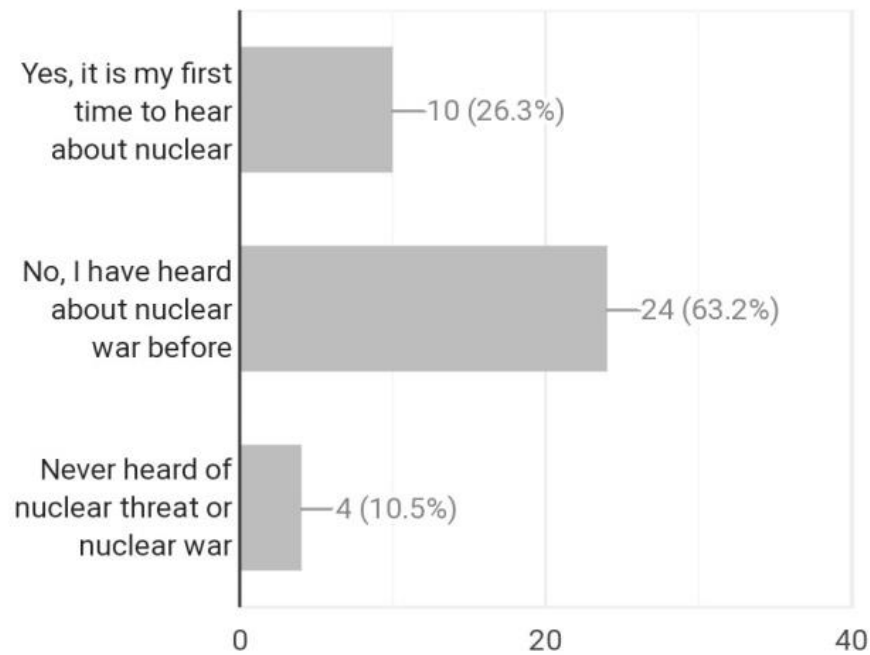


Figure 6: In the last month how would you have responded to the statement: I first heard about nuclear war or threat after Russia attacked Ukraine

38 responses

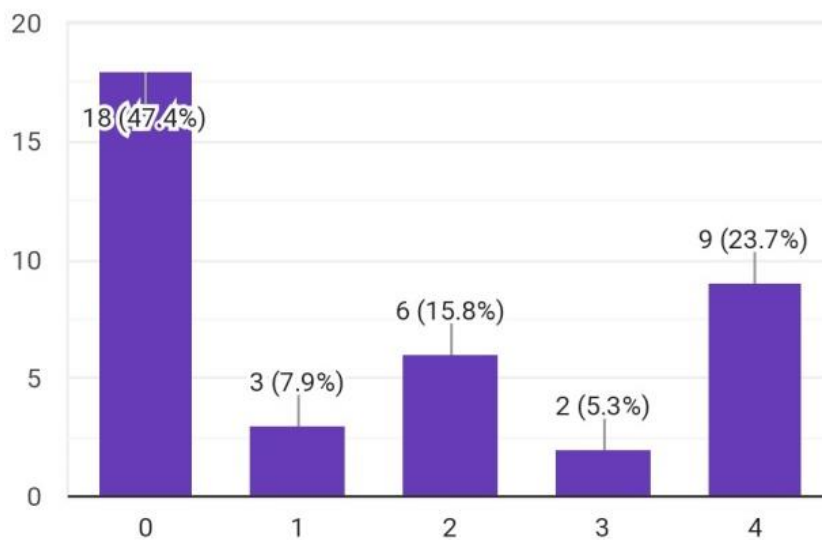


Figure 7: In the last month, how would you have responded to the scales? Categorization of mean: “Lower stress” is $0 \leq X < 2$ (strongly against nuclear war between the Super powers US & Russia? Higher stress $2 \leq X \leq 4$ (strongly support nuclear war between the Super powers US & Russia

