



INFRASTRUCTURAL DEFICIT AND URBAN SOCIAL STRESS: IMPLICATIONS ON WELL-BEING OF PEOPLE WITH DISABILITIES

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ABSTRACT

Many cities in developing countries are growing in population with shortages in physical infrastructure to support this growth. In spite of these shortages, people living with disabilities (PLD) are hardly considered in the planning and executions of infrastructural projects. Though living in urban area can be stressful, living with disabilities in the urban areas of a developing country (like Nigeria) is even more complex. Against this backdrop, this study investigated how people with disabilities live in a city with infrastructure that is not user friendly for PLD. The study collected qualitative data from 10 purposely selected PLD in Lagos. They were individuals who had motor impairment. They were engaged in in-depth interview on experiences on movement on Lagos roads (i.e. transportation in the city), movement within public buildings, (climbing and descending of multiple storey building) ease of using public facilities e.g. toilets. Responses from the interviews were collated and themes emerging from the analysed data were interpreted. The results of the study revealed different kinds of stress that people living with disabilities experience with mobility in their efforts to access public services and programmes, make a living and engage in a social life and how these in turn affect their physical and psychological well-being. The paper made recommendations that can help in achieving more inclusive infrastructural developments in the cities of developing countries.

Keywords: access, inclusivity, physical well-being. Psychological wellbeing, public facility

INTRODUCTION

The rapid growth in global urban population without a correspondent growth in infrastructures is raising serious concerns not only over the quality of human life but also the psychological well-being of the vulnerable group especially people living with disabilities. New thinking and innovative actions are required to provide more adequate and user friendly infrastructures particularly to this category of persons to address this growing challenge. Infrastructures are the basic physical and organizational structures that a group of people whether in rural or urban setting require for their operations, and they serve as the bridge between the economy and the human functions it serves (Patterson and Apostolakis, 2007). Different infrastructures are built to meet the increasing human demands which may include roads, rails, public buildings (such as schools, hospitals, shopping complex among many others). Even though government in developing countries strive to keep pace with population rise and provision of these social facilities - because no city can operate without infrastructure - it appears inclusivity was not a criteria in designing or citing of many of the infrastructural projects. This is definitely not in consonance with the vision of the United Nations' quest of achieving an inclusive, sustainable development in the cities of the world. The need for more inclusion of people with disabilities in planning and execution of infrastructural projects is of great importance because this category of people would have to compete with those without disabilities in the use of infrastructure that are inadequate in most cases, and it is presumed in this paper that this could be a source of stress which may also have some complex links with well-being. According to (World Health Organization, 2011) globally, persons with disabilities experience worse education and labor market outcomes and are more likely to be poorer than persons without disabilities. The reason for this may be



partly due to the fact that people with disabilities are not being carried along in provision of infrastructure. This is true despite the fact that the United Nations Convention on the Rights of Persons with Disabilities requires ratifying countries to guarantee the right to an adequate standard. This article seeks to call more attention to the plight of this vulnerable group even though they are citizens of countries who are signatory to charter on removing all discriminations and barriers against this them.

Theoretical perspectives on Stress

One of the earliest researchers on stress, Seyle (1936) ,who conducted a laboratory study reported that an experimental group of rats he injected with some chemical extract were found to have ulcers and other physiological problems, but the control group (of rats) who got a different treatment of a daily saline (salty water) injection, that should not have had any effect, developed the same physical problems. Seyle deduced from this finding that the daily injection themselves were responsible for the stress and not the injected substance. Furthermore, varying of environmental conditions produced the same results. Adopting a term from engineering; he concluded that the cause of this nonspecific reaction was stress. Seyle, (1936) postulated that the body undergoes divers stages in response to a sustained stress. The first stage is a type of alarm response to stimulus considered as a danger or a threat. If it persists, we move to the next stage called resistance, in which we mobilize our coping mechanism to respond to stress. Finally, if the stress is too intense or lasts too long, we may enter the stage of stress exhaustion, in which our bodies suffer permanent damage or death. Seyle called this sequence the *General Adaptation Syndrome (GAS)*.

