

Predictors of Adolescents' Antisocial Behavior in Southeastern Nigeria: Exposure to Armed Conflict and Physical Punishment at Home

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Abstract

Despite extensive studies on the relationship between armed conflict and behavioral problems among adolescents, the micro-level mechanisms through which the former influences the latter are not well understood. The current study examines the relationship between exposure to the Fulani herdsmen attacks among Igbo adolescents in Southeastern Nigeria and antisocial behavior. Using a mediation analysis, it was examined whether physical punishment mediated the relationship. A sample of 385 secondary school students (227 girls, 157 boys; $M_{age} = 16.3$; $SD = 1.35$) completed a questionnaire during class. It was found that exposure to the Fulani herdsmen attacks predicted antisocial behavior among the adolescents, and the effect was weakly mediated by the experiences of physical punishment at home. The findings suggest that living in an environment of armed conflict may lead to increased levels of antisocial behavior in adolescents.

Keywords: Adolescence, armed conflict, physical punishment, antisocial behavior, Fulani herdsmen, mediation analysis, Igbo, Nigeria

Introduction

Adolescents need a safe social environment to be happy, loved, network, and flourish in life (Barnhart et al., 2022). Research indicates that adolescents' social environment

(including family, community, school) has a profound influence on their psychological development (Gorman-Smith et al., 2004). Globally, exposure to armed conflict continues to be widespread (Finkelhor et al., 2013), and its detrimental effects on adolescents remains a great concern. Children and adolescents living in locations affected by armed conflict often live under siege; they witness death, injuries, torture, and abuse of close family members (Geltman et al., 2005; United Nation Children's Fund, 2016). Although the effects of exposure to armed conflict on children and adolescents' adjustment have extensively been studied (e.g., Slone & Mann, 2016), research on the indirect mechanisms through which armed conflict impacts children adjustment is scarce. One such mechanism is thought to be parenting practices (Conway et al., 2013; Slone & Mann, 2016).

Exposure to armed conflict and to parental physical punishment are, in this study, conceptually grouped together under the umbrella of "violence exposure". Violence exposure influences child adjustment directly by exposing adolescents to extreme adversities (e.g., community and domestic violence) from which they learn disobedience, fighting and violence, risk taking, and other problematic externalizing behavior (Lien et al., 2006; Ronen et al., 2003). In addition, armed conflict might influence child adjustment indirectly, through parenting practices, such as behavior parents undertake to influence and support the emotional, social, and cognitive development of their children (Baumrind, 1996).

In the context of armed conflict, families can be influenced by the experience of trauma and by having to go through the daily struggle of living in the aftermath of armed conflict (Miller & Rasmussen, 2010). Parents under stress may become irritable, which can exacerbate the parental use of physical punishment on children (Palosaari et al., 2013). The concurrent exposure to armed conflict and physical punishment separately or together is associated with an increased psychopathology (e.g., by instigating negative behavior (Dubow et al., 2009).

Research shows that exposure to violence in one's immediate social environment is a serious risk factor for developing psychopathology in adolescents (Dubow et al., 2009). In a study of Afghan and Sri Lankan children, Catani et al (2009) found family violence, including violence against children, to be a powerful mediator between armed conflict and children's psychosocial wellbeing. Qouta et al. (2007) suggested that negative parenting, such as the regular use of physical punishment at home, is linked to antisocial behavior among children exposed to armed conflicts.

The Context of the Study: The Fulani Herdsmen's Attacks

In the current study, the term Fulani herdsmen's attacks refers to an invasion of the nomadic Fulani herdsmen on Igbo farming communities in Southeast Nigeria. In Nigeria, nomadic Fulani herdsmen are cattle rearers from the Northern region of the country. Most of the herdsmen do not own land but graze their livestock in host communities (Awogbade, 1987), which leads to conflict with local farmers. The conflict has been taking militant forms, and the Fulani herdsmen attacks are responsible for 4,000 deaths in Nigeria (Amnesty International, 2018).

In the Southeast region of Nigeria, a study of 250 Igbo adolescents exposed to nomadic Fulani herdsmen's attacks (Anih & Björkqvist, 2018) showed that 20.8% of the participants reported having lost a close family member, 8.4% were injured or had lost some parts of their body, 11.8% revealed having witnessed their community healthcare centre set ablaze, 8.2% confirmed having witnessed their household being set ablaze, 4.4% having had their family members sexually assaulted, and 1.8% of the adolescents admitted having been raped. Exposure to these traumatic events contributed to a high prevalence of PTSD symptoms among the adolescents living in the region (ibid).

