Comparative Study of Resilience among Street Children in Northwest Nigeria

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Abstract

Background: Street children are those whose street becomes their home more than their families. Almajiri pupils are a form of street children. Being on the street subjects them to a lot of physical, social as well as psychological stress. Resilience, a positive coping mechanism, is likely the key factor protecting these vulnerable children from breaking down. This study, therefore, focused on comparing the level of resilience among traditional almajiri (tsangaya) pupils with their counterparts in the newly introduced Almajiri Integrated Model Schools (AIMS) in Sokoto metropolis, northwest Nigeria.

Materials and Methods: This was a cross-sectional, comparative study involving pupils between the age of 6 to 17 years, selected through a multi-stage sampling technique. An equal sample of 96 pupils, each from Tsangaya and AIMS were recruited. Questionnaires on socio-demography and Child Youth Resilience Measure–12 (CYRM-12) were administered. Data obtained was analyzed using SPSS version 20.

Results: A total of 192 male only pupils were recruited for the study. The majority (71.9% and 67.7%) of both tsangaya and AIMS pupils respectively were Hausas. The mean ages of pupils in tsangaya and AIMS were 13.01±2.30 versus 12.91±2.15 years respectively. None of those in tsangaya does receive school meals as against a hundred percent of those in AIMS. Parental deprivation was found to be significantly high among tsangaya pupils. Overall, pupils in tsangaya were more likely to record low level of resilience as compared to pupils in AIMS.

Conclusion: Tsangaya pupils appear to have a lower level of resilience compared to their counterparts in AIMS.

Keywords: Tsangaya, AIMS, Resilience.

Introduction

Being a street child is associated with a lot of stress, however despite being under very stressful situations, these children seem to be utilizing effective coping mechanisms, thus, making them highly resilient (1). Response and adaptation to stress depend on the child's coping strategy and resilience. Though these terms are often interchangeably used, they are however different, as a coping strategy can either be positive or negative, whereas resilience is always a positive response or at least reduces negative response to stress (1).

The word resilience is derived from 'resile' meaning to bounce back or rebound after being stressed (2). In other words, resilience is the ability of an individual to respond and adapt to stressful situations. Resilient children are those who cope well to the stress and deprivations they have been exposed to during their formative years (3). A debate exists as to whether street children have high or low resilience; some studies suggest street children have a low prevalence of mental illness due to their resilience. A study in Kenya showed street children tend to have high adaptability and flexibility in the face of adversity than non-street children (1). This could be because traumatic events can help a victim to develop creative coping skills to be able to convert adversity to advantage thereby increasing their strength and resilience (1).

A cross-sectional study of 366 street children in Dhaka, Bangladesh observed the resilience level of 54% of participants to be moderately low, 29% had low whereas the remaining 16.9% had moderately high to high resilience. Some of the factors observed in the study included experiencing violence on the street, which had the greatest risk of low resilience. Low resilience is associated with witnessing violence, while education has been found to increase the level of resilience (4).

Likewise, another study suggests that resilient children from a disadvantaged background are likely to do better academically than less resilient classmates (3). Studies also show that resilience increases with risk reduction and provision of resources, and through that, mental disorders can be reduced (5). A stable sense of self-esteem has as well been associated with increased resilience and by so doing; depression and anxiety can be decreased.

People's level of resilience varies depending on their mental health status and a multitude of these factors (5). Good schools, access to caring and competent adults, and social policies that target high-risk youth are the key protective factors for resilience. Good intellectual skills, sense of humor, and self-efficacy are recognized as child's protective factors. socio-economic advantage, religious affiliation, and parental competencies are considered protective factors in the family (6).

Good parenting is of great importance in the development of self-regulatory skills that will help the...
children to be able to control their emotions, feelings, and thoughts. These factors must be enhanced through the following interventions: reducing the risks among vulnerable children and increasing the quality and quantity of protective factors for high-risk children (6).

Street children are driven out of their homes by war, civil unrest, neglect, hunger, divorce, and death of parent, cultural or socio-economic failure. They have to earn their source of living through begging, hawking on the streets or doing menial jobs at a very tender age (7–9), (10). They lack access to basic education, health care, economic support, making their life expectancy significantly reduced compared to other members of their community (11).

