

Vol 3 (3) pp. 24-30 November, 2017
Author(s) retain the copyright of this article
<http://www.pyrexjournals.org/pjasd>
Copyright © 2017 Pyrex Journals
ISSN: 2985-8763

Full Length Research Paper

Mediating factors between overcrowding and adolescent antisocial behavior in Lagos, Nigeria

Olaniyi Makinde, Kaj Björkqvist*, and Karin Österman

Peace and Conflict Research & Developmental Psychology, Åbo Akademi University, P.O.B. 311, 65101 Vasa, Finland

*Email: kaj.bjorkqvist@abo.fi

Accepted 20th November, 2017

Abstract

An association between overcrowding and antisocial behavior among adolescents has been observed in Lagos, Nigeria. Accordingly, there is a need to investigate possible mediators between these two constructs. The present study was designed to explore whether overcrowding could lead to aggression and negativity in the home, which in turn could lead to antisocial behavior outside of the home. Method: A questionnaire was given to and filled in by 238 Nigerian adolescents, mean age = 15.4 (SD = 2.0), from junior and senior secondary schools in Lagos; the sample included 122 females and 116 males. Statistical analysis: The data were analyzed with the SPSS macro PROCESS with six scales as variables. Overcrowding served as the independent variable, Anti-social Behavior as the dependent variable, and Parental Negativity, Adult Aggression, Sibling Aggression and Witnessing of Domestic Violence as mediators in a conditional process analysis. Results: The results corroborated the hypothesis that the four mediators had an indirect effect on the antisocial behavior of the respondents. Accordingly, they mediated the effect of overcrowding in the home on antisocial behavior outside of the home. Conclusion: Overcrowding may have serious consequences leading to antisocial behavior. The results have implications for housing policies in Nigeria. Moreover, these results may also have implications for research and policy making in other nations and parts of the world.

Keywords: Aggressive behavior, Anti-social behavior, Domestic violence, Nigeria, Overcrowding.

INTRODUCTION

The aim of the present study is to investigate mediating factors between overcrowding and antisocial behavior in adolescents in the Lagos metropolitan area, Nigeria. In a previous study, (Makinde, Björkqvist, and Österman (2016), shows that overcrowding impacted on the level of antisocial behavior in Nigerian youth; the present study takes the investigation a step further, in an attempt to identify possible factors serving as mediators between overcrowding and antisocial behavior. The effect of overcrowding is probably not primarily direct, but indirect; overcrowding may lead to negative domestic experiences that in turn reinforce the youth to behave antisocially outside of the home. We hypothesize that overcrowding leads to frustration (the frustration-aggression hypothesis; Dollard, Miller, Doob, Mowrer, & Sears, 1939), which increases domestic negativity, aggression, and violence. The domestic aggression, in turn, provides models which, through socio-cognitive learning (the general aggression model, GAM; DeWall, Anderson, & Bushman, 2011) increase the adolescents' propensity to behave antisocially in society-at-large. Here, we investigate the potential mediating effect of the following four domestic factors: witnessing of domestic violence, parental negativity towards the child, victimization from parental aggression, and victimization from aggression by siblings. In previous studies, all four of these have been shown to be associated with adolescent antisocial behavior.

Background

Overcrowding is a relatively little researched area, although it is an increasing problem in the rapidly urbanizing world of today. It has been estimated that the world population will reach 9.7 billion by 2050, and Africa will experience much if not most of the growth. By 2050, more than two thirds of the world's population will live in cities, up from 54% today, and 30% in 1950 (UN, 2014). As the African population continues to grow exponentially, Nigeria will remain the most populous country in Africa, and it is expected to account for a considerable part of the projected increase in the world (New World Encyclopedia, 2015). Lagos, the commercial nerve of the Nigerian economy, is the fastest growing city in Africa. In 2010, Lagos had over 14 million inhabitants, now most likely considerably more (UN-HABITAT, 2010). In such a densely populated city, overcrowding is an inevitable fact.