Exposure to Violence and Adolescent Antisocial Behavior

Antisocial behavior has been defined as the presence of a chronic and pervasive disposition to disregard and violate the rights of others, manifestations include repeated violation of the law, exploitation of others, deceitfulness, impulsivity, aggressiveness, irresponsibility, accompanied lack of guilt, remorse and empathy (VandenBos, 2007). The study of antisocial behavior has a long and rich research history (Binder, 1987), due to its high cost to society, such as cost to victims of the behavior and prevention against future perpetration (Krug et al., 2002). The impact of antisocial behavior can be detrimental to both victims and perpetrators such as impairments in psychological, social, or occupational functioning or for violating the rights of others (see Lilienfeld & Marino, 1995; Wakefield et al., 2002). Antisocial behavior can be categorized into subtypes such as overt conduct problems involving direct confrontation (e.g., arguing, fighting, stealing) and covert conduct problems that do not involve confrontation (e.g., lying, stealing without confrontation; Snyder et al., 2006).

The onset of severe antisocial behavior occurs earlier in boys than girls. Boys are more likely to show antisocial behavior than girls; they use physical violence as a means to solve problems more often, they use abusive words in their peer group more often, and they commit more violence and serious offenses than girls (Gardner et al., 2015;

Trillo & Redondo, 2013). This finding is consistent with Makinde et al. (2016) who found more antisocial behavior in boys than girls in a study conducted in Nigeria, using the same measure as in the current study.

Exposure to violence is a well-established risk factor for the perpetration of violence acts (Disease Control and Prevention, 2006; Siegfried et al., 2004). It has been associated with subsequent antisocial behavior such as chronic weapon carrying, generalized criminal behavior, institutional misconduct (Becker et al., 2011; Mulder et al., 2011).

Physical Punishment and Antisocial Behavior

A growing number of countries are passing laws prohibiting the use of physical punishment at home due to its adverse effects on children and adolescents (for a statistical update, see End Corporal Punishment, 2022). A large number of studies have demonstrated a link between physical punishment and a variety of children's behavioral and mental health problems (e.g., Aucoin et al., 2006). Mazefsky and Farrel (2005) found that physical punishment mediated the association between exposure to violence and later aggressive behavior within a rural population. Gorman-Smith et al. (2004) found, in a longitudinal study of 263 African American and Latino male youth living in an inner-city neighbourhood in the US, that poor parenting and strained relationships to parents were linked to a higher incidence of adolescents developing antisocial behavior later in their lives.

Gershoff (2013) and Burnette et al. (2012) also identified physical punishment as a risk factor for antisocial behavior and greater emotional problems in children and adolescents. The negative effects of childhood physical punishment may stretch well into adulthood; Österman et al. (2014) found that adult respondents who had been exposed to higher amounts of physical punishment during childhood than average scored significantly higher on alcohol abuse, depression, mental health problems, and schizotypal personality. Divorced respondents had been significantly more physically punished than non-divorced ones. Respondents who had attempted suicide during the last 12 months had been exposed to physical punishment during childhood significantly more often than those who had not attempted suicide.

Overall, boys are more likely than girls to be recipients of physical punishment (Mckee et al., 2007; Grogan-Kaylor & Otis, 2007) and to display antisocial behavior as a result of physical punishment (Evans et al., 2012). According to Evans et al. (2012), one reason for this would be that boys who experience physical punishment develop poor

self-control and hostility, which influence them to act aggressively and engage in antisocial behavior. Thus, boys tend to respond to physical punishment with antisocial behavior while girls usually become depressed (Jang, 2007).

Living in an Environment of Armed Conflict and Antisocial Behavior

Witnessing sexual assault and the use of weapons by individuals outside the immediate family are ways adolescents may be exposed to violence during armed conflict (Hong et al., 2014). Research has shown that children growing up in such an environment are at an elevated risk to engage in deviant behavior (Barber & Schluterman, 2009). Within a Colombian sample, Gaias et al. (2019) found that armed conflict was a strong predictor of antisocial behavior among children and adolescents. In the same vein, McCouch (2008) found that Bosnian war-time exposure (death, home demolition, school closure) predicted antisocial behavior among youth.

Research shows an intrinsic link between gender and potentially traumatic events in situations of armed conflict with boys generally reporting greater exposure (Bacchini et al., 2011). According to studies from conflict areas such as Northern Ireland (Muldoon & Trew, 2000) and the Middle East (Giacaman et al., 2007), boys report a higher frequency and variety of conflict-related events than girls. Several studies have shown that boys who were exposed to armed conflict directly or indirectly showed an increased inclination to antisocial behavior to a higher degree than girls (Bordin et al., 2022; Pierre et al., 2020).