A street child is any child for whom the street has become his real home more than his family. In other words, they can be defined as children who work or live in the street. But there is no agreed definition of who a street child is (1). Street children are found in almost all parts of the world and enjoy no protection, supervision or direction from responsible adults (10). There are an estimated 100 to 150 million street children in the world. Up to 40 million in Latin America, 18 million in India, and in Nigeria, there are about 10.5 million. Some of them are living in northern Nigeria, experiencing a lot of physical, psychological, and social stress (11–13), (14).

Tsangaya is a Hausa word denoting an informal, unstructured school system through which Almajiri pupils receive lessons from their Mallam. Informal in the sense that Mallams are not remunerated and pupils are not certified at the end of the training. (15).

In the Arab world, a system closely similar to tsangaya is referred to as Madrasah, Pondok in Malaysia and Pesantren in Indonesia (15).

This system started in northern Nigeria around the 11th century by the Borno empire and at about 19th century by Sokoto caliphate which also runs the same method of teaching the Holy Qur'an. Through this method, children learn to read and memorize the entire Qur'an by heart, the art of which is very tasking requiring a lot of dedication (16), (17). Earlier, it was the parent that gave some token to the Mallam to support feeding their child. However, as the number of almajiri pupils continue to increase, the burden of feeding them becomes difficult on the Mallams to such an extent that pupils have to go out on the streets to beg to make a living after which they come back for lessons (18). In the same vein, children have to beg or do some menial jobs to be able to make their weekly payments to their Mallam for his services for teaching them.

On the average, almajiri children have no access to basic human needs such as food, shelter and clothes. Their Mallams are not on a payroll and largely depend on the young pupils for their upkeep. The system has also been blamed for causing social unrest in the country. The Federal Government of Nigeria (FGN) therefore, established Almajiri integrated model schools (AIMS) in various parts of Nigeria as a form of intervention to improve the lives of children living in remote areas (12).

The target of the intervention was to provide religious knowledge as well as basic education and skill acquisition opportunities to enable the almajiris to contribute positively to developing their immediate environment and the country at large. It was hoped that this will also help towards achieving the Education for All (EFA) mission of Sustainable Development Goals (SDG) (19), (20). This intervention is in three models, the first involves integration of Qur'anic schools within their vicinity. The second model has to do with establishment of brand new almajiri model schools. The third model involves the support of Almajiri schools by rehabilitating and providing them with basic infrastructure. (12). In the same instance, the staffing and pupils’ enrollment was done by the respective state governments. Among the beneficiaries of this intervention include Sokoto, Jigawa, Katsina, Zamfara and Yobe states (12), (21).

The memorandum of understanding signed by the FGN through its Universal Basic Education (UBE) and Tertiary Education Trust Fund (TETFund) was to build and equip the schools to be handed over to state governments who would take over the maintenance, staff enrollment, and remunerations. The first set of AIMS pupils wrote their Senior School Certificate Examinations in May/June 2019, along with other public and private school students all over the country. This is certainly a great achievement, likely to transform the lives of these children, their communities, and the country at large.

**Materials and Methods**

**Study Location**

Sokoto, a state in Northern Nigeria lies between longitudes 4°E and 7°E and latitudes 12°N and 14°N. The state shares boundaries with Niger Republic to the north, Kebbi state to the west and Zamfara State to the east. Sokoto state had an estimated population of 5.4 million, with half of this population below the age of 15 years (22). The state has 23 local government areas with multiple sources of revenue. Sokoto has benefited from the FGN intervention on tsangaya, via Almajiri Integrated Model Schools. So far, there are 9 AIMS across the state, with only 2 in the metropolis. Sokoto state has an estimated 19,167 traditional almajiri schools (23), of which only 2000 have registered with the Arabic...
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Board of the state.

