

Anthony Sopuruchi Anih

Predictors of Igbo Adolescents' Well-being and Behavioral Problems in Southeastern Nigeria: Exposure to Armed Conflict and Physical Punishment at Home





Anthony Sopuruchi Anih

Born 1980 in Enugu, Nigeria

Previous exams and present occupation:

Master's degree in Developmental Psychology, Åbo Akademi University, Vasa, 2018.

Bachelor's degree in Nursing at Novia University of Applied Sciences, Vasa, 2017.

Bachelor of Arts and Philosophy at Pontifical Urban University, Rome, 2006.

Anthony Sopuruchi Anih is currently working as a researcher in Developmental Psychology within the Faculty of Education and Welfare Studies at Åbo Akademi University in Vasa, Finland. He also works as a part-time registered nurse within an adult mental health unit in Vasa, Finland.

Cover picture by Lynsey Addario



Predictors of Igbo Adolescents' Well-being and Behavioral Problems in Southeastern Nigeria: Exposure to Armed Conflict and Physical Punishment at Home

Anthony Sopuruchi Anih

Developmental Psychology
Faculty of Education and Welfare Studies
Åbo Akademi University
Vasa, Finland, 2023

Supervisor

Karin Österman, Docent
Åbo Akademi University
Finland

Co-supervisor

Patrik Söderberg, PD
Åbo Akademi University
Finland

Reviewers

Joám Evans Pim, Docent
Center for Global Nonkilling, Hawaii
Galiza (Spain)

Thomas P. Gumpel, Prof.
Hebrew University, Jerusalem
Israel

Opponent

Joám Evans Pim, Docent
Center for Global Nonkilling, Hawaii
Galiza (Spain)

ISBN printed: 978-952-12-4311-0
ISBN digital: 978-952-12-4312-7
Painosalama, Turku, Finland, 2023

Abstract

The overall aim of the thesis is to investigate the mental well-being and behavioral problems among Igbo adolescents in Southeastern Nigeria, living in an environment of constant armed conflict in the form of violent attacks from Fulani herdsmen. Despite existing studies on the relationship between armed conflict and behavioral problems among adolescents, the mechanisms through which the former influence the latter are not well understood. The current studies were conducted with the purpose to decrease some of this research gap. The studies were conducted with two separate samples of Igbo adolescents.

Study 1: The aim of the study was to analyze the negative effects of the violent attacks by the nomadic Fulani herdsmen in Southeastern Nigeria, with a focus on adolescents living in the region. Data were collected with a questionnaire administered to secondary schools. Two-hundred and fifty adolescents (170 girls, 80 boys; 15–17 years of age) completed a questionnaire pertaining of both single items and seven scales measuring PTSD, physical punishment, domestic violence, parental negativity, anti-social behavior, poverty and war experiences. Girls scored significantly higher than boys on symptoms of PTSD. Of the 250 adolescents, 20.8% had lost someone close to them during the war, and 8.4% had themselves been injured. Nine percent had themselves injured someone during the war, and 5.2% had actually killed someone during the war. Three (1.8%) had been raped by an armed group, and two (1.2%) had been taken as a sex slave. The results indicate that the Fulani herdsmen attacks had a strongly negative impact on the adolescents which are likely to affect them throughout the rest of their lives.

Study 2: The relationship between exposure to the Fulani herdsmen attacks among Igbo adolescents in Southeastern Nigeria and depression was examined. Although previous research suggests a direct relationship between armed conflict and depression to exist, it is not known from the literature whether there are indirect paths involved. In a conditional process analysis, it was examined whether physical punishment mediated, and gender moderated this relationship. A sample of 385 secondary school students (227 girls, 157 boys; $M_{age} = 16.3$; $SD = 1.35$) completed a questionnaire during class. Variables in the analysis were measured with reliable scales. The conditional process analysis was conducted with PROCESS. Exposure to the Fulani herdsmen attacks predicted depressive symptoms among the adolescents, and the effect was partially mediated by the experiences of physical punishment at home. The indirect effect on depression via physical punishment at home was stronger for girls than boys, while the direct effect

of exposure to the Fulani herdsmen attacks on depression was stronger for boys than for girls. The findings suggest that living in an environment of armed conflict may exacerbate parents' use of physical punishment, which in turn may lead to increased levels of depressive symptoms in adolescents.