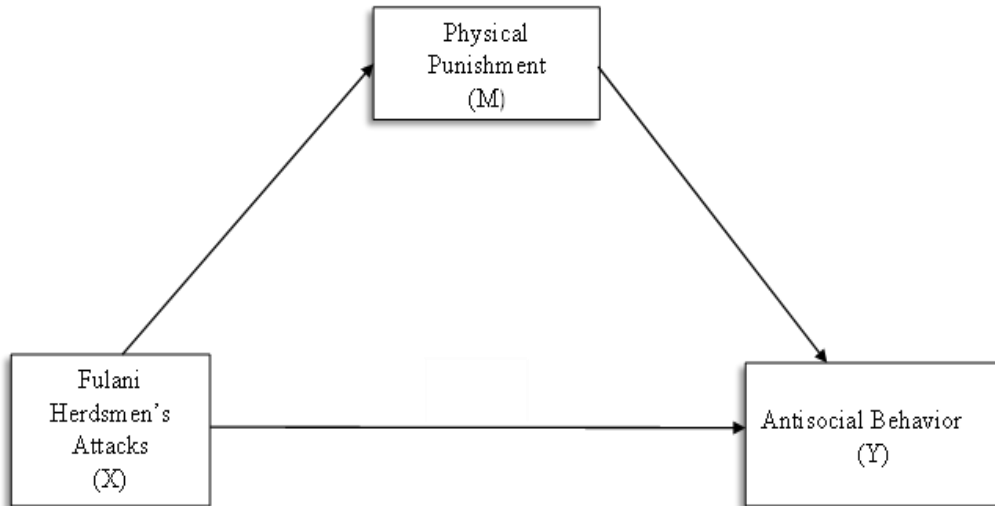
Research Questions and Hypotheses

The current study investigated whether, and if so, to what extent, exposure to the Fulani herdsmen's attacks predicts antisocial behavior among adolescents, and whether this effect is mediated by physical punishment of the respondents. A path model was formulated on basis of the aforementioned literature (cf. Fig. 1). In the model, exposure to the Fulani herdsmen's attacks was expected to predict antisocial behavior of the responding adolescents (H1); physical punishment was expected to predict antisocial behavior of the adolescents (H2); the effect of exposure to Fulani herdsmen attacks on antisocial behavior was expected to be mediated by parental physical punishment (H3); and boys were expected to engage in antisocial behavior more than girls (H4), since previous studies have indicated that boys are likely to exhibit antisocial behavior more than girls (Makinde et al., 2016). There was also an intention to explore whether gender moderated the effect of exposure to armed

conflict on antisocial behavior, but no hypothesis was put forward due to the lack of literature on the subject.

Figure 1

The Hypothesized Mediating Effect of Physical Punishment on the Relationship between Exposure to the Fulani Herdsmen’s Attacks and the Adolescents’ Antisocial Behavior. A Model.



Method

Participants

The data were collected during the third term of the 2018 school year with a survey conducted among 450 upper secondary schoolers from Attakwu, Nike, Okpo, and Ugwuaji-Awkunanaw communities in the Southeastern region of Nigeria. Complete data were obtained from 385 students (227 girls, 157 boys). The percentage of students with a Christian background was 99.7%, while 0.3% adhered to some other religion. Regarding the native language of the participants, the proportions were as follows: Igbo 82.6%, Hausa 0.3%, Yoruba 0.3%, and others 16.9%.

Data Collection and Ethical Considerations

The 1st author, who was responsible for the data collection, was duly granted permission from the school administration. Together with the assigned class teachers, he administered the questionnaires to students in class during the first term of the

academic year. The purpose of the study was explained to the students, and they gave verbally their consent to participate in the survey. The students also received a carefully worded explanation concerning anonymity in participation. The students were mostly over 15 years of age ($M_{\text{age}} = 16.3$; $SD = 1.4$), and it was considered that they were old enough to understand the questions and the purpose of the study, and able to decide whether they wanted to participate or not. There was no reward or incitement for participation.

The study adheres to the principles concerning research with human subjects proposed by the World Medical Association (2013). The storage of the collected data is in accordance with the regulations about data protection by the European Commission (2016).