Materials
1. Global School-Based Health Survey questionnaire was used to determine the socio-demographic variables such as; age, gender, birth order, tribe, religion, state of origin, nationality, and body mass index (BMI), which was calculated from each of the pupils’ weight and height. Also, the family size, level of education, source of income, social support (feeding, shelter, and security), being bullied, rural or urban residence, parent’s marital status, family type, number of children, their level of education and occupation.

2. Child Youth Resilience Measure (CYRM-12): a 12-item questionnaire (permission was granted by the original author and was translated to Hausa; predominant language of the participants) then translated back to English and then re-translated to Hausa by a Linguist with proficiency in both Hausa and English. It was interviewer administered and it was scored on a likert scale of 1 to 3 across the 12 items. These were eventually summed up to come up with the level of resilience of a child. The higher the score the higher the resilience. A total score of <13 is rated as low, 13 to 24 as moderate, while a score > 24 is considered high level of resilience. The lowest obtainable score is 12 while the highest a person can score is 36. This tool is one of the commonly used resilience measure instruments according to International Resilience Project (IRP) conducted in 14 communities globally. CYRM-12 was found to be valid and reliable in many European and Asian cultures. However, extensive literature search did not find published study that used CYRM-12 in Nigeria.

Study Design and Population
This was a cross-sectional comparative study among pupils in AIMS and tsangaya schools. Inclusion criteria involved pupils aged 6 to 17 years in the two Almajiri Integrated Model Schools and their counterparts in the four traditional almajiri (tsangaya) schools located in Sokoto metropolis. Pupils with hearing defects were excluded from this study.

Sample Size Determination
For the study, a total sample size of 174 students was obtained using the formula for calculating sample size for two populations. Ten percent of the 174 was added to round up to a total of 192 to cover for attrition making an equal proportion of 96 pupils from each group of tsangaya and AIMS.

Sampling Technique
Multistage sampling method involving 3 stages was used;

Stage I - Selection of schools
a. Here, the only two Almajiri Integrated Model Schools within Sokoto metropolis were used for the study
b. Four Tsangaya schools were selected using a non-probability, purposive sampling technique. Here, the two Tsangaya schools from within the neighborhood of each of the two AIMS were used.

Stage II - Selection of classes
a. For students in AIMS, six out of eighteen classes in each of the two AIMS were randomly selected through balloting. Here, the names of all the classes in the selected schools were written on small sheets of paper each of the same size and color, they were folded and placed in a covered cup which was shaken and spread on a flat table. Six of these folded papers were randomly selected to represent each of the classes.

b. As for tsangaya, they are not formally structured, have no formal class rooms and nor do they have school register. So, pupils’ names were listed on a sheet of paper. Through this, sampling frame for each of the Tsangaya schools was created.

Stage III - Selection of respondents using a systematic sampling technique
a. For students in AIMS, their class register was used to select eight participants from each of the six classes, aiming at 48 pupils per school using systematic sampling technique.

b. As for tsangaya schools, 24 pupils were selected from each of the four tsangaya schools. Thus, sampling frame and interval were obtained from the list (in a similar fashion done for AIMS) to make a total of 96 participants from the four Tsangaya schools.

Procedure
The interview was conducted in Hausa language and there was no coercion on the children to participate in the study. Questionnaire on socio-demography, and CYRM-12 were used for the study. The whole interview lasted for a period of 4 weeks making a sum of 48 pupils per week. The interview was done by the researchers the vicinity of the pupils’ schools, maintaining optimal confidentiality of information.

Ethical Consideration
Ethical clearance to conduct the research was given by the Ministry of Health, Sokoto state. Permission was granted by the Ministry for Religious
Affairs, Sokoto (in charge of AIMS). School principals and Mallam(s) read and signed the written informed consent on behalf of the pupils’ parents. Assent was however obtained from the pupils.

Prior to the onset of the study, selected children were educated on the non-invasive nature of the study as well as the importance of conducting research on their mental health and social welfare.