WHO (1999) defines overcrowding in accordance with the average floor area per person. A more comprehensive definition, provided by Eurostat (2014), is based on the number of persons per room. Eurostat's

definition also takes into consideration the specific needs of children and adolescents, which are the most vulnerable group in any overcrowded home or society. Overcrowding in the Nigerian context means that an excessive number of people (children, teenagers and adults) live together in single room apartments, usually known as 'face-to-face' apartments, where living conditions are appalling and occupants are unable to sleep well due to poor ventilation. In such apartments, there are usually few basic household comforts, with poor hygiene and lack of sanitation.

The residential area is usually 12 x 15 meters. It is divided in the middle by a corridor with rooms of the same sizes on each side. One such building can be home to 6–8 families with an average of five people living in one room of 18 m². One common latrine and a tiny bathroom are located outside the building. Cooking is often prepared in the corridor, and, usually, windows are not opened due to the risk of robbery. For a detailed description, layout and morphology of this type of housing, see Akinwolemiwa and Gwilliam (2014).

In a study of the area of metropolitan Lagos, it was found that 77 % of the randomly selected respondents lived in houses where 5–10 people shared the same sleeping room (Adeyemi, Waziri, Atere, & Emmanuel, 2009). The situation is complicated by a prevailing attitude stemming from rural times that it is a virtue and a blessing to have many children, partly for religious reasons, partly because they are able to help out with household and farm work. In the following, we will briefly present what is known about the associations between the factors included in the present study and antisocial behavior, particularly in the Nigerian context.

Witnessing of Domestic Violence

Although most domestic violence is taking place between parents, children are present as witnesses, and they might not be able to explain or understand what the violence is all about (Straus & Gelles, 1990). If children frequently are witnessing domestic violence, especially at an early age, is associated with high levels of aggression, anxiety, hopelessness, a sense of betrayal, and behavioral problems, such as seeking revenge, both during adolescence and adulthood. Such children are, as adolescents, more likely than others to join anti-social peer groups and gangs (Bell & Jenkins, 1991; Parsons, 1994).

In the Nigerian context, studies have shown that adolescents who have been witnessing domestic violence are likely to be abused later on in life.

Furthermore, their relationships with other people during adulthood are likely to be negatively affected (Adebayo, 2014; Onukwufor, 2013). Makhubela (2012) studied the relationship between witnessing of domestic violence and identity development, and concluded that there is a connection between the two. Adolescents who have witnessed domestic violence in the past tend to score low on self-initiative, have poor autonomy, and more intimacy problems than those rose up in a non-violent home.

Parental Negativity towards Adolescents

Antisocial behavior among adolescents is usually associated with negative parental practices; for example, parental rejection, severe discipline, abusive words, and cursing may lead to anti-social behavior (Simons, Simons, Chen, Brody, & Lin, 2007). A study from Lagos, Nigeria, showed that adolescents brought up in overcrowded and aggressively parenting homes (with an atmosphere of punishments, lack of parental affection, frequent domestic conflicts, and parental criminality) exhibited higher levels of aggression during adolescence (Ani & Grantham-Gregor, 1998). Furthermore, boys from polygamous and overcrowded homes, living together with many siblings, usually received less parental affection than others; they were more physically punished, they received less home supervision, witnessed more domestic conflicts, and usually had poor academic performance at school. They also became more aggressive (Ani & Grantham-Gregor, 1998).

Houtzager and Baerveldt (1999) found that when adolescents are not getting parental affection, they tend to search for it outside of their home. Often times, they turn to selected friends who might be involved in drugs and/or other anti-social behaviors. Uche (2010) conducted a study on peer pressure among adolescents and time management, and found that adolescents who have been deprived of parental care seek more support from their peer group. In addition, parents' level of education is determining the kind of academic motivation a child receives at home; this, in turn, may have a long-term impact on both academic and other performance of the child.

Victimization from Parental Aggression

Frequent victimization from parental aggression has been linked to a diagnosis of mental health problems or to adolescent delinquency. An analysis of data from about 4,000 American adolescents found that anger was the biggest noticeable trauma symptom among young people who had been exposed to physical aggression from the side of their parents (Song, Singer, & Anglin, 1998). In

Scotland, school children aged between 11 and 17 reported that the life as a victim of domestic violence was a life of fear, sadness, loneliness and is somewhat suicidal (Alexander, Macdonald, & Paton, 2005).

