

THE EFFECTS OF ARTWORKS ON THE CREATIVITY OF EMPLOYEES IN NIGERIAN ARCHITECTURAL FIRMS

Opaluwa, E., *Obaleye, J.O., Omokhoa, C.N., Ben-Agbo, E., Ogunlana, A., & Ademakinwa, O.O.

Department of Architecture, Caleb University, Imota, Lagos State, Nigeria
*Email: obaleyeoludare@yahoo.com

ABSTRACT

Art is an integral part of man's culture and society. It is a diverse range of human activities that creates visual, auditory and other forms of artefacts that communicate imaginative and technical skills, intended to be appreciated for their aesthetics and emotional influence. Human civilisation and arts development have often been analogous, reflecting the times and seasons of civil advancements. Every environment has the power to and can influence mood. Therefore, there is a need to understand the relationship between artworks and the creative expression of architectural employees in Nigerian architectural firms. Elements in an office environment can create and result in varied experiences. The descriptive research design was applied in this study. Close-ended questionnaires were administered to employees of architectural firms through electronic channels – Microsoft Forms. A simple correlation coefficient (p-value test) was run to test the linear relationship between the variables. Frequency analysis shows that 58.1% of respondents had <5 artworks and 35.5% had >5 and <10 artworks displayed within their workspace environment. The results also show that 45.2% of artworks visibly displayed within respondents' workspace are paintings, 33.9% are pictures, and 21% are architectural models and calligraphic depictions. A weak inverse relationship between artwork and work quality was observed. An R square value of 0.072 indicates that artwork in the workspace impacts the emotional feelings of architectural professionals by 7.2%, which is not statistically significant. During school years, continuous professional development conferences and competitions, appreciating artworks should be introduced to Nigeria's architects.

Keywords: Architectural professionals, Artwork, Creativity, Workspace

INTRODUCTION

The Architectural profession responsible for designing, constructing and conserving buildings within the built environment is the focus of this study. Architecture through the ages has stood as a depiction of society. Architecture reflects civilisation's values, successes and decline over time (Fletcher, 1996). An office environment is where the mood and creative skills of office workers are highly stimulated. The environment created in an office by the elements can result in painful, sad and boring or pleasant, happy and exciting experiences that eventually determine employees' creative and productive levels. To gain an understanding of the effects of artwork on the creativity of employees within Architectural firms, the following questions were addressed: What is the proportion of the presence and size of artworks in

Architectural firms? To what extent have artworks impacted employees of Architectural firms? Is there any relationship between artworks in the office milieu and creativity? Therefore, this research explores the effects of artworks on employees' creativity within Architectural firms in Nigeria.

REVIEW OF LITERATURE

Art has been integral to man's culture, society and living for thousands of years. It functions as an instrument of self-expression and a means by which its creator conveys perception to the world (Wechsler & Nakano, 2020). Human civilisation and arts development have often been analogous, with arts reflecting the times and seasons of civil advancements (Cruz, Farinha, & Amado, 2017; Manzini & Thorpe, 2018). Art can be described as a diverse range of human activities engaged in creating visual, auditory and performed artefacts that communicate the creator's imaginative and technical skills and are intended to be appreciated for their aesthetics and emotional influence (Prager, 2015). The oldest forms of artistic expressions appearing in documented forms are the visual arts. These include images and objects in sculpture, painting, photography, printmaking and other forms of visual arts (Laishram, 2017). An artist can present artwork in various mediums; the consideration of the suitable medium of expression by the artist of their work can be intimidating as the choice of material can make or mar their intended communication to their audience (Artdex Blog, 2020; Muscato, 2015). The discipline of architecture is often considered a branch of visual art (Asefi, Khasraghi, & Roders, 2019; Borucka, 2015). However, architecture is one form of visual art in a solitary genre due to its applicability and nature.

Art and artworks can be defined by their ability to mimic, their capacity to reflect, or their potential to be abstract. Artworks can be physical two-or-three dimensional objects professionally determined and considered to fulfil a primarily aesthetic function (Gell, 1998). Architectural renderings and models of un-built projects by architecture greats like Vitruvius, Leonardo Da Vinci, Frank Lloyd Wright and Frank Gehry have also been classified as artworks (Sisson, 2016). Another definition of artwork is the creative production of visually-oriented objects or displays with aesthetic and emotional significance (Arts3 Network, 1999). Furthermore, artwork has been described as products of artistic creation such as poems, songs, and environmental design, depending on the intention and execution (Sisson, 2016). Artworks can be expressed or manifest in several ways: paintings, photography, colourful objects and installation, sculptures, plays and architectural styles (Arts3 Network, 1999). The choice of a medium that the artist uses to communicate and express is solely based on their

intuition. As a result of artworks' vastness, especially regarding boundaries and definitions, it is essential to state that this research focuses on artworks depicted within Architectural firms in Nigeria within a delineated spectrum by the researchers.

Therefore, this research defines artwork as two- or three-dimensional objects placed on walls, furniture, floors, or a standalone within an architectural workspace intended to primarily fulfil an aesthetic and inspirational function. Examples of objects that fall within this category include but are not limited to; drawings, models, paintings, photographs, calligraphic displays, collages, sculptures, relief rendering, graffiti, and colourful object displays.