Measures

Exposure to the Fulani Herdsmen's Attacks

Exposure to the *Fulani herdsmen's attacks* was measured with 5 items, where the participants should assess whether they or any of their family members had been exposed to specific types of violence during the conflict, more specifically, if they had been [(1) threatened with a weapon, (2) injured, (3) sexually assaulted, (4) tortured, or (5) killed], on an ordinal scale ranging from 0 to 3 [(0) no experience, (1) yes once, and (2) yes several times]. Then the scores were summarized to form the final variable score which was dichotomized [(0) if there was no war experience, (1) if there was at least one experience].

Physical Punishment at Home

Physical punishment was measured with the Brief Physical Punishment Scale (BPPS) (Österman & Björkqvist, 2007; Österman et al., 2014). The participants were asked to respond to the following individual items on basis of a 5-point scale (0 = never, 4 = very often): "During your childhood, how often have you been exposed to the following by your parents?" Have you been (1) pulled by the hair, (2) pulled by the ear, (3) hit with the hand (or slapped), (4) hit with an object. The Cronbach's α for the scale was .72.

Antisocial Behavior

The scale for the measurement of antisocial behavior was adapted from Makinde et al. (2016), who used it in a study conducted among adolescents in Nigeria. The participants were asked to respond to the following individual items on a 5-point

scale (0 = never to 4 = very often): how often have you been doing any of the following: (1) stolen items, (2) used catapult on anyone, (3) cheated a neighbor of his/her belonging, (4) smoked cigarettes, (5) used substances, (6) been unconcentrated at school, (7) been fighting at school, and (8) been absent from school without permission. The Cronbach's α for this scale was .77.

Statistical Analysis

All data were analysed using the SPSS version 28.0. Preliminary analyses were conducted to investigate the variable characteristics and normal distribution assumptions, such as acceptable levels of skewness and kurtosis (Field, 2009). All the study variables were standardized to minimize multicollinearity between main variables and interaction terms (Dearing & Hamilton, 2006). Next, bivariate correlation analyses were conducted to examine associations between the variables. Finally, a mediation analysis was employed to test the hypothesized mediation model specifying the relationship among the variables, using the PROCESS macro for SPSS (Hayes, 2017). Bootstrapping generated 95% bias-corrected confidence intervals for the indirect effects using 5,000 bootstrap samples.

Results

Preliminary Analysis

Out of the 450 students who participated in the survey, 385 remained after listwise deletion of all who did not have complete data. Of the remaining students, 17.7% reported having had a family member threatened with a weapon one more time, 22.3% had been injured, 9.6% sexually assaulted, 11.2% tortured, and 12.2% reported having themselves participated in a team that killed others.

Regarding victimization of physical punishment at home, 26.0% reported having been pulled by the ear very often, 37.7% hit with hand very often, and 25.5% of the participants reported having been hit with an object very often. Regarding antisocial behavior, 2.6% reported to have cheated neighbors of their belonging very often, 3.1% reported to have stolen petty items very often, and (4.4%) reported having fought very often in school.

No differences were found between girls and boys regarding the frequency of antisocial behavior and physical punishment at home. Girls scored higher than boys on exposure to the Fulani herdsmen attacks [0.37 vs. 0.27; $t_{(382)} = 1.97, p < .02, d = 0.20$].

Correlations

Pearson’s correlation coefficients between the study variables are presented in Table 1, together with means and standard deviations of the scales. The results showed that exposure to the Fulani herdsmen attacks were positively correlated with physical punishment and antisocial behavior. The correlational analysis offered a preliminary basis for further testing of the mediation hypothesis.

At first, it was planned to consider the possible effect of gender as a moderator in the model. Fisher’s *r*-to-*z* transformation analyses were conducted to test for significant gender differences in the correlations between the studied variables. According to the results, the correlations between exposure to the Fulani herdsmen conflict and physical punishment at home and antisocial behavior were not significantly different for boys and girls. Also, the correlation between physical punishment at home and antisocial behavior was not significantly different for boys and girls. Therefore, gender was not included in the final model.

Table 1

Descriptives of and Pearson’s Correlations between the Study Variables

Variables	1	2	3
1. Exposure to the Fulani Herdsmen Attacks	–		
2. Physical Punishment	.160**	–	
3. Antisocial Behavior	.144**	.183**	–
<i>M</i>	.33	1.35	.34
<i>SD</i>	.47	1.19	.56

Note. **p*<.05 and ***p*<.01

Mediation Analysis

After the preliminary analyses, a mediation analysis was conducted to test the mediating effect of physical punishment on the relationship between exposure to the Fulani herdsmen’s attacks with antisocial behavior (see Table 2). Standardized regression estimates indicated that exposure to the Fulani herdsmen’s attacks was a significant predictor of physical punishment and antisocial behavior. Physical punishment also predicted antisocial behavior significantly.