Adebayo (2014) reported that children in the developing countries, especially in West Africa, experience a high rate of parental aggression. For example, the beating of children is seen as a normal practice; yet, most people are unaware of its psychological impact. Adolescents who have been exposed to parental aggression run a higher risk of becoming anti-social, underachievers with poor academic performance, having difficulties in trusting others, being stressed, and having depressions that sometimes lead to suicide (ibid.).

Victimization from Sibling Aggression

Sibling aggression is viewed by many as normal, and parents tend to downplay its prevalence and severity. Nonetheless, when the same type of behavior occurs between peers at school, it is viewed as abnormal abuse, bullying, and other forms of aggressive behavior (Tucker, Finkelhor, Turner, & Shattuck, 2013). Sibling aggression is rarely viewed as a crime, as parents and people in general might perceive it as beneficial for the children's social development (Stormshak, Bellanti, & Bierman, 1996). Although there has been limited research on sibling aggression and methodological inconsistencies on how it should be defined and measured, the incidence rate of injuries due to sibling aggression reported in US national data in 2011 were 51.5% minor injuries, and 3.1% major injuries. These rates are surprisingly high. Krienert and Walsh (2011) concluded that since these were incidents reported to law enforcement, it is possible that this study only captured the tip of the iceberg. It appears obvious that overcrowding should be a fruitful environment for sibling aggression.

METHOD

Sample

A total of 20 public schools, five from each of the four cities of Ejigbo, Isolo, Egbe and Ago-Palace in the Lagos metropolitan area were selected for participation in the study. A random selection of junior and senior secondary school classes (1–3) from each school resulted in a total sample of 238 adolescents participating in the study. This age group was selected on the basis that they were old enough to fill in questionnaires independently, yet young enough to be in their formative years. The age range was

Table 1. Items and reliability scores of the scales of the study (N = 238)

Scales and Items	
<p><i>Victimisation from Adult Aggression</i> ($\alpha = .84$)</p> <ul style="list-style-type: none"> Pulled your ears Pulled your hair Slapped you Hit you with an object Pinched you Thrown things at you Sleep punishment 	<p><i>Victimisation from Sibling Aggression</i> ($\alpha = .91$)</p> <ul style="list-style-type: none"> Pulled your hair Slapped you Hit you with an object Pinched you Thrown things at you Twisted your arms Bitten you
<p><i>Parental Negativity towards Adolescents</i> ($\alpha = .84$)</p> <ul style="list-style-type: none"> Name calling or bullying Insults Making and breaking of promises Constant criticism Intimidation Harassment 	<p><i>Witnessing of Domestic Violence</i> ($\alpha = .82$)</p> <ul style="list-style-type: none"> Physical fights Quarrels Thrown things at each other Damaged belongings Twisted each other's arm Stabbed each other
<p><i>Antisocial Behavior of Adolescents</i> ($\alpha = .87$)</p> <ul style="list-style-type: none"> Stolen petty things Used a catapult on a friend or neighbor or someone else Cheated neighbors of their belongings Smoked cigarettes Unconcentrated at school Fighting in school Absenteeism from school 	

12–20 years. The sample consisted of 122 females ($m = 15.1$ years, $SD = 2.0$) and 116 males ($m = 15.8$ years, $SD = 2.0$). The age difference was not significant. Of the respondents, 72.3% ($n = 172$) were Christians and 27.7% ($n = 66$) Muslims. A total of 71% ($n = 169$) of the respondents lived in apartments with only one bedroom for the whole family (in the present study regarded as a crowded condition), while 29% ($n = 68$) lived in apartments with more than one bedroom (a non-crowded condition). These proportions are in agreement with those found by Adeyemi, Waziri, Atere, & Emmanuel, *et al.*, (2009).

Instrument

The data were collected with a questionnaire, the Overcrowding, Aggression, and Antisocial Behavior Scales (OAABS), including scales constructed specifically for the study: Witnessing of Domestic Violence, Parental Negativity towards their adolescent

child, Victimization from Parental Aggression, Victimization from Sibling Aggression, and Antisocial Behavior of the adolescent. The items very constructed in focus group discussions in which three persons took part: two of them were experts in psychometrics, and the third an expert in local conditions. Items and reliability scores (Cronbach's α) of the scales are presented in Table 1. Responses were given on a five-point scale ranging from 0 to 4 (never, seldom, sometimes, often, and very often), measuring the degree to which respondents agreed with the statements in the questionnaire.