So many authors have defined the state of health to include; the condition of being sound in body, mind and spirit (Julie, 2017), the absence of diseases and infirmity in a human body (David, T, 2021), the state of complete and total physical, mental and social well-being and not merely the absence of diseases and infirmities (World Health Organisation, 2021) and also as the freedom from sickness or suffering (Boyd, 2000). It is no news today that there is a correlation between artworks and mental stability. It has been said that supplementing art and participating in art with medicine and care improves mental stability (Kwong, Ho, & Huang, 2019). Engaging in arts can improve healthcare environments and benefit staff retention and professional development (Kinney, 2020). Thomson & Jaque (2017) opined that when an individual observes a work of art, the individual potentially excites the same neurons as the artist who created the work, thus creating new neural pathways and triggering a state of inspiration culminating in the formation of new ideas and creativity. Engagement with the arts contributes to reducing stress, depression and other benefits, such as alleviating the burdens of chronic diseases (Blomdahl, Wijk, Guregard, & Rusner, 2018; Sparks, 2018). A concise submission of the above facts would be that there is a relationship between creativity, the state of well-being and artworks. This means that moods can be influenced by exposure to artwork. Since every environment has the power to influence mood (Cho & Su, 2020), there is a need to understand the relationship between artworks within the architects' workspace and their creativity.

Geographical conditions have affected people's cultural development and, invariably, their art forms (Robinson, 1949; Hawkins, 2012). Although not often the case, man's impressions from his environment form the mainsprings of his art expressions (Kolay, 2016). Artworks are believed to affect the fundamental sense of self, which eventually influences society by changing opinions, instilling new values and translating experiences through space and time (Jasmi & Nik Mohamad, 2016). Research has established that viewing visual artworks positively affects young people and elderly person health (Gwinner, 2016; Rose & Lonsdale,

2016). It was discovered that there is a positive correlation between grades in mathematics and literacy of school children exposed to artworks (Jindal-Snape, Davies, Scott, Robb, Murray, & Harkins, 2018). Artworks have also proven themselves to be a viable economic sector (ALPAGU, 2014). Although artworks may not be vital in fulfilling basic needs, it significantly contributes to making our lives eventful through mood swings (Tinio, 2020).

Emotions of happiness, sadness and anger can be evoked simply by looking at an object-based artwork (Mastandrea, 2015). Exposure to artworks has also been shown to have some health benefits. Research has recorded some creative and health benefits of contact with artwork: memory stimulation in dementia patients and improving depression and anxiety levels (Goslin-Jones, 2020; Loue, 2016). Artworks are also used as psychotherapeutic tools to treat patients in health facilities (Goslin-Jones, 2020). Increasing scientific evidence proves that involvement with artwork enhances brain function (Lauring et al., 2019). It has been said that artworks impact brain wave patterns, emotions, and the nervous system (Mastandrea, 2015). Scholarly works also substantiate that involvement with artwork impacts everything from overall academic achievements to emotional and social development (Allen & Heat, 2018). It is safe to say that involvement and exposure to artwork impact the neural system to produce benefits ranging from developing fine motor skills to creativity and improved emotional balance or vices. It is said that engaging with and in artworks stimulates the brain cells cognitively just as much as mathematics, sciences, and languages do to the brain (Lutfi, 2019). Participation and exposure to artwork have been shown to help an employee to; understand perspectives, empathise with other perspectives, better communicate their ideas visually, think strategically and inspire creativity. In a study carried out in 2018, conclusions were drawn that persons with a higher appreciation for artwork felt more inspired in their daily lives and performed better on creative tasks (Palmier, 2020). Health psychologists have increasingly deployed therapies such as music engagement, visual arts participation, expressive writing, and dance to treat and manage emotional injuries and public health matters.

According to (Selvi, 2007), at the heart of creativity lies certain influencing factors as learning, experience, motivation, imagination, intelligence, flexibility and personality. Creativity was also defined as the progression of becoming aware of problems, insufficiencies, gaps in knowledge, missing elements, disharmonies, and so on; recognising the difficulty; searching for solutions, making guesses, or articulating hypotheses about the deficiencies; testing and retesting these hypotheses and possibly reworking and retesting them; and finally communicating the results (Torrance, 1965). From the above descriptions

this research supposes that an underpin and a contributor to creativity is mental stability, hence a brief examination of the subject and its relationship to artwork.

It is important to note that architectural firms sometimes consist of allied professionals, engineers, construction managers, surveyors and planners. Most persons in paid employment or structured businesses spend most of their day at work, and the workspace conditions impact the employee's performance. The milieu of a workspace that is stimulating encourages employees to be more creative. The impact of artworks in work settings has largely been underestimated and undervalued. In a similar study, it was said that paintings on a wall are a welcome distraction to employees during break time hours, which helps reduce stress levels and enables them to release pressure with certain colours responsible for soothing their eyes and minds (Sparks, 2018). Also, artworks contribute to environmental stimulation, influencing motivation and creativity (Brewer, 2016). Artworks have also been said to enhance communication and improve employee bonding through discussions on perspectives (An & Youn, 2018). This study focuses on artworks generally classified as object art (paintings, drawings, small-large sculptures, models). This research aims to effectively explore and expand these concerns within the practice of architecture. The study intends to create knowledge that underpins the meaning and meaningfulness of this phenomenon. Investigating the relationship between artwork and creativity of employees in Architectural firms offers interesting ways to bridge these critical areas of inquiry and provide timely vital insights into factors that influence the Nigerian architect.