Cannon (1929) submitted that the body is endowed with internal mechanisms to maintain stable physiological processes and functioning or equilibrium (homeostasis) but if the body fails to respond to environmental challenges by maintaining bodily homeostasis, it may lead to damage of the body or even death. Translating his work with physical challenges associated with eating, drinking and physical activity into those of a psychological nature, Cannon hypothesised that common homeostatic mechanisms were involved. Accordingly, if an organism's response to threat involves significant sympathetic nervous system arousal so that respiration and heart rate increases significantly, the body's compensatory response should involve either reducing sympathetic nervous system activity or increasing parasympathetic nervous system counter-activity.

Urban Stress and Psychological wellbeing: an Empirical Review

Quite a number of empirical studies have been made in neuroscience and cognitive psychology on urban social stress and well-being, some of these studies offered some insights on neural circuits that support social function and process social stress. For example, we know from evidences that the smooth functioning of these neural circuits may be endangered by genetic and environmental factors, some of such evidences show that the maturing brain is vulnerable to environmental stressors especially in genetically predisposed subjects (Meyer-Lindenberg and Tost, 2012). Lederbogen,



Kirsch, Haddad et. al., (2011) used a combined functional magnetic resonance imaging techniques and stress research instruments to identify the neural processes involved in translating the effect of city living on social stress, they found that in healthy adults, exposure to an urban environment during the first fifteen years of life was associated with an increased activation of the Anterior Cingulate Cortex, (ACC) an important structure of the limbic system that helps to process social information and regulate responses to stress. A longitudinal study revealed that negative life events are related to an increase of psychotic symptoms in the general population and repeated exposure to these events seems to exert a cumulative effect, as psychosis risk increases with number of adverse life events experienced. (Shevlin et al., 2008). Also during adulthood, social stressors have been identified as predictors of some mental disorders. Kennedy, Glasher, Tyszka and Adyphs (1999) reported that overcrowding was found as being responsible for increased social stress in cities. Also, studies revealed that the amygdala is associated with sense of personal space. According to Kendler et al., (1999) stressful life events were found to be related with a major depression, identifying this factor as one of the most important external causes of this affective disorder. It has been shown through many studies that living in a densely populated area was associated with a feeling of loss of control, which has also been implicated as having a negative impact on mental health (Fleming, Baum and Weiss, 1987). Pollutions of environment and other factors were reported to have indirect effect on social interaction and unspecific negative direct effects on mental functioning. Airplane traffic noise decreases children's capacity of learning and memory (Stansfeld et al., 2005). Fonken Xu, Weil, Sun & Rajagopalan (2011) showed in studies with animals that air pollution was associated with deficits of mental functioning. In this way, chronic exposure to these environmental pollutants of urban life may change the social capacity and lead to increased susceptibility to social stress.

Infectious agents and malnutrition constitute other environmental factors that may induce subtle brain damage. For example, in densely populated urban areas, increased transmission of influenza and rubella viruses may damage the nervous system during its development (Brown, 2011), leading to the cascade of events. Most studies on social urban stress were focused on people without disabilities; hence the present study attempts to examine how social urban stress associated with use of inadequate infrastructure affect people with disabilities.

METHOD

Motivation for his study was a need for more inclusion of PLD in public project design and execution in developing cities. This guided our search of participants, thus selection of sample was done by selecting people living with disabilities who are actively involved in 'normal' human activities in the city, individuals who had disabilities but employed. They were individuals who had motor impairment. A total number of 10 adults were selected for the study, 3 of the ten were participants who moved from rural area to Lagos to make a living. The remaining 7 participants had been living in the city of Lagos since birth. The study used a structured interview method to collect data from the participants. It was an in-depth interview about their experiences of living in the city of Lagos as People Living with Disabilities. We also explored from the interview their psychological well-being by asking them to describe the ease or otherwise of using infrastructural provision in the city and how they feel when using these facilities. Their self-report about their well-being included how they feel anytime they had difficulty using



existing public facilities such as staircases, toilets, entering public buses, e.t.c. We also asked for the experiences of those who moved to Lagos especially what their experiences were like before and after their relocation to the city. Their responses to interview questions were carefully recorded and data concerning their daily experiences were also noted. These responses were initially digitally recorded, transcribed and the transcripts checked for accuracy by two undergraduate student assistants. The first round of coding was undertaken by the researchers, looking for a broad range of themes in the transcripts. Minor variations in emphasis were evident but no substantial discrepancies emerged. The responses were interpreted following Miles and Huberman (1994)'s recommendations.