Data analysis
The data from all the instruments were entered into a Microsoft Excel spreadsheet, after which it was cleaned and sorted of any duplication or wrong entry. The cleaned data was then exported into the Statistical Package for Social Sciences (SPSS) version 20 for analysis. Quantitative data found to be normally distributed was summarized using mean and standard deviation. Categorical variables were summarized using frequency tables, and percentages at the univariate level, while at bivariate level; chi-square test was used to determine the association between the outcome variables and independent variables. T-test was used to compare the mean values for numerical variables. P-value ≤ 0.05 was considered significant. Logistic regression analysis was done to determine the predictors of psychiatric morbidities and control for confounders using variables that are significant during bivariate analysis.

Results
A total of 192 pupils were interviewed, 96 pupils each from AIMS and tsangaya. All (100%) were males, and of Islamic faith. There was no statistically significant difference in the mean age of pupils in AIMS which was 12.91±2.15 years when compared with those in tsangaya whose mean age was 13.01±2.30 years, (95% CI = -0.776 to 0.484), p=0.649. However, statistical difference was noted when the mean age (10.21±2.28 years) at the start of almajiri school of pupils in AIMS was compared with 10.99±2.25 years of those in tsangaya, (95% CI= -1.426 to -0.136) p=0.018.

Comparison of Socio-demographic Variables of the Participants
Majority (71.9% and 67.7%) of pupils in AIMS and tsangaya respectively were within the age of 10 to 14 years, therefore there was no significant difference (p= 0.690).

Predominant (95.8%) language of pupils in AIMS was Hausa, this is higher than 81.2% seen among those in tsangaya and the difference was statistically significant (p<0.001).

Nearly all (97.9%) of pupils in AIMS were Nigerians with only 2.1% non-Nigerians compared to 90.6% of those in tsangaya with up to 9.4% non-Nigerians, thus showing significant difference (p=0.030 as shown in Table 1).

Family Characteristics of AIMS and Tsangaya Pupils
Majority (64.6% vs. 61.5%) of both AIMS and tsangaya pupils respectively come from polygamous settings, as such no significant difference was found in their family types (p = 0.654).

Almost all (94.8%) of pupils in AIMS do visit their parents on 3 monthly bases as against only 1% of those in tsangaya. Also, only about 1% of pupils in AIMS against greater than half (78.1%) of those in tsangaya have never visited their parents since they left home (p<0.001).

More than half (53.8%) of parents do visit their pupils

Table 1: Socio-Demographic Variables of the Participants

<table>
<thead>
<tr>
<th>Variables</th>
<th>Frequency</th>
<th>Test statistics</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AIMS</td>
<td>Tsangaya</td>
<td></td>
</tr>
<tr>
<td></td>
<td>n=96(%)</td>
<td>n=96(%)</td>
<td></td>
</tr>
<tr>
<td>Age in years</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 – 9</td>
<td>5 (5.2)</td>
<td>4 (4.2)</td>
<td>χ²=0.741</td>
</tr>
<tr>
<td>10–14</td>
<td>69 (71.9)</td>
<td>65 (67.7)</td>
<td></td>
</tr>
<tr>
<td>15 – 17</td>
<td>22 (22.9)</td>
<td>27 (28.1)</td>
<td></td>
</tr>
<tr>
<td>Tribe</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hausa</td>
<td>92(95.8)</td>
<td>78(81.2)</td>
<td></td>
</tr>
<tr>
<td>Fulani</td>
<td>4(4.2)</td>
<td>3(3.1)</td>
<td>χ²=16.296</td>
</tr>
<tr>
<td>Others*</td>
<td>0(0.0)</td>
<td>15(15.6)</td>
<td></td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nigerian</td>
<td>94(97.9)</td>
<td>87(90.6)</td>
<td>χ²=4.725</td>
</tr>
<tr>
<td>Non Nigerian</td>
<td>2(2.1)</td>
<td>9(9.4)</td>
<td></td>
</tr>
</tbody>
</table>

(*) stand for Borgu, Kanuri, Kambari, p-values in bold shows statistical significanc
in AIMS on monthly basis as against only 6.3% of those in tsangaya that were visited by their parents. Also, only about 11.5% of pupils in AIMS were never visited by their parents as against majority (63.5%) of tsangaya pupils that were never visited by their parents. Thus, showed statistical significant difference (p<0.001) (See table 2).

