

## **DEVELOPMENT AND FACTORIAL VALIDATION OF A WELLBEING SCALE FOR THE NIGERIAN CHILD**

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### **Abstract**

*The main purpose of this study was to develop and validate a wellbeing scale for children. The study used an instrumentation research design. The population consisted of children from 8 years to 18 years old in primary and secondary schools in Ika South and Ika North East Local Government arrears of Delta State. A sample of 1014 students was selected through multi-stage sampling technique. The children's wellbeing scale consisting of 63 items was developed by the researcher. The data for this study were analysed using factor analysis. The eleven factors identified were housing and environment, educational wellbeing, emotional wellbeing, family wellbeing, time usage, safety and risk wellbeing, material wellbeing, friends/peer wellbeing, personal satisfaction, religion wellbeing, and health wellbeing. The reliability coefficient for the scale is 0.704. It was therefore, recommended that the children's wellbeing scale should be used by counsellors, psychologist, sociologist and researchers to identify the index of children's wellbeing in Nigeria.*

**Keywords:** Wellbeing, Children wellbeing, domains of wellbeing, and wellbeing scale.

### **Introduction**

The term 'wellbeing' is vastly becoming prominent in many national and international policies. The United Nations has a vested interest in identifying the wellbeing of people. Recently, the sustainable development goals has embedded it into the third sustainable development goals which is aimed at ensuring healthy lives and promote wellbeing for all at all ages. Wellbeing is the quality of a people's life based on their psychological, physical and social state. Temane and Wissing (2008:106) interpreted wellbeing as "the interrelated and interdependent structural and functional conditions of a community, including individuals and their interactions within their environment." Thompson and Aked (2009:2) disclosed that a person below the age of eighteen years according to Child Rights Act adopted in 2003 at the federal level is regarded as a child. Most states in Nigeria have adopted

the Child Right Act (CRA). However, states like Akwa Ibom made a slight adjustment to the CRA (Isua, 2009:8).Thompon and Aked (2009:2) pointed out “children’s wellbeing is a dynamic process, in which a child’s external circumstances are constantly interacting with their individual characteristics to determine their psychological resources, capabilities and positive interactions with the world around them.” Child wellbeing is the quality of children based on the interactions of their psychological, physical and social state.

Wellbeing measurement helps policy makers to be informed on the level of children wellbeing. Such information guides them when making and monitoring policies concerning children. Negative trends in children and target population at risk are also identified. It helps to monitor progress in programmes involving children such as vaccination, breastfeeding, balance diet, academic achievement and so on. Policy makers and the public have the opportunity to have knowledge on the academic, social, physical, health and psychological status of children. In addition, it aids in identifying children in the society that needs to benefit from any support program that could help to improve the wellbeing of children. The information from child wellbeing measurement helps the government to adequately plan for children. These relevancies have necessitated the need for measuring the wellbeing of children. Questions have been raised about how children wellbeing can be measured. Should it be subjective, objective or both? Bradshaw, Hoelscher and Richardson (2007) are of the opinion that the approach to use depend on the main objective for carrying out the study. Whether the main objective is to monitor children outcome for policy related issues or to understand factors that create wellbeing; will determine which approach to use. Subjective wellbeing involves allowing children to be the key informant when collecting information on their wellbeing while objective wellbeing involves allowing adults to be the key informants when collecting information on children wellbeing. UNICEF Spain (2012:5) argued that “it is essential to consider the perceptions, evaluations and aspirations of children and adolescents and not just what adult supposedly know about the lives of the young ones.” Children views about themselves will not only aid in identifying the factors that have contributed to their wellbeing but will help policy makers to decide what measures can be adopted to improve children’s wellbeing. However, the fear is that can children be able to give a reliable, valid and meaningful report about themselves? Can children below the age of 4 years be able to give meaningful report about themselves? Nevertheless, research shows that children say 7-11 years were able to satisfactory give report about themselves (Thompson & Aked, 2009 and Norwood, 2007).