METHODOLOGY

This research involves finding frequencies and correlations, thereby measuring variables best fitted as quantitative research. The descriptive research design was applied in this study. Descriptive design is suitable because it obtains information concerning the current relationship observed between artworks and the creativity of Architectural firms' employees to describe what exists with these variables. This research design is a precursor to getting a general overview and valuable pointers about which variables and their relationships are worthy of further quantitative testing. It is also valuable as it provides a rich amount of data that has helped with this study's recommendations and contribution. The study collected data to systematically describe the characteristics, features and relationships between Architects, artworks and their level of creativity. This research gathered information through the survey method. Close-ended questionnaires were administered to employees of Architectural firms through electronic channels – Microsoft Forms.

The survey contained 28 questions, with questions 1-8 addressing general information and demography. Questions 9-15 addressed the dependent variable of state of well-being (mood), while questions 16-23 targeted the independent variable of artwork, and 24-28 examined the dependent variable of creativity. The study population was purposefully selected by acquiring a list of registered and recognised architects and firms by the governmental regulatory agency; Architects Registration Council of Nigeria (ARCON). According to ARCON in its register of architects and firms updated in 2017 by council regulations, they are three thousand six hundred and forty-four (3644) architects and one thousand, one hundred and forty-three (1143) firms licensed to practice in Nigeria (Murnai, 2017). This number formed the study population size for this research. Solven's formula was applied to determine the minimum number of respondents statistically valid for the study (Mustafa, 2017).

$$N / 1 + Ne^2 = n$$

The effective population size (N) of this study was 3644. A 90% confidence level indicates that the sample size reliably represents the population adopted for the study. This assumption translates to a sample error tolerance (e) value of 0.1. The arithmetic resolution of the formula resulted in a sample size (n) of 97 respondents, representing 2.7% of the population size. One thousand and seventy (1,070) links were sent to architects, interns (student architects) and related industry professionals within architectural firms in Nigeria without location restrictions. The primary targets were professionals in architectural firms who could be reached electronically by researchers. Respondents were spread over all the states in Nigeria. A total of 65 questionnaires were returned, with three (3) respondents excluded from the final analysis as their response was a test sample to refine the questionnaire instruments deployed. Sixty-two (62) valid responses representing 64% of the sample size was analysed. The number of respondents was considered sufficient for the analysis based on Mustafa's (2017) submission that the survey result is unbiased and impartial if the return rate is greater than 40%. The electronic survey form was available for filling for 14 days from 00:00 hrs 03/01/2021 to 00:00 hrs 17/01/2021. A simple correlation coefficient (p-value test) was run to test the linear relationship between the variables.

A simple linear regression was also conducted to test for causal relationships between the variables. A simple linear regression was conducted to test for a causal relationship between the dependent variable (outcome), creativity and the independent variable (predictor), artwork. Also, a simple correlation coefficient analysis was conducted to test if the relationship between the predictor and the outcome is linear.

RESULTS AND DISCUSSION

Demographics of Respondents

Table 1 presents the demographics of the respondents. The demographics considered are gender, age, work experience, respondents' registration status, professional qualification, and regulatory body. It shows that of the 62 respondents, 37 persons representing 59.7% indicated that they are registered with a regulatory agency associated with the construction industry. Sequel to the question on registration status, respondents were asked to specify their respective agencies (Table 1).

Table 1: Demographics of Respondents

Attributes	Frequency (n=62)	Percentage (%)
Registration Status		
Yes	37	59.7
No	20	32.3
Maybe	5	8.1
Regulatory Body		
Nil	7	11.3
ARCON	35	56.5
ARCON (partial)	2	3.2
C.A.C.	2	3.2
CORBON	1	1.6
COREN	2	3.2
NIA	10	16.1
NIOB	2	3.2
NIQS	1	1.6
Professional Qualification of Respondents		
Architect	55	88.7
Engineer	2	3.2
Builder	3	4.8
Interior Designer	1	1.6
Others	1	1.6
Gender		
Female	14	22.6
Male	48	77.4
Age Range		
20-29years	8	12.9
30-39years	13	21.0
40-49years	28	45.2
50-59years	13	21.0
Years of Work Experience		
<1-7	11	17.7
8-14	20	32.3
15-21	15	24.2
22-28	10	16.1
29-35	6	9.7

Respondents were asked to specify agencies to ascertain respondent's comprehension of the difference between regulatory agencies and professional associations.