Procedure

The data were collected using a paper-and-pencil procedure. The questionnaires were distributed among junior and senior secondary school students in Ejigbo and the neighboring towns of Isolo, Egbe and Ago-Palace, all in the Lagos metropolitan area. A total of 20 public schools, five from each city, participated in the

Table 2. Correlations between the scales in the study (N = 238)

	1.	2.	3.	4.
1. Victimization from Adult Aggression				
2. Victimization from Sibling Aggression	.54 ***			
3. Witnessing of Domestic Violence	.52 ***	.44 ***		
4. Parental Negativity towards Adolescents	.47 ***	.42 ***	.52 ***	
5. Antisocial Behaviour of Adolescents	.58 ***	.50 ***	.56 ***	.50 ***

Note: *** $p < .001$

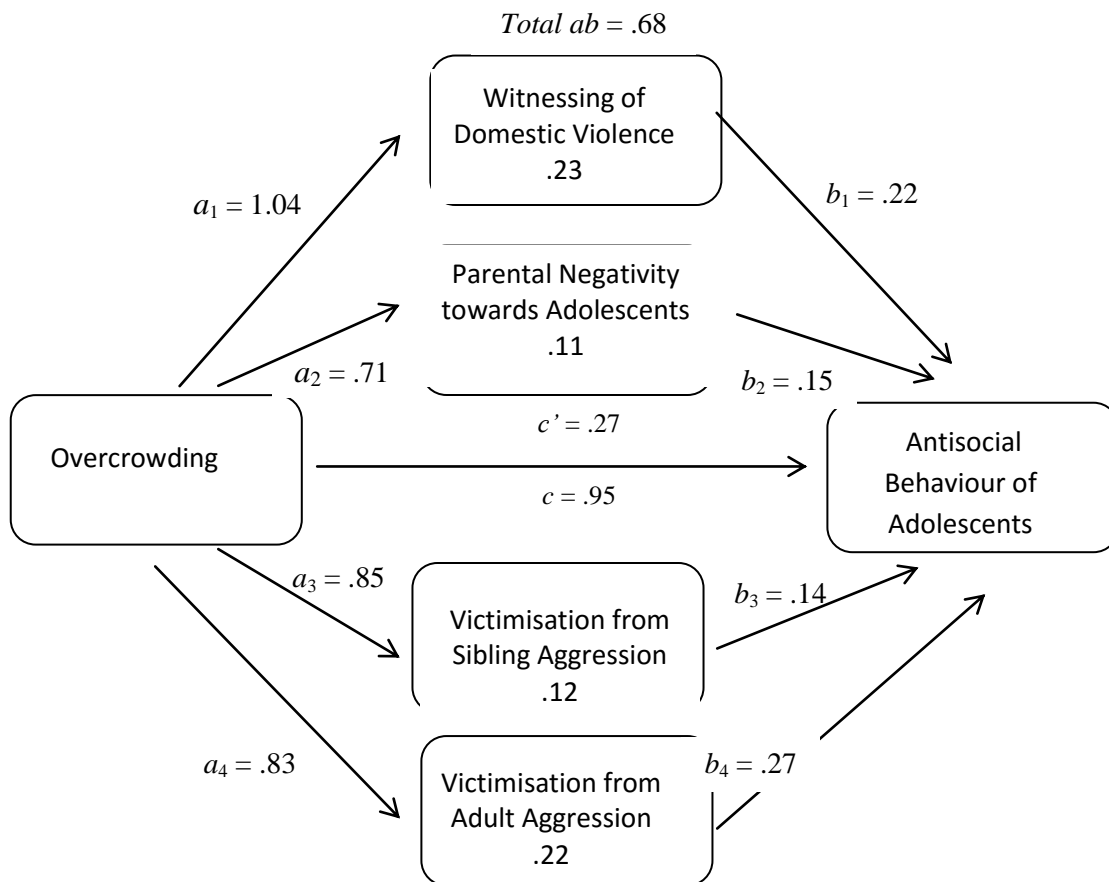


Figure 1: Path model of the effect of overcrowding on antisocial behavior of adolescents with four mediators, analyzed with PROCESS (Hayes, 2012)(N = 238).

study, and a randomized sample was drawn from these schools. The first author and research assistants were present during the data collection.