Level of Resilience among AIMS and Tsangaya pupils
The level of resilience was found to be higher 90(93.8%) among pupils in AIMS compared to 79(82.3%) among pupils in tsangaya. Pupils in AIMS were as well less likely 0(0.0%) report lower level of resilience compared to 5(5.2%) in tsangaya thus showed statistically significant difference (p=0.015). (See table 3).

Discussions
Socio-Demographic Variables of Participants
A total number of 192 pupils within the age of 6 – 17 years were studied, 96 from each of AIMS and tsangaya giving the 100% responses received. All were males and of Islamic faith in keeping with previous studies (26). Majority of pupils in both AIMS and tsangaya respectively were within the age of 10 to 14 years also in keeping with findings from previous studies (12,26,27). Therefore, these factors made them to be good subjects of comparison. The mean age of pupils in AIMS was marginally lower than the mean age of pupils in tsangaya, this is in keeping with previous study findings of lower age range among public primary school pupils when compared with those in tsangaya (26). This is not a surprise considering the fact that tsangaya is an unstructured system with no formal entry or exit, hence pupils are more likely to stagnate in the course of their stay in tsangaya.

Nearly all pupils in AIMS and Tsangaya respectively are Hausas, this may not be unconnected to the fact that this study was conducted in a population whose majority are Hausas. Because in northern Nigeria, other tribes like Kanuris, Fulanis, and Nupes are as well into the practice of tsangaya system (28).

Almost all pupils in AIMS are Nigerians with only a few that are non-Nigerians, this is closely similar to what was found in a previous study (26). This is however contrary to the findings in Tsangaya with up to one-tenth that are non-Nigerians and is quite lower than the findings in a study done in Zaria (26). The non-Nigerians in this study were mainly from both Benin and Niger Republics, this is contrary to the previous study which found all non-Nigerians to be from Niger Republic (26). This may as well be because this study was done in Sokoto metropolis; some few kilometers away from Niger Republic.

Source and Pattern of Feeding among Pupils in AIMS and those in Tsangaya
All pupils in AIMS were receiving regular school meals because of the government intervention as against in Tsangaya where pupils were left at the mercy of the general public. This is in addition to majority of pupils

| Table 2: Family Characteristics of AIMS and Tsangaya Pupils |
|-----------------------------------|----------------|----------------|
| **Variables**                     | **Frequency**  | **Test statistics** |
|                                  | **AIMS** n=96(%) | **Tsangaya** n=96(%) | **p-value** |
| Family type                       |                |                 |
| Monogamous                        | 34(35.4)       | 37(38.5)        | χ²=0.201    |
| Polygamous                        | 62(64.6)       | 59(61.5)        | p=0.654     |
| Perceived parental support        |                |                 |
| Adequate                          | 79(82.3)       | 50(67.2)        | χ²=22.519   |
| In adequate                       | 15(15.6)       | 45(64.9)        | p<0.001     |
| Unsure                            | 1(1.0)         | 1(1.0)          |             |
| Child’s visit to parents          |                |                 |
| Once a month                      | 3(3.1)         | 0(0)            |             |
| Once in 3 months                  | 91(94.8)       | 1(1.0)          | p<0.001     |
| Once in a year                    | 1(1.0)         | 20(20.8)        |             |
| Never                             | 1(1.0)         | 75(78.1)        |             |
| Parents’ visit to the child       |                |                 |
| Once a month                      | 56(58.3)       | 6(6.2)          |             |
| Once in 3 months                  | 15(15.6)       | 3(3.1)          | χ²=87.045   |
| Once in 6 months                  | 2(2.1)         | 2(2.1)          | p<0.001     |
| Once in a year                    | 12(12.5)       | 24(25)          |             |
| Never                             | 11(11.5)       | 61(63.5)        |             |