**RESULTS****Demographic Information.****Table 1 showing type of disability and cause of disability of participants**

Name assigned to participant	gender	Age	Disability background	Ethnic status	Marital status	Cause of disability
Gabriel	Male	30	Cerebral palsy	Yoruba	Single	Birth asphisia
Kelechi	Male	29	Paralysis	Igbo	Married	Spinal cord injury
Oludayo	Female	25	Limited mobility	Yoruba	Single	Degeneration of cervical spine
Michael	Male	42	Los of leg	Yoruba	Single	Amputation
Hassan	Male	47	Paralysis	Edo	Married	Stroke
Danladi	Male	38	Paralysis	Kanuri	Single	Polio
Adewale	Male	27	Loss of leg	Yoruba	Married	Automobile accident
<u>Daniel</u>	Male	33	Limited mobility	Igbo	Single	Birth asphisia
<u>Rosalynne</u>	Female	32	Paralysis	Igbo	Single	Polio
<u>Tolu</u>	female	28	Loss of leg	Yoruba	Single	Amputation



*Names changed to preserve anonymity.

At the end of each study, the themes from the interviews were organized into three topics namely: Stress associated with accessing public service and programmes, stress associated with going to work and stress associated with wanting to have a social life.

Stress associated with accessing public service and programmes

The participants believe that there were barriers to use of public services. They unanimously acknowledge that they feel stressed in their attempts to benefit from healthcare which other members of the public (who don't have disabilities) enjoy. For example, Lagos state offers highly subsidized or in some cases, free healthcare services to the residence, but for a person with disability to move to the locations of these services is a herculean task. Even when they get to the location, moving with ease within the building remain a challenge. The experience according to the participants is the same in other public buildings that give services and programmes, it was believed that non availability of user friendly facilities for people with disabilities in buildings at public places expose them to unnecessary hardships that cause them to experience stress

Participant 3 stated:

I am lucky because my parents are comfortable, they took good care of me, they even gave me a car, I can't imagine how life would be living in this city without a car, I enjoy a great parental care, but I regret to say that this cannot be said of other social institutions like government, public schools and others, for example, you hardly can enter to a bank hall as PLD and many other public buildings, It looks as though they don't want to see us at all in these places, because entering is as difficult as a donkey passing through the needle's eye. What else can give more stress than this experience?

Other participants gave a similar account of how stressful it is to access programme or services in the city. In spite of the fact that Lagos State and other 3 States (Ekiti, Plateau and Bauchi) had enacted disability law which is aimed at removing all discriminations and obstacles against people living with disabilities, participants insisted that the implementation of this law was yet to be fully felt by them. Participant 1 says:

I am aware that Lagos State government is doing its best to make life easier for us in spite of our disabilities, but I don't think that building contractors and



engineers have bought into the vision of government for us to enjoy our lives in the city.

There were also positive accounts of people moved with sympathy that offer to help people with disabilities to have such access, but they are usually not always pleased by such gesture.

Participant 5

People sometimes offer to assist us, but it feels horrible that you cannot do some of these things by yourself, when actually it is possible if government decides to give an enabling environment to us

Stress associated with getting to work

Participants also expressed the frustrations experienced with working in a city as they say public transport is not designed to accommodate their needs as people with disabilities, so most of the time they have to pay heavily to hire a taxi or pay people to drive them, besides not all workplaces in the cities that have multiple storey's building have lifts, thus the people with disabilities have to be carried to ascend and descend the staircases They believe that such activities is stressful. Participant 4 remarked:

It is not easy coping with this condition in a city, I have a car, but I can't afford to pay a driver, sometimes when some of my friends are free they assist me by driving me to my destinations, but most times I have to hire a taxi or uber which is quite expensive,

On the use of lift, he says

I remember once the lift was not working in my workplace, I did not go to work until the lift was fixed, I was scared that I would lose the job, but thank God I was lucky, but how many places in our city have such functional facilities?.