The domains of wellbeing are closely associated with the factors that can influence the wellbeing of children. Some of these factors are emotional development, material/money availability, safety, environment, family related issues, health, behaviour, housing, relationships, social behaviour, school, religion and so on. Bradshaw et al (2007) identified six domains of children's wellbeing as material wellbeing (children income, deprivation and proportion of jobless individual in the child's household); health and safety (health at birth, immunisation and child mortality); education (educational achievement, educational participation and educational aspirations); children's relationships (family structure, family relations and peer relations); subjective wellbeing (self-defined health and personal wellbeing); behaviour and life styles (risk behaviour, experiences of violence and health behaviour). UNICEF Spain (2012) identified eight domains namely: House (house where you live and people who live with you); material belonging (belongings, pocket money and personal space); interpersonal relations (friends, neighbours and several relationships with people); area you live in (libraries, public transportation, people who live there); health (health and attitude of doctors to them); Time organisation (use of time); school (nature of school, school mates and grades); personal satisfaction (self-confidence, self-perception, level of freedom, and freedom to take decision). Bradshaw et al (2007) in their study mentioned the multi-national project for monitoring and measuring children's wellbeing. This scale has five domains namely: safety and physical status, personal life, civic life, children's economic resources and contribution, and children's activities. They also, mentioned the UK "every child matters" scale, it has five domains. The domains are: health, stay safe, enjoy and achieve, make positive contribution, and achieve economic wellbeing. Land (2005) spoke on the US child wellbeing index (CWI). According to him it has been in existence since 1975 and its upgraded annually. It has seven domains namely: material wellbeing, health, safety/behavioural concerns; productive activity, place in community, social relationship and emotional/spiritual wellbeing. The UNICEF (2013) child wellbeing in rich countries scale has five domains. They are: material wellbeing (monetary and material deprivations); health and safety (health at birth, preventive health services and childhood mortality); Education (early childhood education, average scores in reading, mathematics and science); behaviour and risk (risky behaviour, exposure to violence and health behaviour); housing and environment (housing and environmental safety). Lietz, Grady, Tobin, McEntee and Redmond (2013) identified the following six domains in order of importance as indicated by young people. They are family, friends, school, community, health, and money/material wellbeing.

There are some wellbeing scales in Nigeria; Akpa, Bamgboye and Baiyewu (2015) developed and validated a scale titled “The adolescents’ psychosocial functioning inventory” which is aimed at studying the psychosocial wellbeing and psychosocial dysfunction of adolescents. It addresses the relevant challenges and expectations of adolescents in lower-middle-income countries. However, this study did not address other aspect of wellbeing like material, health, safety, educational, family wellbeing. Another short fall is that it focused only on adolescent thereby neglecting young children and teenagers. Mabekoje (2003) carried out a study on “psychological well-being among Nigerian teachers: A discriminate function analysis.” The sample for the study was teachers and the domains contained in the scale were related to only psychological factors such as self-esteem, social support and agreeableness. Ibitoye, Sanuade, Adebowale and Ayeni (2014) investigated the psychological wellbeing of the elderly in Nigeria. Again the sample used has nothing to do with children and the scale only contained psychological related factors.

So far, the wellbeing scales on children identified in this work were done outside Nigeria and the ones done in Nigeria were not related to children and the domains of wellbeing contained in them were not comprehensive enough. This shows that far too little attention has been paid to children’s wellbeing scale in Nigeria. There seem to be a scarcity of a comprehensive wellbeing scale for children in Nigeria. There is need to have an indigenous scale for children wellbeing that will put into consideration the particular characteristics associated to the Nigerian society. It is on this premise that this present study seeks to develop and validate a wellbeing scale for children. This scale can be used to measure the material, health, educational, family, emotional wellbeing of children in Nigeria. It is believed that measurement of children wellbeing will provide insight on the state of children in Nigeria which will inform stakeholders in education to make appropriate policy and decisions as concerning the children.

### **Purpose of the Study**

The main purpose of the study is to develop and validate a wellbeing scale for children. Specifically, the study determined:

1. Whether the sample size is adequate to provide a stable factor solution.
2. The principal component (factor) of the children’s wellbeing scale (CWS).
3. What items are loaded into the identified underling factors in CWS.
4. The content and construct validity of CWS.
5. The reliability coefficient of CWS.