The result shows that 38 persons representing 61.3% were registered with a regulatory agency. This value is closely related to values of registration status, suggesting that respondents understood the difference between registration with a regulatory agency and a professional association. Fifty-five (55) persons, representing 88.7% of the respondents, were architects, as seen in Table 1. This result is significant because architects often conceptualise most building projects, supporting the view of Bredemeyer & Malan (2006). Table 1 further demonstrates that 48 persons signifying 77.4% of the respondents are males. The result indicates that the discipline of architecture is a male-dominated field in Nigeria, supporting Jwasshaka & Amin (2020) claims. Also, Table 1 displays the age distribution of respondents. Although the frequencies are almost even, the age group 40-49 years accounts for the highest frequency of 28 persons corresponding to 45.2% of the population. This result supports BAER (2013) opinion that most creative persons are of the young or middle-aged group. Lastly, Table 1 presents years of work experience, which is also almost evenly distributed, with the modal group being 8-14 years of experience, accounting for 32.3% of the population.

Frequency Analysis on Artwork (Independent Variable)

In order to gain information on artworks concerning the respondent's workspace, the following questions were asked. Looking at your office carefully, how many artworks can you count? Would you say the artwork numbers are sufficient for the size of your office? Do you consider architectural models as artworks? Do you consider sculptures as artworks?

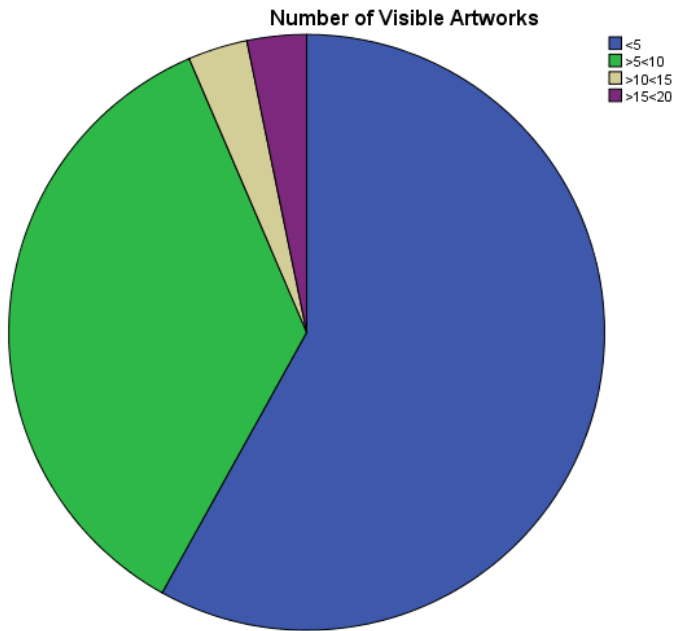


Figure 1: Pie Chart showing the number of artworks displayed within the workspace

Do you consider calligraphy as artwork? Which of these categories do the artworks present in your office fall into? How are the artworks displayed? These questions address issues that relate to the independent variable – artworks.

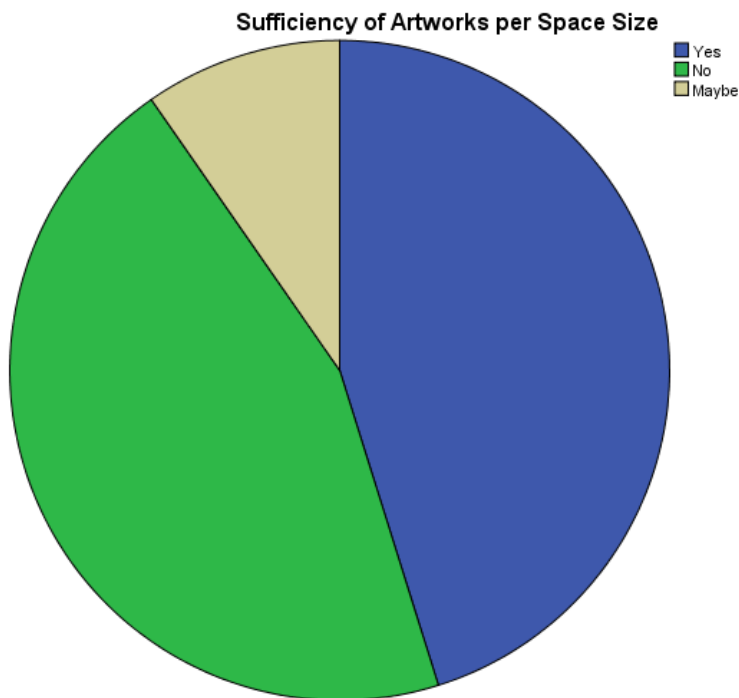


Figure 2: Pie Chart showing the sufficiency of artworks displayed within the workspace

Results of frequency analysis conducted and seen in Figure 1 shows that 58.1% of respondents had <5 visibly displayed artworks, and 35.5% had >5 and <10 artworks visibly

displayed within their workspace environment. An even distribution of 45.2% between adequacy and inadequacy was recorded on the sufficient display of artworks within the workspace, as seen in Figure 2. In line with Thomson and Jaque (2017), it is expected that these numbers and observing these works within their space should excite and create new neural pathways that trigger and inspire creativity and sustain the mood. Further analysis indicated that this was not the case. 75.8%, 95.2% and 80.6% assent to the view that architectural models, sculptures and calligraphy are accepted forms of artworks (Table 2). Corroborating Sisson's (2016) and Art3 networks (1999) view on the broad spectrum of artistic expressions.