Study 3: The current study examined 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 (the same sample as in Study 2) 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.

The findings suggest that armed conflict tend to have negative effects on adolescents' well-being and increase symptoms of PTSD, depression, and antisocial behavior, and that physical punishment may mediate this effect, at least in the case of depression and antisocial behavior. The studies have implications for the psychosocial treatment of adolescents exposed to armed conflict.

Key words: Armed conflict, Fulani herdsmen attacks, adolescents, physical punishment, PTSD, depression, antisocial behavior, Igbo, Nigeria

Acknowledgements

Prior to embarking on the path to the doctoral degree, I have felt a deep desire to understand the reasons why young people behave the way they do. I can convincingly for my own part say that the environment in which a child is born and grows has a strong influence on how he or she behaves.

The journey to becoming a Doctor of Philosophy has been a rigorous and strenuous one, yet I am ever grateful that I arrived at an answer to my questions. This thesis and the research process leading to it would not have been successful if not for the support, encouragement and influence I received from several people I would wish to acknowledge here.

Words cannot express my gratitude to my professor, Kaj, who continuously provided me with encouragement and always has been willing to assist in any way right from the beginning. I want to extend my sincerest gratitude to Docent Karin, my first supervisor. I also want to express my gratitude to my other supervisor, Dr. Patrik, for providing advice, especially regarding statistical analysis. Furthermore, I want to thank my reviewers for their valuable comments and advice.

I am also grateful to my wife and children for their support and understanding. I am fully aware that the periods of my studies have in one way or the other interrupted our usual quality time together, but we can now celebrate as superstars. Also, I want to express my thanks to my parents, siblings and well-wishers. Your belief in me has kept my spirits and motivation high during this process. Moreso, to my beloved father, late Chief Emmanuel Anih who died during the course of my doctoral studies, may your soul continue to rest in the Lord.

Also, I would like to mention my good friends, Dr. Jude N. Edeh, Austin Onyekachi Anih, Rev. Fr. Anthony Onyirioha, Dr. Victor Makinde, Professor Victor Adetula, Dr. Johnbosco Chukwuorji, and many others. I cannot mention all their names here due to space restrictions. You all have impacted and inspired me.

Lastly, I gratefully acknowledge the economic support from Högskolestiftelsen i Österbotten and from the Rector of Åbo Akademi University.

Vasa, Finland, August 17, 2023

Anthony Sopuruchi Anih

Table of Contents

1. Introduction	1
1.1 Aim of the Studies	1
1.2 The Concept of Armed Conflict	1
1.3 Background of the Studies	2
1.4 The Igbo Tribe of Southeastern Nigeria	3
1.5 Adolescents' Exposure to Violence	5
1.6 Children Growing up in an Environment of Armed Conflict	6
1.7 Gender and Exposure to Conflicts	7
1.8 Physical Punishment, Depression, and Gender	8
1.9 Exposure to Violence and Adolescent Antisocial Behavior	8
1.10 Living in an Environment of Armed Conflict and Antisocial Behavior	9
1.11 Physical Punishment and Antisocial Behavior	10
1.12 Theoretical Perspectives	11
1.13 Research Aims	13
2. Method	14
2.1 Samples	14
2.1.1 Sample 1	14
2.1.2 Sample 2	14
2.2 Instruments	15
2.2.1 Symptoms of Post-traumatic Stress Disorder	15
2.2.2 Specific War Experiences during the Nomadic Fulani Herdsmen's Attacks	16
2.2.3 The Family's Level of Poverty	17
2.2.4 Victimization from Parental Negativity	17
2.2.5 Physical Punishment at Home	18
2.2.6 Witnessing of Domestic Violence	19
2.2.7 Perpetration of Antisocial Behavior	19
2.2.8 Exposure to the Fulani Herdsmen Attacks in Studies II and III	20
2.2.9 Depressive Symptoms	21
2.3 Statistical Analysis	21
2.3.1 General	21
2.3.2 Mediation and Moderation Analysis	22
2.4 Procedure	22
2.5. Ethical Considerations	23
3. Overview of the Original Studies	24