0 / 38 correct responses

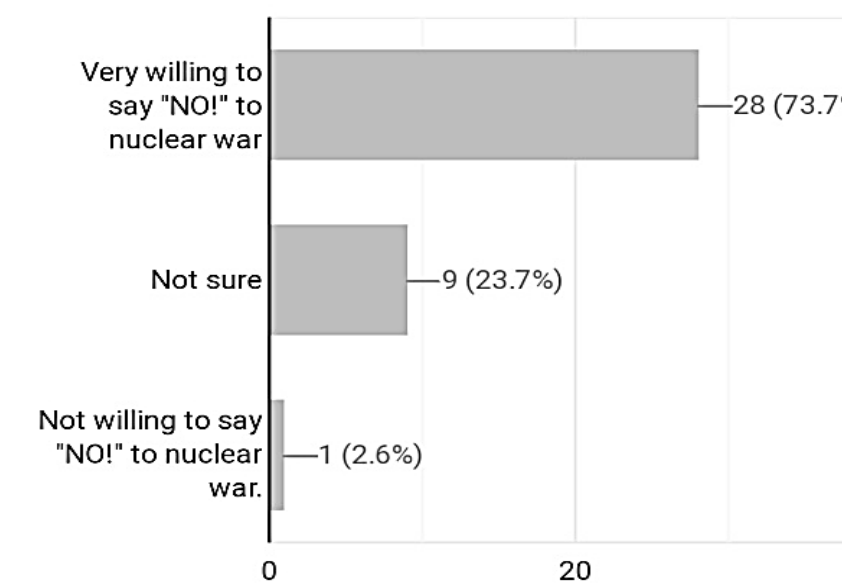


Figure 8: Now haven been educated with simulation of places known to you about the catastrophic impact of nuclear attack, how would you have reconsidered your earlier response of supporting or against nuclear war between US and Russia? Very willing to say “No” to nuclear war (Lower stress)? Or not willing to say “NO” to nuclear war (Higher stress)?

44.8% to 26.3 % number dropped in supporters of nuclear war: 41%

29% to 2.6 % number dropped in strong supporters of nuclear war: 91%

Asia, Africa, and most part of world are dying of malnutrition yet blessed with plenty food is an emergence of wonky global system: *African Edible Insects as Alternative Source of Food, Oil, Protein and Bioactive Components* (Mariod, 2020; Molly, 2023), Plate 4. Biblical accounts of Revelation 22:2 and Genesis1:11 (KJV) speak of leaves of trees, for the healing of nations (pandemics) and seeds as food for man: Daniel and his friends thrive on vegetable alone for 10 days looking fresher and more robust than those who fed from royal table (Daniel 1:15-20, KJV) ; while John the Baptist thrive on wild locust bean and honey as such being referred to “St John’s Bread” (Mathew 3:4 KJV, Maier et al., 1993).. The African verity (*Parkia Filicoidea*) , but originally Mediterranean (*Cerantonia Siliqua*) have been grown for over 4000 years with life span of 100years reaching height of 1200m including about 100kg of bean annually for a mature female locust bean (Smith, 2023). They are rich in protein, vitamins and can help prevent cancer, control diabetes, improve heart health, boost energy levels, and aid weight loss. These are lost or unrecognised heritage with capacity to solve global grand challenges, Plate 4.

i. Evidence of bad governance and Heritage rethinking

In another perspective, if heritage cover unique achievement, it will be more comprehensive not to limit the term to only the positive. Malence, (2015) in TEDx discussed the benefit of changing perspective. For instance, between 1960 and 2022 USD 600 billion was stolen from Nigeria, looking at the opportunity cost will have better impact than the money alone. As the USD 600billion trade-off or opportunity cost, is the disappearance of the city with tallest buildings in the world: 300-400 Burj Khalifa. A unit of Burj Khalifa cost about USD1.5 billion between 2004 and 2010. This fits the description of monumental failure; heritage of retrogression. More examples in Nigeria that fits this class of heritage including lunch of a National Career (Nigerian Airways) logo with over N85 billion (Okeke-Korieocha, 2023), the eNaira and redesign of Naira are colossal failure (only country with two kinds of paper legal tender) including N300 billion worth BIVA machines “failed” to perform during the 2023 presidential election leading to the largest assemblage of eighty nine Senior Advocates of Nigeria (SAN) in an election tribunal. Like Hiroshima and Nagasaki, the Nigeria’s experiences fit world heritage status of man’s inhumanity to man. Rebecca & Venda, Allison and Allison, (2023)

(2022) discussed contemporary art claim to heritage. The point is, all stolen and whitening heritage must be restored to their origin (Imrie, 2018) while heritage both in concept and application must be balanced: positives and negatives lights.

ii. *Why the support for nuclear world war*

While the study demonstrates knowledge gap by use of simulated nuclear attack and Figure 6, it is significant to understand other reason not readily captured by the single questionnaire, but through Whatsapp conversation and clarification. As the Russian war rages and nuclear war threat heightened, it was shocking to note some 2.6% of sample (i.e. African youths) are inclined to support nuclear world war even after understanding the catastrophic impact with only 63 percent that have heard about nuclear threat or war before 2022, Figure 8. In Figure 9, an inverse relationship between decision making (red) and stress (blue) was evident.