Table 2: Opinion on Various Items Being Considered As Artwork

Models	Frequency (n=62)	Percentage (%)
Architectural Models as Artworks		
Yes	47	75.8
No	8	12.9
Maybe	7	11.3
Sculptures as Artworks		
Yes	59	95.2
No	0	0.0
Maybe	3	4.8
Calligraphy as Artworks		
Yes	50	80.6
No	4	6.5
Maybe	8	12.9

The results also show that 45.2% of artworks visibly displayed within respondents' workspace are paintings, 33.9% are pictures, 19.4% are architectural models, and 1.6% are calligraphic depictions, as seen in Figure 3.

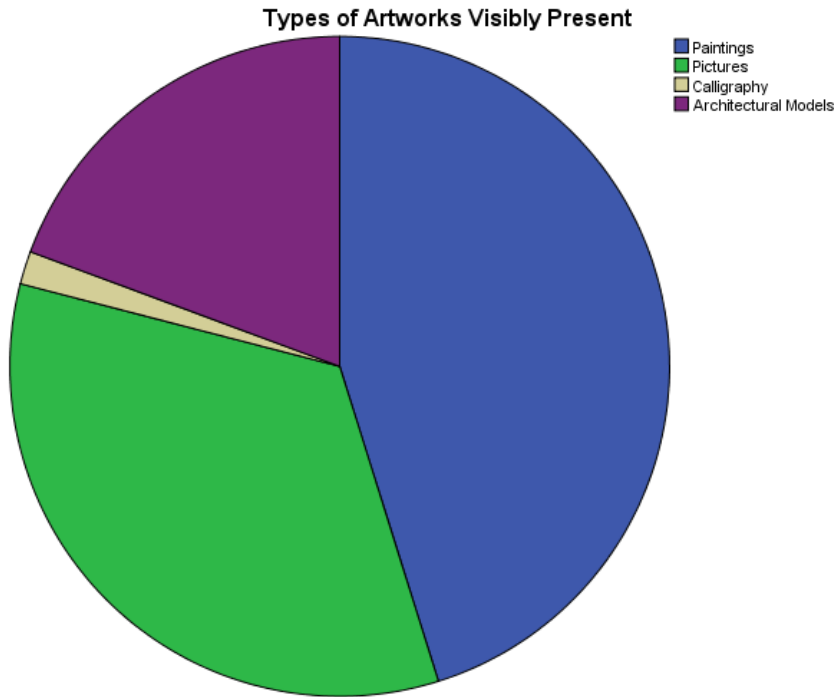


Figure 3: Pie chart showing types of artwork visibly present in workspace

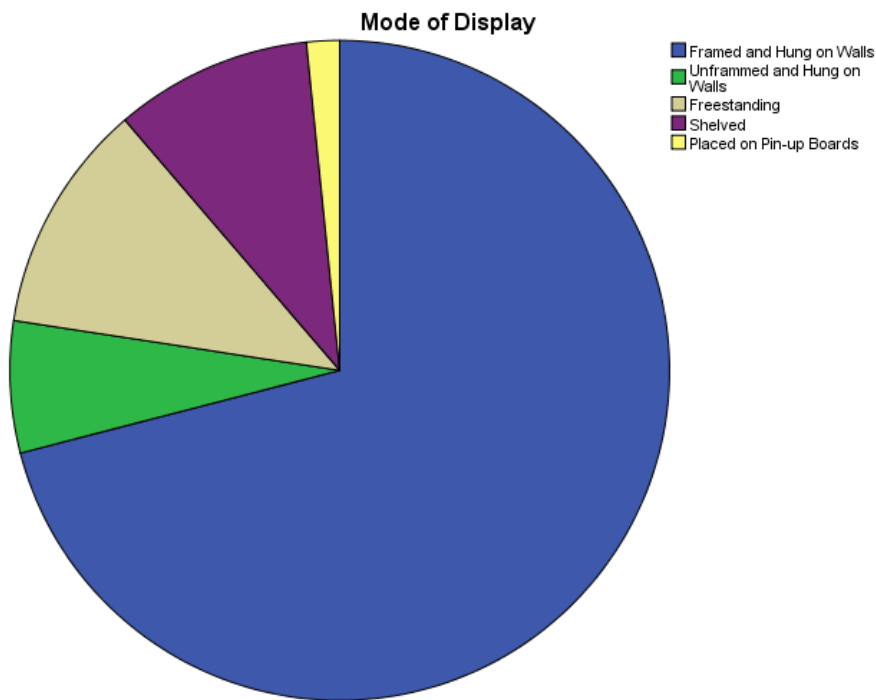


Figure 4: Pie chart showing mode of display of artworks in workspace

Furthermore, the workspace's mode of display of artworks showed that 71% were framed wall hangings, 6.5% were unframed wall hangings, 11.3% were free-standing, 9.7% were shelved, and 1.6% were pinned-up (Figure 4). These frequencies hold up Gallery (2021) submission on most forms of expression of artworks. These questions were asked to assess the keen awareness of respondents of artworks and their nature within their workspace.