3.1 Study I: An Analysis of the Nomadic Fulani Herdsmen's Violent Attacks in Southeastern Nigeria, and their Effects on Adolescents	24
3.2 Study II: The Effect of Exposure to Armed Conflict on Depression as Mediated by Physical Punishment in Adolescents: A Study among Nigerian Adolescents	25
3.3 Study III: Predictors of Adolescents' Antisocial Behavior in South-eastern Nigeria: Exposure to Armed Conflict and Physical Punishment at Home	25
4. Discussion	27
4.1 Summary of the Findings	27
4.2 Limitations of the Studies	30
4.3 Implications of the Studies	30
References	32

List of Original Publications

Article I

Anih, A. S., & Björkqvist, K. (2018). An analysis of the nomadic Fulani herdsmens' violent attacks in Southeastern Nigeria, and their effects on adolescents. *Pyrex Journal of African Studies and Development*, 4(1), 1-8.

Article II

Anih, A. S., Söderberg, P., Björkqvist, K. (in press). The effect of exposure to armed conflict on depression as mediated by physical punishment in adolescents: A study among Nigerian adolescents. *Journal of Aggression, Conflict, and Peace Research*. Prepublication available at Emerald Insight, doi: 10.1108/JACPR-10-2022-0753

Article III

Anih, A. S., Söderberg, P., Björkqvist, K. (2023). Predictors of adolescents' antisocial behavior in Southeastern Nigeria: Exposure to armed conflict and physical punishment at home. *European Journal of Social Sciences*, 6(1), 80-96.

Author Contribution

The first author is responsible for the collection of all data, and for writing the main part of the texts. He is also responsible for the statistical analysis in Articles 2 and 3. The statistical analysis of Article 1 was conducted jointly by the first and the second author.

1. Introduction

1.1 Aim of the Studies

The overall aim of the current thesis was to investigate the mental well-being and behavioral problems among Igbo adolescents in Southeastern Nigeria, living in an environment of constant armed conflict in the form of violent attacks from Fulani herdsmen. While the original studies are the primary results of the thesis, these empirical investigations are contextualized within a discussion centering on violence in the Igbo communities and families, and their relationship with mental and social well-being of Igbo adolescents. The studies were conducted with paper-and-pencil questionnaires administered in schools. In Study I, it was investigated to what extent the respondents had experienced symptoms of PTSD and a number of other variables in relation to the Fulani herdsmen's attacks, and differences between the genders in that respect.

In Studies II and III, it was investigated whether physical punishment mediated the relationship between exposure to the Fulani herdsmen attacks and depression (Study II) and antisocial behavior (Study III) respectively. Furthermore, it was examined to what extent the adolescents' gender moderated the relationship between the Fulani herdsmen attacks and depression, and antisocial behavior, respectively (Studies II, III).

1.2 The Concept of Armed Conflict

According to the Uppsala Conflict Data Program (UCDP; Gleditsch et al., 2002) armed conflict is defined as armed force used by an organized actor against another organized actor, or against civilians, resulting in at least 25 battle-related deaths in one calendar year. An estimated 452 million children lived in conflict affected zones in 2020. According to the Peace Research Institute in Oslo (PRIO, 2021), this number saw a rapid increase from the previous year (2019) with an approximation of 23 million children.

Adolescents growing up during armed conflict experience traumatic events and activities that threaten their mental and social well-being, for instance in the form of increasing their level of symptoms of post-traumatic disorder (PTSD), depression, and anxiety, while decreasing their self-esteem, and hampering their overall development and their relationships with others. Kadir et al. (2019) noted that studies have established a connection between the traumatic experiences of armed conflict of children and symptoms of

psychological illness that persist across their life course and beyond, to the subsequent generation born after the conflict has ended.