According to the results of the mediation analysis (Table 2), the total effect of exposure to the Fulani herdsmen’s attacks was slightly mediated by physical punishment at home. The bootstrapped confidence intervals (CI) did not include zero, indicating that the relationship between exposure to the Fulani herdsmen’s attacks and antisocial behavior was weakly but partially mediated by physical punishment. Approximately 5% of the variance in antisocial behavior was accounted for by the model.

Table 2

Results of a Mediation Model of the Effect of Exposure to the Fulani Herdsmen Attacks on Antisocial Behavior: Total Effect, Direct Effect, and Indirect Effect through Physical Punishment

Effects	β	SE	95%CI
Total Effect	.144	.051	.044~.243
Direct Effect	.117	.051	.018~.217
Indirect Effect	.026	.012	.007~.055

Discussion

For more than a decade, clashes between nomadic Fulani herdsmen and Igbo farming communities in Southeast Nigeria have led to a massive number of casualties and displacement among the Igbo people. In this study, 33 percent of the respondents reported having themselves and/or some family member been exposed to any of the measured forms of violence at least once during the Fulani herdsmen’s attacks.

Of the hypotheses, H1, according to which exposure to armed conflict would predict antisocial behavior, was corroborated. H2, suggesting that parental physical punishment would predict antisocial behavior, also gained support. H3, according to which physical punishment would mediate the effect of exposure to armed conflict on antisocial behavior, gained only weak support. Also, the mediation model explained only five percent of the variance. This fact implies that other factors are responsible for the remaining 95%. Such a factor could be e.g., influence by peers, which unfortunately was not included in the present study. H4, according to which it was expected that boys would score higher than girls on antisocial behavior, was not corroborated.

Surprisingly, there was no difference between girls and boys regarding how often they reported engaging in antisocial behavior. This result is not in line with previous research which suggests that boys engage in antisocial behavior more than girls (e.g., Belknap & Holsinger, 2006). A similar study from Lagos, Nigeria, conducted with exactly the same instrument as the one used in the current study, showed a clear gender difference in adolescent engagement in antisocial behavior in the usual direction, with boys scoring higher than girls (Makinde et al. (2016). However, although that study was conducted in the same country (Nigeria), it was not conducted with respondents from the same ethnic group, Igbo, as in the present study. The results may reflect a genuine ethnic difference; another explanation for the divergent result might be the existence of a response tendency within the sample of the current study, either over-reporting by girls or under-reporting by boys. If so, it does not necessarily affect the results of the regression analyses, as they concern relations between variables.

In the preparation phase of the current study, it was planned to examine the possibility of gender being a moderator of the direct and indirect effects of exposure to the Fulani herdsmen attacks on the development of antisocial behavior. However, the correlations between exposure to the Fulani herdsmen conflict and physical punishment and antisocial behavior were not significantly different for boys and girls. Also, the correlation between physical punishment and antisocial behavior was not significantly different for boys and girls. Due to these circumstances, gender was excluded in the final model.

Previous research has shown that exposure to violent events such as armed conflict and physical punishment at home predicts the development of antisocial behavior in adolescents (Barber & Schluterman, 2009; Gershoff, 2013; Österman et al., 2014). Likewise, the current study found significant correlations between exposure to the Fulani herdsmen attacks and physical punishment at home and adolescents' antisocial behavior.

Although the current study found relationships between exposure to the Fulani herdsmen's attacks, physical punishment, and antisocial behavior, yet the relationships between the variables were weak. Still, exposure to the Fulani herdsmen attacks may to some extent exacerbate parental use of physical punishment at home, which in turn may increase the risk of adolescent antisocial behavior.

Limitations and Suggestions for Further Research

The study has certain limitations that should be noted. The design was cross-sectional, not longitudinal. Accordingly, inferences about cause and effect should be made with caution in terms of direction of effects. In comparison, a longitudinal design would provide the means not only to examine causality and bi-directional links between victims and antisocial behavior (Reijntjes et al., 2011), but also to investigate to what extent adolescents remain stable across time in terms of antisocial behavior.

Furthermore, the measurement of exposure to Fulani herdsmen attacks does not differentiate between the experience of the adolescents themselves and those of their family members. Future studies on the subject are advised to do that. Future studies are also encouraged to explore further the issue of whether there are gender differences regarding antisocial behavior among Igbo adolescents or not.

Despite these limitations, the study may hopefully contribute to the understanding of the negative impact of exposure to armed conflict on adolescents' behavior, and why parents should refrain from using physical punishment as a corrective measure.

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