P -values in bold shows statistical significance
in AIMS who do receive upkeep from either their parents or caregivers. However, this is in contrast to their counterparts in Tsangaya where only 1% do receive upkeep from their parents; as such they have no option but to do domestic and menial jobs or even beg on the street survival strategy. Similarly, all pupils in AIMS do receive additional meal from their parents as they are leaving home, against the very few numbers of pupils in Tsangaya that do receive meal from their parents, as such a little above half mainly get their meals through domestic job. All pupils in AIMS eat three times a day as against only about half of Tsangaya pupils that get three square meals in a day. Therefore, most of the pupils in Tsangaya live in a state of hunger for most time of their day in keeping with majority of pupils who complained of hunger as they eat no more than twice a day as seen in previous studies (29). It is however amazing to find out that majority of both AIMS and Tsangaya pupils respectively were underweight despite most of them having three square meals in a day. Thus, suggesting lack of balanced diet even in the AIMS meal, this is also in keeping with a previous study which found the majority of street children being undernourished (15).

Family Characteristics of AIMS and Tsangaya Pupils
Greater than half of both AIMS and tsangaya pupils were from polygamous settings. This is similar to the findings from previous studies which found that majority of tsangaya pupils were more likely to come from polygamous family settings. This may as well be due to religious and cultural factors in northern Nigeria supporting polygamy (26). Despite these, majority of both pupils in AIMS and tsangaya believed they do receive adequate support from their parents in spite of the obvious neglect of pupils in tsangaya by their parents. More than half of parents do visit their pupils in AIMS on monthly basis (during formal school visiting days) as against very few of those in tsangaya who do receive their parents as visitors monthly. Also, only a few number pupils in AIMS were never visited by their parents as against majority of tsangaya pupils who were never visited by their parents. These findings are in keeping with a previous study which found that majority of almajiri pupils were never visited and some had not seen their parents for greater than four years (29). These findings have indeed given us a picture of the level of physical, emotional and parental deprivations existing among tsangaya pupils.

Almost all pupils in AIMS do visit their parents on 3 monthly bases (during their first, second, and third term vacations) as against very few number of pupils in tsangaya where there is no provisions for such a formal and regular vacations. Furthermore, only a few numbers of pupils in AIMS as against very few of those in tsangaya who never visited their parents since they left home. These findings gave us an idea to the extent of lack of contact, guidance and support between tsangaya pupils and their parents. These findings also suggest the level of vulnerability of these children to mental illness.

Level of Resilience among pupils in AIMS and Tsangaya pupils
This study demonstrated higher level of resilience among pupils in AIMS compared to that seen among tsangaya pupils. Pupils in AIMS were also less likely to record low resilience compared with what was obtained among tsangaya pupils. These findings resonate with the idea that personal, family and community factors play an important role in the development of resilience among children and adolescents (6). These includes but not limited to the child's intelligence, parenting style and social policies all of which are clearly in favor of AIMS pupils. To foster higher resilience, these factors must be looked into and improved.

The dearth of data on resilience among street children in Nigeria made it difficult to compare, this is even more so among almajiri pupils. Also, being a cross sectional study, the causality of level of resilience cannot be generated from this study. The FGNs' AIMS intervention should be extended to other parts of northern Nigeria where tsangaya system is widely practiced. This is with the hope to improve the level of resilience particularly among tsangaya pupils.

Conclusion
This study found that pupils in AIMS had higher level of resilience than their counterparts in tsangaya

### Table 3: Level of Resilience among AIMS and Tsangaya

<table>
<thead>
<tr>
<th>Types of school</th>
<th>Low Resilience (%)</th>
<th>Moderate Resilience (%)</th>
<th>High Resilience (%)</th>
<th>Test statistics (χ²) p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIMS</td>
<td>0(0.0)</td>
<td>6(6.2)</td>
<td>90(93.8)</td>
<td></td>
</tr>
<tr>
<td>Tsangaya</td>
<td>5(5.2)</td>
<td>12(12.5)</td>
<td>79(82.3)</td>
<td>p=0.015*</td>
</tr>
</tbody>
</table>

p -values in bold shows statistical significance, (*) stand for fishers’ exact
Acknowledgement
The teachers and mallams of the schools where the study was performed provided invaluable assistance, which we appreciate. We also acknowledge the

References