Children exposed directly or indirectly to armed conflicts are at risk for harmful effects that challenge their overall well-being and development. The direct effect of combat on children and adolescents may include injury, illness, psychological trauma, displacement, and death of family members (Kadir et al., 2019). A complex set of political, social, economic, and environmental factors resulting in armed conflict have indirect and lasting effects on children. There are a number of reasons for this. The high rates of damage to infrastructure and services, destruction of assets, inflation, and unemployment increase family violence, which place children at risk of psychological and behavioral challenges. 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's adjustment is scarce. One such mechanism is thought to be parenting practices (Conway et al., 2013; Slone & Mann, 2016).

1.3 Background of the Studies

The struggle over access to and control of natural resources has been a root cause of tension and conflict in developing nations like Nigeria. There are several examples of how states and nations were destabilized by ecological collapse causing famine, migration, and conflict (Renner et al. 1991). The crisis between nomadic Fulani herdsman and farming communities in Nigeria is centered on land use for agricultural production. In Nigerian economy, agriculture plays a paramount role in the provision of food and income. Over 60% of the country's population is employed in agriculture, while about 20% are involved in commercial agricultural production (Olaoye, 2014).

Over the years, Nigeria has been known as the highest breeder of cattle as a source of meat, and the most available and cheap source of animal protein in Africa. Over 90% of the national livestock population is owned by the nomadic Fulani, accounting for 3.2% of the Nation's Gross Domestic Product (GDP) through the exportation of cattle products such as hide and skin, milk, cheese, and minced meat (Bello, 2013; Eniola et al., 2016; Mur, 2001). The increase in the animal production has resulted in conflicts in various farming communities of Nigeria. Haro and Dayo (2005) observed that the major cause of the conflict is the mobility of the nomadic Fulani herdsman in search of greener pastures. During the agricultural cultivation season, the herders

wander into cultivated farms while their herds eat or trample on the crop. The crisis between the Fulani herdsmen and farming communities is a result of the destruction of crops, unsustainability and over-grazing of vegetable resources, destruction of major sources of domestic water, the hardening of soil, and, in turn, theft of cattle by community youth (Marietu & Olarewaju, 2009).

Both national and private attempts to resolve the crisis between nomadic Fulani herders and farming communities have so far failed due to their economic and political implications, with less or no interest in how it affects the involved adolescents. According to Ney and Wickett (1994), exposure to violence affects the reasoning pattern of children and their conception of the human world.

1.4 The Igbo Tribe of Southeastern Nigeria

Southeastern Nigeria is the home of the approximately 20 million Igbo speaking people, around 10% of the total population of Nigeria. Prior to the advent of colonial rule, the Igbo ethnic group was a collection of smaller groups with a variety of myths of common origin. Given the prevalent norm of a non-centralized political organization, these were largely autonomous and without kings. The Igbo ethnic group has a wide range of socio-political organizations that emanated from what is popularly referred to as a stateless, decentralized or diffused political system. In other words, the Igbos were a group of people where each village community existed as a separate political unit (Johnson & Olaniyan, 2017).

The Southeast region of Nigeria comprises of various states like Abia, Anambra, Ebonyi, Enugu, and Imo. It is one of the geopolitical zones in modern Nigeria created during the regime of President General Sani Abacha, and it has a population density of 500 people per square kilometer (Okafor & Fernandes, 1987).

Fig. 1

Southeastern Nigeria, the Location of the Data Collections.



The region stretches from $4^{\circ}15'$ to 7°N and $5^{\circ}49'$ to $9^{\circ}30'\text{E}$, occupying a space of about 75,500 square km. Rainfall is known to be high along the coast and could reach 4000 mm yearly. On the inland, the rainfall density is high, but there is a three-month period of dry season. The average temperature throughout the year ranges between 25°C and 27°C . The primary occupation of low-income households is agriculture. They cultivate both for subsistence and commercial purposes. The literacy rate of the region is 96.5%, making it the highest literate geopolitical zone in the country. The urban cities of the region have relatively good roads unlike the rural areas, where transportation is poor.