Correlation and Regression Analysis between Artwork and Creativity

Regression analysis, as earlier mentioned, was conducted to ascertain the degree to which the predictor (artwork) can predict the outcome (creativity). For regression analysis, questions 18, 19, 20 & 23 were excluded, as they qualified questions 16, 17, 21 & 22 and were used to broaden the scope of appreciating artworks by the respondents. Table 3 shows the values of the Pearson correlation. It shows the relationship between artwork, emotional soundness and quality of work produced, indicating a weak inverse relationship of -0.157 and -0.015 between the quality of work produced and emotional soundness at work with the number of visible artwork present and adequacy of artwork in the workspace. This result contradicts Kinney (2020) and Thomson & Jaque (2017) opinion that emotional stability is instrumental to professional development, inspiration, and new ideas.

Table 3: Pearson correlation showing the relationship between artwork, emotional soundness and work quality

Correlations		Emotions and Work Quality	Number of Visible Artworks	Sufficiency of Artworks per Space Size	Types of Artworks Visibly Present	Mode of Display
Pearson Correlation	Emotions and Work Quality	1.000	-.157	-.015	.126	.265
	Number of Visible Artworks	-.157	1.000	-.092	.011	-.074
	Sufficiency of Artworks per Space Size	-.015	-.092	1.000	-.001	.071
	Types of Artworks Visibly Present	.126	.011	-.001	1.000	.339
	Mode of Display	.265	-.074	.071	.339	1.000
Sig. (1-tailed)	Emotions and Work Quality	.	.112	.454	.164	.019
	Number of Visible Artworks	.112	.	.238	.466	.283
	Sufficiency of Artworks per Space Size	.454	.238	.	.496	.290
	Types of Artworks Visibly Present	.164	.466	.496	.	.004
	Mode of Display	.019	.283	.290	.004	.
N	Emotions and Work Quality	62	62	62	62	62
	Number of Visible Artworks	62	62	62	62	62
	Sufficiency of Artworks per Space Size	62	62	62	62	62
	Types of Artworks Visibly Present	62	62	62	62	62
	Mode of Display	62	62	62	62	62

On the other hand, there is a weak direct relationship of 0.126 and 0.265 between emotional soundness and quality of work produced with types of artwork visibly displayed and the

mode of display. It simply means that the types and number of artworks slightly influence observers' emotions and impact the quality of work in line with certain conclusions Cho & Su (2020) and Kolay (2016) made in their respective publications. When examining the relationship between the independent variable, artwork, and the dependent variable, accurate reasoning being evidence of mental stability, Table 4 indicates a coefficient of determination (R square) of 0.075. Meaning that only 7.5% of the independent variable explains or determines the outcome of the dependent variable, implying a non-significant relationship.

Table 4: Model summary of the connection between artwork and accurate reasoning evidential of mental stability

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.275 ^a	.075	.011	.373	.075	1.162	4	57	.337

a. Predictors: (Constant), Mode of Display, Sufficiency of Artworks per Space Size, Number of Visible Artworks, Types of Artworks Visibly Present
b. Dependent Variable: Accurate Reasoning and Mental Stability

Table 5: Coefficient analysis of the correlation between artwork and mental stability and appearance Coefficients^a

Model	Unstandardised Coefficients		Standardised Coefficient	t	Sig.	Correlations			Collinearity Statistics		
	B	Std. Error				Beta	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.829	.235		7.784	.000					
	Number of Visible Artworks	-.198	.081	-.306	-2.454	.017	-.285	-.309	-.304	.986	1.015
	Sufficiency of Artworks per Space Size	-.143	.089	-.201	-1.613	.112	-.175	-.209	-.200	.987	1.013
	Types of Artworks Visibly Present	.018	.055	.043	.322	.748	.029	.043	.040	.883	1.132
	Mode of Display	-.013	.055	-.031	-.234	.816	-.008	-.031	-.029	.875	1.143

a. Dependent Variable: Mental Stability and Appearance

The non-significant relationship recorded between artwork and accurate reasoning among Architectural professionals in the Nigerian built environment contradicts the contributions made by (Jindal-Snape, Davies, Scott, Robb, Murray, & Harkins, 2018) on the positive correlation between artworks and literary reasoning. Table 5, which displays coefficient analysis, indicates that of the four factors that make up the independent variable, just the number of

visible artwork present with a value of 0.017 is closest to predicting the effects of artwork on stable mind and appearance. The relationship between observing artworks and physical appearance in the study was also not significant, which disagrees with Jasmi & Nik Mohamad (2016) and Allen & Heat (2018) publications that claim a significant relationship between viewing artworks, academic, emotional and social growth. In a nutshell, all values of 0.017, 0.112, 0.748 and 0.816 mean that the predictor is far from significant to the outcome.