Ethical considerations

Permission was obtained from religious leaders, teachers, parents and school coordinators, prior to the questionnaire being administered. The study was

conducted in accordance with the Personal Data Act, Ministry of Justice in Finland, guaranteeing the anonymity of the respondents, and the guidelines of the Ethical Board of Åbo Akademi University.

Statistical analysis

The mediation analysis was conducted with the SPSS macro PROCESS (Hayes, 2012), based on

bootstrapping. Bootstrapping builds an empirical approximation of the sampling distribution and uses this to construct confidence intervals for the indirect effects (Preacher & Hayes, 2004).

RESULTS

Table 2 also presents correlations between the variables. As can be seen, all variables correlated significantly with each other. The results of the mediation analysis are presented in Figure 1. There was no moderating effect of gender, and, therefore, boys and girls are both included in the analysis. All β -coefficients had 95% confidence intervals that did not include 0.00. While c stands for the direct effect of Overcrowding on Antisocial Behavior without mediation, the total ab represents the total mediating effect of all four mediating variables. The coefficient c' indicates the direct effect of Overcrowding on Antisocial Behavior when the mediating variables are included in the equation. The greater the difference between c and c' (which is equal to the total ab), the greater is the mediating effect of the included mediators. As Figure 1 shows, the mediating effect of the four variables was quite substantial.

DISCUSSION

The results showed that the four variables serving as mediators in the analysis did indeed have an indirect effect on antisocial behavior. This finding corroborates the hypothesis that overcrowding causes irritation and frustration in the family, thus increasing domestic negativity, aggression, and violence. Through socio-cognitive learning processes (the general aggression model; DeWall, Anderson, & Bushman, 2011) the propensity to behave aggressively contributes to increased antisocial behavior in school and the society at large is increased. The findings thus provide a theoretical explanation of the previously observed association between overcrowding and antisocial behavior in adolescents in Nigeria (Makinde *et al.*, 2016).

The study has some limitations which need to be noted. Since the study is not longitudinal, extrapolations about causality have to be made with caution. However, the difference between the direct effect between overcrowding and antisocial behavior with and without the moderating variables included in the model was quite substantial, indicating that the increase in antisocial behavior related to overcrowding may best be understood as caused by the moderating variables.

The study has practical implications for housing policies in Nigeria, but also for other densely populated areas in

the world. The negative effects of overcrowding on children and adolescents need special attention. Future studies on the relationships between overcrowding, domestic violence and aggression, and antisocial behavior in society at large are needed to obtain a more detailed picture of the mechanisms involved. Longitudinal studies would be especially valuable in this respect.