In 1967, the Igbos attempted to secede from the state of Nigeria by declaring the independent Republic of Biafra. The declaration was as a result of perceived marginalization and deprivation by people of the Southeast region. The Igbo ethnic group blamed this on leadership failure on the part of the Nigerian government, amounting to years of social neglect and economic and political isolation. The declaration of independence of Biafra resulted in a bloody civil war that lasted almost three years (from July 7, 1967, to January 15, 1970), a war which the Igbos lost.

For more than a decade now, Southeast Nigeria has witnessed a series of conflicts between local farmers and Fulani herdsman, resulting in the loss of many lives (Erundu & Nwakanma, 2018). Besides the loss of lives, the clashes have resulted in population displacement, low agricultural output, and

subsequent lack of necessities like food and shelter among the affected Igbo communities (Odoh & Chilaka, 2012).

1.5 Adolescents' Exposure to Violence

The Convention on the Right of the Child in accordance with article 49 of the United Nations was enforced into law in Nigeria in 1990; emphasis has been put on the importance to protect children from all forms of physical and mental violence, including sexual and other forms of exploitation, abduction, armed conflict, and inhuman or degrading treatment or punishment (Levesque, 1994; UNICEF, 1989). Even with the effort by different countries to ensure that all child victims of violence receive the support and assistance they need, children's exposure to violence is still an important issue. Throughout the world, armed conflicts have a profound impact the physical and mental well-being of children (Shenoda et al., 2015).

In Nigeria, children continue to experience different forms of violence perpetrated against them. Studies on child victims of violence in Nigeria have been sparse, and focused on particular forms of violence (Salami, 2010). Studies are confined within areas such as students' cultism (Oni, 2009), school bullying (Jegede, 2022), child labor, sexual abuse (Oladeji et al., 2010), and adolescent pregnancy (Ugoji, 2009). Only recently have certain forms of child victimization like maltreatment, child sexual abuse and parental negativity against children begun to gain societal attention. Previously, they were regarded as private matters, taken care of within the immediate family (Salami, 2010).

There is a knowledge gap concerning adolescent's exposure to armed conflict in Nigeria. Adolescents in the country encounter different kinds of violence daily. In high profile events, such as the Boko Haram insurgency, the Niger Delta conflict, the Pro-Biafra protest, the nomadic Fulani herdsmen's violent attacks, exposed adolescents witness random gun shootings, littered dead bodies, houses and churches set ablaze, and the threatening of relatives and family members. Such experiences cause emotional distress that goes beyond the physical realm.

Martinz and Richters (1993) reported that children exposed to armed conflict had high rates of overall distress. The psychological distress in adolescents who have been exposed to violence is shown in symptoms of posttraumatic stress, anxiety, dissociation, depression, and low self-esteem (Duncan et al., 1996; Famularo et al., 1994; Hurt et al., 2001).

1.6 Children Growing up in an Environment of Armed Conflict

In the current study, armed conflict is defined as occurring when one or more parties have recourse to armed force against another party. No formal declaration of war or recognition of the situation is required. Empirical evidence has shown that exposure to war and armed conflict during adolescence can result in developmental impairment and mental health problems (Allwood et al., 2002; Slone & Shechner, 2009; Thabet et al., 2002). Armed conflict may heighten daily stressors including poverty, access to shelter, and other forms of stress in the family, which can exacerbate the use of physical punishment by parents (Palosaari et al., 2013).

Children are a particularly vulnerable group during conflicts, as they suffer not only from the direct consequences of exposure to violence, but also indirectly through the effect that the conflict has on their parents or guardians (Ma & Grogan-Kaylor, 2017). Exposure to armed conflict affects both parents' and children's mental health (Kadir et al., 2019). Psychosocial stress caused by violence in the community may compromise parental capabilities to engage in quality relationship with their children, and thus increase the risk that parents rely on harsh parenting strategies (McCoy, 2013). In the same vein, exposure to armed conflict may alter social norms and dynamics, and it may affect parental attitudes towards the use of violent parenting practices such as physical punishment (Coulton et al., 2007; Sampson et al., 2002).