There are underlying reasons for supporting nuclear war, but few are: (1) the use of obsolete model in telling nuclear war effect. The atomic bomb narrative of Hiroshima and Nagasaki were abstract or sounding fictitious to studied sample. (2) More so, as none the respondents have visited the sites or Japan. (3) Unlike Hiroshima and Nagasaki, the studied sample can relate with the Air force Base in Port Harcourt, with the Chibok in Bauchi State. Therefore, they easily understood the gravity of destruction. Even so, Shagamu in Lagos, Gwadalga in Abuja are familiar places with clear spatial understanding. (4) a nuclear world war will be a pay back to those who plundered Africa; mutually destroy themselves. The adamant 2.5 percent sample carry as heritage the jungles of burden in their hearts with echoes of exploitations, exclusions traced to imperial masters; a stress that deafen their imagination and sound reasoning (Bogdan and Pizzagali, 2006). Nevertheless, the article agrees with Kolesnikov and Volkov, (2022) that the new generation have role to play to prevent man's inhumanity to man, Plate 3. Also, they can topple continental scale of hunger by identifying and dismantling shrouded systems in place articulating hunger and scarcity for profit, Plate 4.

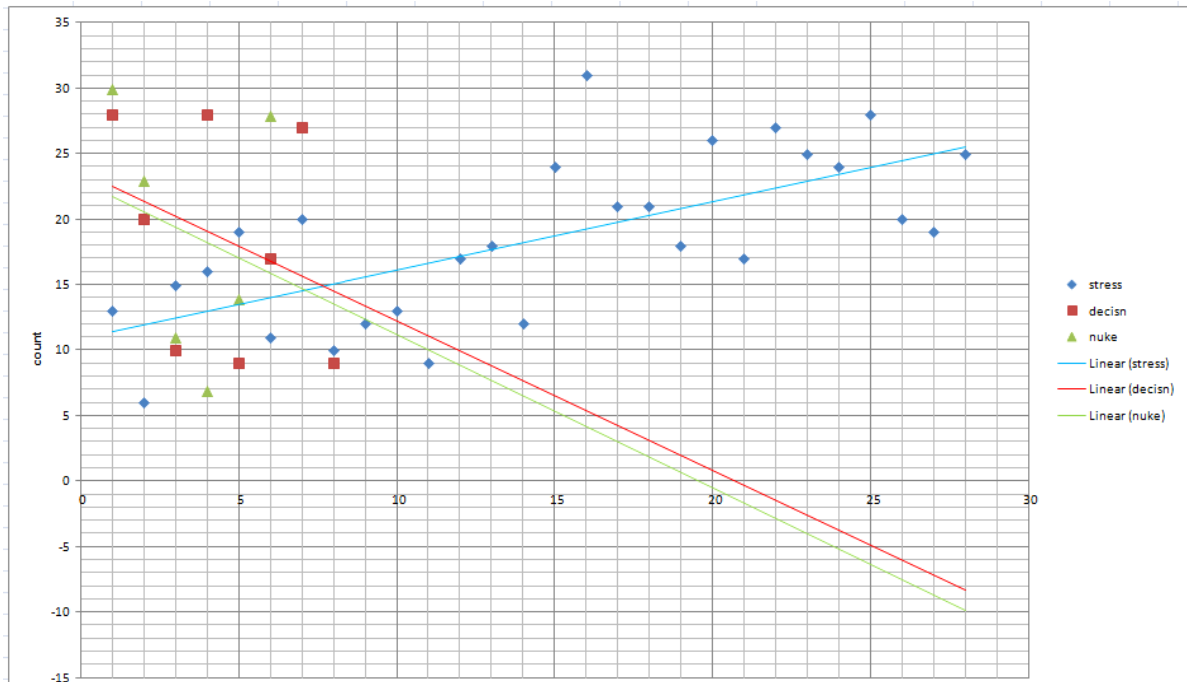


Figure 9: Scatter plot showing relationship of models: Stress (blue) Independent variable; Decision-Making (red), Nuclear Awareness (lemon green) as dependent variables. Allison, 2022.

3.4 Obliteration of cities

Cities' obliteration has only re-emergence is with greater vigour and heightened risk relative to the Cold War era. The crime can be traced back to biblical times. However, such destruction was used by God to cleanse or preserve a people (Judges 7:7-22 KJV). Yet, then the planet was not threatened as it is today, Figure 11. ICAN (2022a, 2022b) reported the global nuclear weapon maintenance cost US\$150,000 per minute while "nuclear winter" famine can wipe-out 5 billion people. This supports Pareto's rule that less than 20 percent of world population are responsible for the apocalyptic threat and wasteful decision.