They believe that they are discriminated against in employment and that this affects their chances of getting gainfully employed. Consequently, some would rather seek for self-employment, to save them the stress associated with mobility to and from distant workplaces. With self-employment, they believe they could have control over where to work, but this is not without its challenges and stress. Participant 2 narrated:

If not for my condition, I would have preferred a more challenging type of business, I usually rely on others to help me get a supply of my goods,



sometimes they take advantage of your condition and there is nothing you can do about that, except to just whine for a while and continue with life.

Stress associated with wanting to have a social life

People with disabilities are social beings with needs and desires to interact with themselves and even others; they form themselves into a group to play and share experiences and opportunities they learn is available to them as a group. They also feel the need to visit family and friends; participants express the stress of mingling with others who are not like them. Participant 4 says:

I feel sick when my friends tell me that they didn't invite me to their parties because they didn't want to bother me

They believe that not everybody would like to associate with them because of their condition and this makes them socially withdrawn thereby limiting their circle of friends. Participant 3 lamented

Sometimes, people look at you as if you are not human, they look down on you because of your disability, city people are supposed to look sophisticated, but since you don't look that way nobody wants you as a friend.

Effect of stress on Physical Wellbeing

Most of the participants admitted that their condition of living affects their physical well – being. They think that they dissipate a lot of physical energy on mobility, such as pushing of wheelchairs, they believe that driving the wheelchairs on rough roads, climbing hilly areas with their wheelchairs, all are strenuous activities that wear them out physically. Many complain of frequent pains in their joints, headaches and other symptoms. Participant 2 says

I don't know if my frequent complaints of headache have to do with the urban city stress, but I was not feeling this way before coming to Lagos, There is no doubt that Lagos city is a stressful place. I just wish that the government



would do more about the needs of People Living with Disabilities. I am seriously considering going back to my village, even if it means becoming poorer.

Besides the stress associated with moving around, many interviewees also reported that they fall many times during mobility or being carried from wheelchairs to car, Many times they sustain injuries from such a fall and consequently they need to go on medication. Participant 6 says:

Many times I fall down in attempts to use public facilities, enter a bus, or climb a staircase, at such time, I always wonder why the society feels so unconcerned about People Living with Disabilities.

Effect of stress on psychological Wellbeing

Interviewees also acknowledge the effect of stress of living in the urban area on their psychological wellbeing. They believe that each time they fall, they may not only sustain a physical injury but also a psychological one, their self-esteem becomes undermined when they see people watch them fall in public. Participant 5 says;

It is depressing to find that people watch you fall in public; this is our common experience as people with disabilities.

Experience of discrimination by people living with disabilities in job selection, social gatherings are stressors that affect the psychological wellbeing of this group. According to Participant 9:

I passed an aptitude test for a job, I was subsequently invited for interview, when I got to the venue of the interview, on sighting me as a person with disability, they sent me back, and they refused to interview me for the job because of my disability. I wept profusely that day.



Implications and Conclusion

The result of this study shows that there is a lot to be done to ensure that people living with disabilities live a more decent life that is less stressful through necessary support from all stakeholders. Professionals in the building profession need to be sensitized on the constitutional provision that seeks to remove barriers in the way of people with disabilities to have access to public services and programmes and . Also, there should be appropriate sanctions meted out by professional association to erring members that fail to comply to building designs for public that is not inclusive. Using the arm of law as a strategy of ensuring compliance is an effective means of achieving inclusive infrastructural developments.

At the national level, a legal framework like that of Lagos should be adopted and effectively implemented in line with the United nations charter on people with disabilities, without such framework, there would be no basis upon which this category of people can stand on their rights to access services (Eleweke,& Ebeneso, 2014).

Civil societies organizations as well as Disable people organization, an umbrella body that protects the interest of persons with disabilities should intensify efforts at advocacy and campaigning for the rights of people with disabilities and also mount more pressures on relevant stakeholders in states where laws recognizing and supporting person with disabilities have been passed to maximize the benefits of such legislation with the aim of encouraging other states to follow suit.

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