During adolescence, exposure to armed conflict may result in developmental impairment and social and psychological disturbances that endure long after the end of the hostilities (Allwood et al., 2002; Betancourt et al., 2013). Such exposure is associated with increased prevalence of depression among both parents and children, during and after conflicts (Attanayake et al., 2009; Charlson et al., 2019; Slone & Mann, 2016). Exposed children are particularly vulnerable to secondary adversities such as homelessness, lack of food, and community violence (Catani et al., 2009; Shaw, 2003). Catani et al. (2008) reported that Tamil children in Sri Lanka exposed to civil war reported a particularly high number of experiences of child maltreatment and witnessing of wife-beating. Palosaari et al. (2013) found that the armed conflict in Gaza affected children's mental health not only via direct exposure but also through the exposure to maltreatment by their fathers.

1.7 Gender and Exposure to Conflicts

Gender differences in emotional reactivity to different types and levels of exposure to conflicts are well-documented, with girls reacting stronger than

boys (Norris et al., 2002). However, 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 greater variety of conflict-related experiences than girls. This finding may be a result of their greater involvement in political activity in comparison with girls (Barber, 1999). Another explanation to the finding could be that girls may be more amenable to protection; they may also have a greater tendency to avoid dangerous and violent situations, and they may be more obedient to safety instructions than boys (Slone & Mayer, 2015).

There is clear evidence for a link between exposure to armed conflict and psychological consequences for adolescents (Slone & Shechner, 2009). For example, in a study of adolescents exposed to the nomadic Fulani herdsmen's attacks in Southeast Nigeria, girls reported a higher level of symptoms of post-traumatic stress disorder than boys (Anih & Björkqvist, 2018; Study 1 in this thesis). Other studies have also found girls to demonstrate higher rates of stress, PTSD, and depression (Kim et al., 2010).

However, there is a notable exception to the finding that girls always demonstrate higher depression than boys in the face of exposure to conflict: in a study from Sierra Leone about children exposed to armed conflict, boys who had experienced injuries, death of a parent, or having killed someone during the conflict, reported more depressive symptoms than girls (Betancourt et al., 2011).

1.8 Physical Punishment, Depression, and Gender

Physical (corporal) punishment is in the current study defined as any punishment of children which is of physical nature, such as spanking, hitting with an object, pulling the hair, or pulling the ear, in contrast to non-physical punishment, which is of verbal or psychological nature. A link between exposure to physical punishment during childhood and increased risk for elevated depression later in life is well established (Österman et al., 2014; Turner & Muller, 2004). Depression is in this study defined in accordance with the criteria of DSM-5 (American Psychiatric Association, 2013). It is a common and serious medical illness that negatively affects how you feel, the way you think, and how you act.

Research shows that across the world, boys appear to receive more physical punishment than girls. For example, Österman et al. (2014) found this to be the case in Finland, and Darko et al. (2019) found it to be true in Ghana. Apart from children aged two to four, American parents also punish their

sons more frequently than their daughters (Straus & Stewart, 1999). Boys living in urban settings report higher rates of physical abuse than girls (Chiag et al., 2016), while girls receive lighter physical punishment than boys (Millichamp et al., 2006).

Although boys in general receive more physical punishment, research suggests that the negative effect of this form of punishment takes different forms in boys and girls. For instance, Bakousla et al. (2009) found, in a study conducted in Greece, that physical punishment predicted more internalizing symptoms for girls than for boys. However, there are exceptions: Wang and Kenny (2014) found no gender difference in the relation between physical punishment and depressive symptoms.

1.9 Exposure to Violence and Adolescent Antisocial Behavior

Antisocial behavior has been defined as the presence of a chronic and pervasive disposition to violate the rights of others, manifestations include repeated violation of the law, exploitation of others, deceitfulness, impulsivity, aggressiveness, irresponsibility, accompanied by 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 (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). 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 (Mulder et al., 2011).

1.10 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 of engaging 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 experiences of war in Bosnia (including death of close ones, demolition of their home, and 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).

1.11 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, 2023). 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 neighborhood 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 (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).

1.12 Theoretical Perspectives

The studies reported in this thesis were not designed to test any particular theory. However, the results cannot be properly understood without applying certain theoretical assumptions. One such assumption is that children and adolescents learn attitudes and behaviors from *models*, that is, from parents and siblings at home, and from peers at school and in the neighborhood.