Nuclear attack is evil that must be shamed, not celebrated with millennials to play significant role, Plate3. The 1945 Hiroshima and Nagasaki cities' bombings provoked global concerns and protest including the Papal of the Vatican and since then the protest are "transnational connected" (Kirchof and Meyer, 2014). Millennials are leading the "Second Machine Age" which has started and phrase coined by MIT professors to describe the ongoing technological revolution today.



Plate 3: Revolution circle adapted from Robert Greene. Millennials pulling down symbols of inhumanity to man as heritage: AJP cited UNSPLASH



Plate 4: Locust Bean and Locust Insect. Credit Mabel cited UNSPLASH



Figure 8: Nuclear weapons global distribution: Africa is safe?. Sources US Department of State

3.6 *Decision making*

Overall, the findings remain not encouraging. Adamantly, 2.6 percent supported nuclear war despite understanding its impact on cities, people and climate explainable by Bogdan and Pizzagali, (2006). Yet the good news is that appropriate awareness creation and education can meaningfully alter the support for nuclear war: after education over 91 % dropped among those who had previously strongly supported nuclear war. Unai, (2022) discussed “Uncertainty and Complexity in Nuclear Decision Making” individual have saved the world from apocalypse (TRTWORLD, 2021; Matthew, 2022) . By systematic thinking and better intuitive awareness, Vasili A. Arkhipov saw beyond the release of nuclear torpedo and persuaded others to surface to the reality they were not being attacked by the US. In 2014 Vasili Arkhipov died and was honoured “Future of Life Award” in 2017 ; Elon Musk and Morgan Freeman attended the event by US based organisation Future of Life Institute. Nevertheless, the point is that the adamant 2.6 percent, whether statically significant or not, has human faces behind as such should not be readily dismissible or treated as mere number. Gelman and Stern, (2006) also was concerned with “dismissing” as statistical regularity.

3.7 *Accessing, saving and securing heritage*

Current mismanagement and threats in Nigeria are tied to corrupt system that is significantly shrouded in secrecy. The manual systems are playing out human weaknesses like with the 2008 global crisis (Lioudis, 2021). History has worrisome lessons on relying solely on machines. For example, in 1983 the Soviet nuclear false alarm showed multiple nuclear (ICBM)) attack from the US (Unai, et al., 2022). As balance the article human supervised self governing machine deployments. Blockchain is one. The Blockchain smart contract and consensus mechanism is strategic and can help in not only in building confidence and accountability, but also in preserving heritage by its immutability; heritage digital version. Such versions are readily accessible across the globe without need for travel yet cannot be stolen. In addition, Blockchain can prevent unilateral decision by any nuclear power to launch nuclear attack, thus save cities; if all nuclear assets and infrastructure that are increasingly digital are on a Blockchain. Allison & Bala, (2023) proposed Global Nuclear Blockchain Network (GNBN) in the March 2023 Sustainability Conference of The University of Texas. While other scholars (Kivat, 2015; Porcelli and Delado, 2017; Nair and Shutter, 2018; Chen, et al., 2019; Jordan and Troth, 2019; Nowicki, 2020; Lin, 2019) including institutions (WEF,2022) have discussed how extremely complex systems such as those associated with the financial industry are effectively being managed by Blockchain “in trustless environment” . Blockchain quantum based security guaranty AI with big data of high fidelity that cannot not be mutilated (with integrity). More so, UN, WEF are increasingly being perceived as anti-democratic and corrupt organisations that have hijacked by globalist billionaires (Singh, 1994; Claude, 1996; Washburn, 1996; Chen, 2018, Oxfarm Press Release, 2022).

4.0 Conclusion

There is need to create a conducive environment for millennial to thrive or yet they can take it by revolution. Statistical figures are more than mere number, particularly those involving humans and living things. Rule of statistical regularities need review particularly “the insignificant “with human faces behind; 2.6% is dismissible, but as recommendation should rather be monitored to avoid a lurking catastrophe behind civilization. The article has added to the theory of heritage, demanding greater inclusion- including the good, bad, and ugly. Recommending, more research on global scale. It presents WhatsApp as a potential research tool for second stream exploration to reduce CMB and increase the number of user-friendly research tools. It recommends place-based nuclear simulation education for better impact on education and awareness creation. Institutions and media houses must rise up to the challenge. Blockchain potentials and GBA’s Blockchain Maturity Model have necessitated initiatives of moving “from policy to funding Blockchain solutions”. BMM will enable public and private sectors navigate safely through Blockchain adoptions and start-up deserving support.

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Cite this article as:

Allison J., and Allison M., (2023). Perceived Stress Scale and Nuclear Awareness among Nigerian Millennials: Implications for Sustainability.. *Nigerian Journal of Environmental Sciences and Technology*, 7(2), pp. 291-312. <https://doi.org/10.36263/nijest.2023.02.0418>