**Methods**

The study was an instrumentation research that dealt with the development and validation of a wellbeing scale for children. The population consisted of children from 8 years to 18 years old in primary and secondary schools in Ika south and Ika North East local government areas of Delta State. A sample of 1014 students was selected through multi-stage sampling technique. The sample consists of 486 (47.9%) male and 528 (52.1%) female. About 543 (53.6%) of the children came from Ika South local government area while 471 (46.4%) of the children were drawn from Ika North East local government area. The sample was also made up of 210 (20.7%) of children from 8–12 years, 689 (67.9%) of children from 13-15 years and 114 (11.2%) Of children from 16-18 years.

The instrument the “Children’s wellbeing scale” (CWS) was developed by the researcher in form of questionnaire. The instrument initially had 131 items but after subjecting it to proper scrutiny by measurement expert and psychologist; 73 items were selected. These 73 items were subjected to factor analysis and 10 items loadings were below 0.40 (Lietz et al, 2013; Bradshaw et al, 2007). These 10 items were removed from the scale. The version used for this study consists of 63 items. Each item was responded to in one of the options provided: Always (A) with 4 points, Sometimes (S) with 3 points, Rarely (R) with 2 points and Never (N) with 1 point. Data analysis was done using factor analysis. This was used to answer the research questions.

**Research Question One**

Is the sample size adequate to provide a stable factor solution?

Table 1: Kaiser-Mayer-Olkin and Barlett’s Test of CWS

<b>Kaiser-Mayer-Olkin Measure of Sample Adequacy 0.822</b>		
<b>Bartlett’s Test of Sphericity</b>	Approx. chi-square	24473.987
	df	1956
	Sig.	.000

The Kaiser-Meyer-Olkin measure (KMO) of sample adequacy was used to check this data. It is apparent from Table 1 that KMO = 0.822 which is greater than 0.5. This suggests that the patterns of correlations are relatively compactable and so factor analysis is appropriate for the data. Bartlett’s measures test the null hypothesis that the original correlation matrix is an identity matrix. If the test has a significance value less than 0.05, it shows that R-matrix is not an identity matrix; which means that there are some relationships between the variables. Table I also showed that Bartlett’s test is

.000 which is less than 0.05. This suggests that R-matrix of this data is not an identity matrix and there are some relationships among the variables in this scale. Therefore, factor analysis is appropriate for this data.

**Research Question Two**

What are the principal components (factors) of CWS?

Table 2: Principal Component of CWS

Component	Initial Eigen values			Extraction sums of square loadings			Rotations of sums of squared loading		
	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %	Total	% of variance	Cumulative %
1	10.24	13.90	13.90	10.20	13.90	13.90	4.92	11.15	11.15
2	8.39	9.97	23.87	8.39	9.97	23.87	4.91	10.41	21.56
3	6.82	9.06	32.93	6.82	9.06	32.93	4.86	10.24	31.80
4	6.31	8.25	41.18	6.31	8.25	41.18	4.80	8.20	40.00
5	4.91	7.65	48.83	4.91	7.65	48.83	4.71	7.37	47.37
6	4.72	7.31	56.14	4.72	7.31	56.14	4.70	7.12	54.49
7	2.55	6.05	62.19	2.55	6.05	62.19	4.61	6.15	60.64
8	2.48	5.94	68.13	2.48	5.94	68.13	4.52	5.21	65.85
9	2.27	5.59	73.72	2.27	5.59	73.72	4.31	4.33	70.18
10	1.16	2.44	76.16	1.16	2.44	76.16	4.29	4.12	74.30
11	1.05	2.25	78.41	1.05	2.25	78.41	4.21	4.11	78.41