REFERENCES

- Adebayo, A. A., (2014). Sociological implications of domestic violence on children's development in Nigeria Journal of African Studies and Development, 6, 8–13. doi:10.5897/jasd2013.0237 ISSN 2141-2189.
- Adeyemi, E.O., Waziri, B.A & Atere, A.A., & Emmanuel, A. (2009). Economic reforms, living conditions and urban violence: A situation analysis of metropolitan Lagos. Ethiopian Journal of Environmental Studies and Management, 2, 36–48. doi:10.4314/ejesm.v2i2.45918.
- Akinwolemiwa, F., & Gwilliam, J.(2014). The effect of climate and culture on housing among low income groups in Lagos, Nigeria. Windsor, UK: 8th Windsor Conference.
- Alexander, H., Macdonald, E., & Paton, S. (2005). Raising the issue of domestic abuse in school. Children & Society, 19, 187–198.
- Ani, C. C., & Grantham-McGregor, S. (1998). Family and personal characteristics of aggressive Nigerian boys: Differences from and similarities with Western findings. Journal of Adolescent Health, 23, 311–317.
- Bell, C. C., & Jenkins E.J. (1991) Traumatic stress and children. *Journal of Health Care for the Poor and Underserved*, 2, 175–185.
- DeWall, C. N., Anderson, C. A., & Bushman, B. J. (2011). The general aggression model: theoretical extensions to violence. *Psychology of Violence*, 1, 245.
- Dollard, J., Miller, N. E., Doob, L. W., Mowrer, O. H., & Sears, R. R. (1939). Frustration and aggression. New Haven, CN: Yale University Press.
- Eurostat (2014). Statistics explained. Glossary: Overcrowding rate. Retrieved on 2nd November, 2017 from <http://ec.europa.eu/euro>.
- Hayes, A. F. (2012). PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling. White paper, Ohio State University, Ohio, OH. Retrieved from <http://www.afhayes.com/public/process2012.pdf>
- Houtzager, B., & Baerveldt, C. (1999). Just like normal: A social network study of the relation between petty crime and the intimacy of adolescent friendships. *Social Behavior and Personality*, 27, 177–192.
- Krienert, J., & Walsh, J. (2011). My brother's keeper: A contemporary examination of reported sibling violence using national level data, 2000–2005. *Journal of Family Violence*, 26, 331–342. doi: 10.1007/s10896-011-9367-3.
- Makhubela, M. S. (2012). Exposure to domestic violence and identity development among adolescent university students in South Africa. *Psychological Reports*, 110, 791–800.
- Onukwufor, J. N. (2013). Physical and verbal aggression among adolescent secondary school students in rivers state of Nigeria. *British Journal of Education*, 1, 62–73.
- Makinde, O., Björkqvist, K., & Österman, K. (2016). Overcrowding as a risk factor for domestic violence and antisocial behaviour among adolescents in Ejigbo, Lagos, Nigeria. *Global Mental*

- Health, 3, e16.doi:10.1017/gmh.2016.10.
- New World Encyclopedia (2015). Nigeria. Retrieved from <http://www.newworldencyclopedia.org/entry/Nigeria>.
- Parson, E. R. (1994). Inner city children of trauma: Urban violence traumatic stress response syndrome (U-VTS) and therapists' responses. In J. P. Wilson & J. D. Lindsey (Eds.), *Countertransference in the treatment of PTSD* (pp. 151–178). New York: Guilford.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36, 717–731.
- Simons, R. L., Simons, L. G., Chen, Y. F., Brody, G. H., & Lin, K. H. (2007). Identifying the psychological factors that mediate the association between parenting practices and delinquency. *Criminology*, 45, 481–517.
- Song, L. Y., Singer, M. I., & Anglin, T. M. (1998). Violence exposure and emotional trauma as contributors to adolescents' violent behaviors. *Archives of Pediatrics & Adolescent Medicine*, 152, 531–536.
- Straus, M. A., Gelles, R. J., & Smith, C. (1990). *Physical violence in American families: Risk factors and adaptations to violence in 8,145 families*. New Brunswick, NJ: Transaction Publishers.
- Stormshak, E. A., Bellanti, C. J., & Bierman, K. L. (1996). The quality of sibling relationships and the development of social competence and behavioral control in aggressive children. *Developmental Psychology*, 32, 79–89. Retrieved from <http://dx.doi.org/10.1037/0012-1649.32.1.79>
- Tucker, C. J., Finkelhor, D., Turner, H., & Shattuck, A. (2013). Association of sibling aggression with child and adolescent mental health. *Pediatrics*, 132, 79–84.
- Uche, N. J. (2010). *Relationships among peer pressure, time management and academic performance of in-school adolescents in Delta State, Nigeria*. Nsukka, Nigeria: University of Nigeria. [Dissertation]
- UN-HABITAT (2010). *The state of African cities 2010. Governance, inequality and urban land markets*. Nairobi, Kenya: United Nations Human Settlement Program.
- UN (2014). *World urbanization prospects: The 2014 revision, highlights*. United Nations, Department of Economic and Social Affairs, Population Division. Retrieved from <https://esa.un.org/unpd/wup/publications/files/wup2014-highlights.Pdf>.
- WHO (1999). *Overcrowding*. Retrieved from <http://apps.who.int/ceh/indicators/overcrowding.pdf>.