Table 6: Coefficient analysis of the relationship between artwork and mental stability and ingenuity

Coefficients^a										
Model	Unstandardised Coefficients		Standardised Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1.261	.459		2.750	.008					
Number of Visible Artworks	-.001	.158	-.001	-.005	.996	-.033	-.001	-.001	.986	1.015
Sufficiency of Artworks per Space Size	.236	.173	.175	1.364	.178	.190	.178	.174	.987	1.013
Types of Artworks Visibly Present	-.075	.107	-.095	-.701	.486	-.029	-.092	-.090	.883	1.132
Mode of Display	.156	.108	.197	1.446	.154	.178	.188	.185	.875	1.143

a. Dependent Variable: Ingenuity and Mental Stability

Table 7: Coefficient analysis of the connection between artwork and mental stability and creativity

Coefficients^a										
Model	Unstandardised Coefficients		Standardised Coefficient Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1.003	.314		3.190	.002					
Number of Visible Artworks	-.074	.108	-.086	-.680	.499	-.120	-.090	-.086	.986	1.015
Sufficiency of Artworks per Space Size	.168	.118	.180	1.416	.162	.203	.184	.178	.987	1.013
Types of Artworks Visibly Present	-.069	.073	-.127	-.947	.347	-.055	-.124	-.119	.883	1.132
Mode of Display	.118	.074	.215	1.594	.116	.191	.207	.201	.875	1.143

a. Dependent Variable: Mental Stability and Creativity

The following tables (Table 6-Table 9) of the coefficient analysis show the influence of artwork on general mental stability at various levels. From the values seen in the tables, we can conclude that the constant in a workspace is far from significant to the dependent variables.

Table 8: Coefficient analysis of the correlation between artwork and physical health and creativity

Coefficients^a										
Model	Unstandardised Coefficients		Standardised Coefficient s Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1.131	.307		3.685	.001					
Number of Visible Artworks	.012	.106	.015	.112	.911	.011	.015	.015	.986	1.015
Sufficiency of Artworks per Space Size	.108	.116	.123	.933	.355	.113	.123	.122	.987	1.013
Types of Artworks Visibly Present	-.011	.071	-.022	-.160	.874	-.060	-.021	-.021	.883	1.132
Mode of Display	-.058	.072	-.112	-.801	.427	-.112	-.105	-.105	.875	1.143

a. Dependent Variable: Physical Health and Creativity

Table 9: Coefficient analysis of the relationship between artwork and sound health and creativity

Coefficients^a										
Model	Unstandardised Coefficients		Standardised Coefficient s Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Zero-order	Partial	Part	Tolerance	VIF
(Constant)	1.378	.395		3.490	.001					
Number of Visible Artworks	-.113	.136	-.107	-.836	.407	-.133	-.110	.106	.986	1.015
Sufficiency of Artworks per Space Size	.206	.149	.177	1.383	.172	.195	.180	.176	.987	1.013
Types of Artworks Visibly Present	-.111	.092	-.164	-1.208	.232	-.127	-.158	.154	.883	1.132
Mode of Display	.075	.093	.111	.814	.419	.076	.107	.103	.875	1.143

a. Dependent Variable: Creativity and Physical Health

This result is in variance with the publications of Allen & Heat (2018), Goslin-Jones (2020) and Tinio (2020), which in summary, state that exposure and involvement with artworks influence social, emotional and academic achievements. In a broad sense, the independent variable, artwork, does not significantly or uniquely contribute to predicting the dependent variable, mental stability. It means that artwork is not a good predictor of mental stability and has no impact on creativity generally amongst Architectural professionals within Nigeria's building industry.

Table 10, a model summary, shows that the value of R square is 0.101, meaning that just 10.1% of the independent variable (artwork) explains or predicts reduced stress levels, which impacts creativity at work. Furthermore, Goslin-Jones (2020) and Mastandrea (2015) maintained that emotions and anxiety levels are influenced by contact with artwork, contrary to this result, which indicates that contact with artworks has no impact on emotions and state of mental stability.

Table 10: Model summary of the connection between artwork and stress relieve

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.318 ^a	.101	.038	.835	.101	1.606	4	57	.185

a. Predictors: (Constant), Mode of Display, Sufficiency of Artworks per Space Size, Number of Visible Artworks, Types of Artworks Visibly Present
b. Dependent Variable: Artwork and Stress Relieve

Table 11: Model summary of the correlation between artwork and emotional response

Model Summary^b									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.268 ^a	.072	.007	.800	.072	1.106	4	57	.362

a. Predictors: (Constant), Mode of Display, Sufficiency of Artworks per Space Size, Number of Visible Artworks, Types of Artworks Visibly Present
b. Dependent Variable: Artwork and Emotional Response

Table 12: Coefficient analysis of the relationship between artwork and specific emotional response

Coefficients^a											
Model		Unstandardised Coefficients		Standardised Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error				Beta	Zero-order	Partial	Partial	Tolerance
1	(Constant)	3.814	.313		12.167	.000					
	Number of Visible	-.025	.108	-.030	-.231	.819	-.052	-.031	-	.986	1.015

Artworks									0	
Sufficiency of Artworks per Space Size	.054	.118	.059	.453	.652	.076	.060	.058	.987	1.013
Types of Artworks Visibly Present	-.093	.073	-.174	-1.272	.209	-.109	-.166	-.164	.883	1.132
Mode of Display	.104	.074	.196	1.419	.161	.143	.185	.183	.875	1.143

a. Dependent Variable: Artwork and Specific Emotional Response

Similarly, Table 11 presents an R square value of 0.072, which is less than 0.3, indicating that the independent variable (artwork) in the workspace determines and impacts the emotional feelings of architectural professionals by 7.2%, which is not statistically significant. This result is also not aligned with the declarations published in Lauring et al. (2019) and Palmier (2020) on the positive connection between inspiration and performance in daily living and exposure to artwork.