Extraction method: Principal Axis Factoring

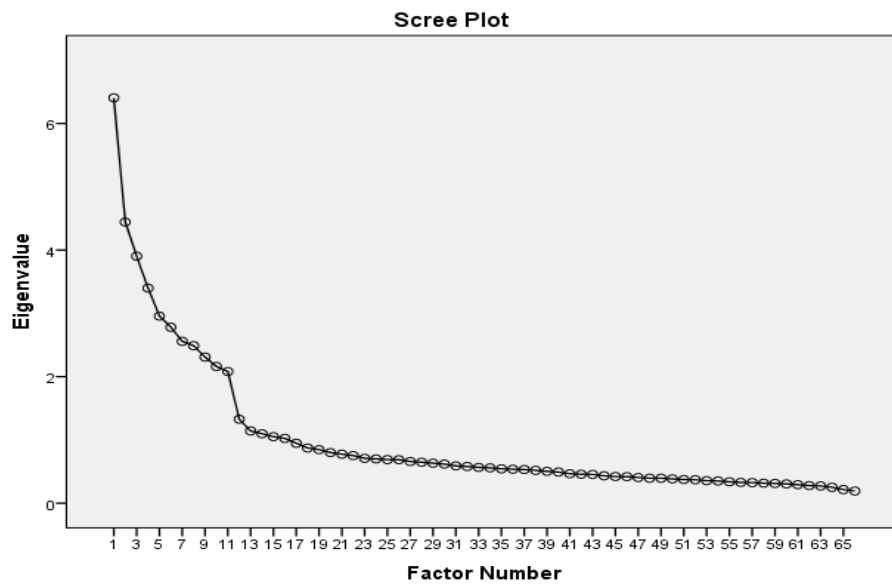


Figure 1: Scree Plot for the Well Being Scale



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56	.675			
57	.706			
58	.625			
59	.597			
60	.460			
43		.767		
44		.738		
45		.642		
46		.610		
47		.752		
48		.540		
24			.667	
25			.681	
26			.524	
27			.746	
28			.680	
29			.798	
11			.609	
12			.759	
13			.517	
14			.557	
15			.543	
16			.502	
17			.609	
1				.657
2				.713
3				.558
4				.616
5				.579
49				.776
50				.766
51				.697
52				.629
30				.889
31				.747
32				.815
61				.794
62				.713
63				.821
6				.653
7				.646
8				.501
9				.502
10				.675

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Extraction Method: Principal Axis Factoring  
 Rotation Method: Obimin with Kaiser Normalization  
 a. Rotation converged in 9 iterations

Table 3 showed the rotated component matrix (factor matrix) which showed the variables that loaded into each factors. Factor loading less than 0.4 were not displayed. After Obimin rotation, sixty-three (63) children's wellbeing items were identified. Hence, the final scale has 63 items. Eleven structure rotated factors matrix converged in 9 iterations using Obimin with Kaiser Normalization rotation method. Factor one has 10 items loaded in it, which include items 33, 34, 35, 36, 37, 38, 39, 40, 41, and 42. Factor one measures housing and environment wellbeing. Some of the items under factor one are: "I am satisfied with my environment", "electricity is regular in my environment", "In my home I have enough space to play" and so on. Factor two has 6 items loaded into it. They are 18, 19, 20, 21, 22, and 23. This factor measures educational wellbeing. It contain statements like "I attend a standard school", "I have access to computer in my school", and so on. Factor three has 8 items loaded into it. They are 53, 54, 55, 56, 57, 58, 59, and 60. This factor measures emotional wellbeing. It contains statements like "I find it difficult to sleep at night", "I don't have control over what I think" and so on. Factor four has 6 items loaded into it. They are 43, 44, 45, 46, 47, and 48. This factor measures family wellbeing. It contains statements like "I can discuss any problem/issues with my parents/guardian", "I am happy when I come home" etc. Factor five has 6 items loaded into it. They are 24, 25, 26, 27, 28, and 29. This factor measures time usage. It contains statements like "I have time to do my homework", "I am overloaded with house chores" etc. Factor six has 7 items loaded into it. They are 11, 12, 13, 14, 15, 16, and 17. This factor measures safety and risk wellbeing. It contains statements like "I feel safe in my local environment". "I am involved in physical fight" and so on. Factor seven has 5 items loaded into it. They are 1, 2, 3, 4, and 5. This factor measures material wellbeing. One of such statement contain in it is, "I am never worried about money". Factor eight has 4 items loaded into it. They are 49, 50, 51, and 52. This factor measures friends/peer wellbeing. It contains statements like "I am happy with my friends". Factor nine has 3 items loaded into it. They are 30, 31, and 32. This factor measures personal satisfaction. "I feel good about myself" is one of the statements contained in it. Factor ten has 3 items loaded into it. They are 61, 62, and 63. This factor measures religion wellbeing. Factor eleven has 5 items loaded into it. They are 6, 7, 8, 9, and 10. This factor measures health well-being. It contains statements like "I do physical exercise everyday", "I am health" and so on.

**Research Question Four**

What is the validation of the children wellbeing scale in terms of content and construct validities?

Table 2, shows that the overall cumulative percentage variance for all the rotation sum of square loading for CWS is 78.41%. It reveals that all the 63 items in CWS covered up to 78.41% of the domain of children's wellbeing; with a total unexplained variance of 21.59%. The cumulative eigenvalue of 78.41% item coverage of the unidimensionality trait of CWS is above 50%. Therefore, the children's wellbeing scale has content validity.

From Table 3, the rotated factors loading matrixes vary from 0.501 to 0.889 ( $\alpha = 0.001$ ). These values clearly indicate that the items in the scale were related and contributed to the construct being measured. Therefore, CWS has significant construct validity.

**Research Question Five**

What is the reliability coefficient of CWS?

Table 4: Reliability coefficient of CWS

	<b>Cronbach's Alpha</b>
<b>Factor 1</b>	0.839
<b>Factor 2</b>	0.694
<b>Factor 3</b>	0.812
<b>Factor 4</b>	0.756
<b>Factor 5</b>	0.771
<b>Factor 6</b>	0.687
<b>Factor 7</b>	0.669
<b>Factor 8</b>	0.736
<b>Factor 9</b>	0.723
<b>Factor 10</b>	0.601
<b>Factor 11</b>	0.794
<b>CWS</b>	0.704

The reliability coefficients of factors 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 as shown in Table 4 are 0.839, 0.694, 0.812, 0.756, 0.771, 0.687, 0.669, 0.736, 0.723, 0.711, 0.601, and 0.794 respectively. The overall reliability coefficient of the children's wellbeing scale is 0.704. These reliability coefficients are above average. Therefore, the CWS has high reliability.

**Discussion**

The results of the study revealed eleven factors. A look at the items that falls under factors 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11 typifies the following

domains housing and environment, educational wellbeing, emotional wellbeing, family wellbeing, time usage, safety and risk wellbeing, material wellbeing, friends/peer wellbeing, personal satisfaction, religion wellbeing, and health wellbeing respectively.

The domains identified in this study were also identified in some existing children wellbeing scale done outside Nigeria. The US child wellbeing index cited by Land (2005) have emotional wellbeing and religious wellbeing embedded in some of the domains it identified. The children wellbeing scale by Bradshaw et al (2007) also identified educational wellbeing, safety wellbeing, material wellbeing, personal satisfaction and health wellbeing as some of the domains of the scale. The UNICEF Spain (2012) children wellbeing scale have housing, educational wellbeing, time usage, material wellbeing, personal satisfaction and health wellbeing as some of the domains that can effectively measure the wellbeing of children.

### **Conclusion**

The children's wellbeing scale can be said to be reliable and have both content and construct validities. The eleven factors isolated represent domains that can effectively measure children wellbeing as revealed by literature. Therefore, the children wellbeing scale contains factors and items that can accurately measure the wellbeing of children.

### **Recommendations**

1. The children's wellbeing scale can be used in Nigeria because it contains items that are related to what constitute children's wellbeing in Nigeria.
2. Counsellors, psychologist, sociologist and researchers should use the children's wellbeing scale to identify the index of children's wellbeing in Nigeria.
3. The scale can be adjusted to identify the wellbeing of adult, family, or a group of people with some common characteristics.

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