Table 13: Coefficient analysis of the connection between artwork and influence to design

Coefficients ^a										
Model	Unstandardised Coefficients		Standardised Coefficients Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Zero-order	Partial	Partial	Tolerance	VIF
1 (Constant)	2.602	.457		5.699	.000					
Number of Visible Artworks	-.182	.157	-.148	-1.157	.252	-.135	-.151	-.147	.986	1.015
Sufficiency of Artworks per Space Size	-.239	.172	-.178	-1.390	.170	-.163	-.181	-.177	.987	1.013
Types of Artworks Visibly Present	-.131	.106	-.168	-1.238	.221	-.165	-.162	-.158	.883	1.132
Mode of Display	.010	.107	.013	.094	.925	-.046	.012	.012	.875	1.143

a. Dependent Variable: Design Influenced by Artwork

Table 14: Coefficient analysis of the correlation between creativity influenced by artwork

Coefficients ^a										
Model	Unstandardised Coefficients		Standardised Coefficient Beta	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Zero-order	Partial	Partial	Tolerance	VIF
1 (Constant)	2.607	.445		5.858	.00					

					0					
Number of Visible Artworks	-.322	.153	-.268	-	.04	-.262	-.268	-	.986	1.01
Sufficiency of Artworks per Space Size	.010	.168	.008	.061	.95	.025	.008	.008	.987	1.01
Types of Artworks Visibly Present	-.053	.103	-.069	-.514	.60	-.106	-.068	-	.883	1.13
Mode of Display	-.078	.104	-.101	-.749	.45	-.104	-.099	-	.875	1.14
					7			.095		3
a. Dependent Variable: Creativity Attributed to Artworks										

Table 12 shows significance values of 0.819, 0.652, 0.209 and 0.161, indicating that artwork has no significant unique contribution in predicting creativity induced by certain emotional feelings. Likewise,

Table 13 also indicates that the independent variable, artwork is not a good predictor of creativity. Meaning that any movement or adjustment made to the number of visible artwork, adequacy of artwork, types of visible artwork and mode of display of artwork within the workspace of architectural professionals in Nigeria would not explain or be of significance to the creative output during design moments of Architectural professionals within firms in Nigeria. The result of the study does not agree with the opinions of previous researches by Allen & Heat (2018), Brewer (2016) and Palmier (2020), which states that artworks significantly impact inspiration, performance, creativity, academic, emotional and social development. Table 14, which shows significance values of 0.040, 0.952, 0.609 and 0.457. Also reports a similar perception amongst Architectural professionals in Nigeria, meaning that the number of visible artwork, adequacy of artwork, types of artwork, and mode of display within the workspace environment is not a good predictor of creativity among architectural professionals in Nigeria.

CONCLUSIONS

It was anticipated that Nigeria's architectural professionals' would be impacted by the numbers, presence and frequency of contact with artworks within their workspace. It was also assumed that the numbers, presence and frequency of contact with artworks within their workspace should excite, create, trigger and inspire creativity and sustain good mental stability. The analysis presented in this work proved contrary. This research showed that the number, type, nature, visible presence and mode of display of artworks had neither influence nor effect on the creativity and mental stability necessary for the creativity of Architectural

employees within the Nigerian built environment. The result is in variance with similar research conducted within this knowledge field in other geographic and cultural zones.

Further quantitative testing is required to understand the relationship between creativity and artworks. The test should explore the relationship between creativity, mood and sound mental stability necessary for the creativity of Nigerian Architectural professionals and the other factors besides artwork that induce them. The difference observed in the phenomenon may have resulted from geographic, cultural and socioeconomic factors that were not examined in detail in this research. Financial remuneration or act of architectural copying within the architectural profession or the access to technology in construction could be responsible for the non-significant correlation between artwork and creativity of employees in Nigeria's Architecture industry. Furthermore, the difference in societal development and advancement between Nigeria – a developing nation and developed nations may be responsible for outcomes being of contradictions. Also, the hierarchy of needs often driven by the need to 'survive' (shelter, food, and clothing) among Architectural professionals within the Nigerian community may differ from those in other climes, resulting in the variance seen.

Additional studies into this particular field of research could also consider increasing the sample size by adopting a different formula from Solven's to determine the sample size. Exposing students of architecture and practising professionals within Nigeria to the creation, contact, critique and appreciation of artworks is highly recommended. During school training years, continuous professional development conferences, training conferences, and competitions, appreciation of artworks should be introduced to Nigeria's Architectural professionals.

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