Miller and Dollard (1947) were the first to present a theory explaining why and how learning from models occurs. In their classic work *Social Learning and Imitation*, the authors attempted to link modeling to the general framework of behaviorist theory, the dominant school of psychological thought at that period of time. According to them, modeling is the same as vicarious conditioning: an individual imitates a model if (and only if) the model is successful in reaching his/her goals with the behavior in question (positive vicarious reinforcement). This proposition was perfectly in line with the general thinking of the behaviorist movement: all learning processes were

regarded as caused by reinforcement due to reward or punishment, and, accordingly, modeling was seen as *vicarious conditioning*.

The most influential theoretician on modeling is undoubtedly Bandura. In 1963, he and his colleagues described how children mimicked the aggressive behavior of film models (Bandura et al., 1963a; 1963b). Bandura presented his theory in full in the book *Aggression: A Social Learning Analysis* (Bandura, 1973). It is clear that Bandura in this book, in which he presented his well-known *social learning theory*, still had not departed from Miller's and Dollard's (1947) view, and he regarded learning from models to occur through vicarious conditioning. While vicarious reinforcement is discussed in considerable detail (Bandura, 1973., pp. 202-207), the degree of identification between imitator and model is for instance not mentioned at all.

Bandura's social learning theory has been criticized by, among others, Björkqvist (1997), who pointed out that learning from models can take place very well even when the model is not successful. In Björkqvist and Österman (1992), the authors found that some of their results on parental influence on children's aggressiveness could not be explained in terms of vicarious conditioning only. Björkqvist (1997) suggested that at least four factors are important as far as imitation of models is concerned:

1. the degree of similarity between the model situation and the actual situation,
2. identification with the model in question,
3. whether the model is successful or not (vicarious reinforcement), and
4. the amount of exposure to the model situation in question.

Subsequently, Bandura also accepted the thought that modeling cannot be understood through vicarious reinforcement only, and he revised his social learning theory to include cognitive factors. He called his revision *social cognitive theory* (Bandura, 2001).

Social-behavioral patterns are thus transmitted from one generation to another through the process of *cognitive modeling* (Björkqvist, 1997). What is learnt from models are not only single behaviors, but *cognitive scripts of behavior* (Huesmann, 1986). For instance, a model displaying aggressive behavior in a particular way may lead to increased aggression in multiple forms in viewers; the script learnt is that aggression is acceptable.

Another theory that deserves mentioning in this respect is the *frustration-aggression hypothesis* (Dollard et al., 1939), which suggests that aggression occurs as a consequence of frustration. In the present study, the nomadic Fulani herdsman's attacks are likely to be very stressful for the parents, who

might take out their increased frustration on their children in increased physical punishment.

Finally, a theory which may be applied to the studies is Bronfenbrenner's *ecological systems theory* of development (Bronfenbrenner, 1974), according to which individual development may be regarded as a complex system of relationships affected by multiple levels of the surrounding environment, from the immediate settings of family to school and the wider society and culture. In order to study individual development, one must consider not only the immediate environment, but the interaction with the larger layers of environment as well. Bronfenbrenner (1974). names four levels: the *micro level*, the *meso level*, the *exo level*, and the *macro level*. In this study, the micro level would imply the immediate family, the meso level the neighborhood and school, the exo level more distant relatives and friends, and the macro level the Igbo people and culture. All these interact with each other, and what happens at the macro level (such as the nomadic Fulani herdsmen's attacks) influence behavior at home (the micro level) and among peers (the meso level), in the form of for instance antisocial behavior.

1.13 Research Aims

The overall aim of the thesis was an exploration of the mental well-being and behavioral problems among Igbo adolescents in Southeastern Nigeria, living in an environment of constant armed conflict in the form of violent attacks from nomadic Fulani herdsmen. Specifically, the research aims of the three studies included were the following:

1. To explore war experiences of the adolescents associated with the Fulani herdsmen's attacks (Study I).
2. To analyze gender differences regarding negative impacts of the nomadic Fulani herdsmen's violent attacks on Igbo adolescents exposed to these attacks, focusing primarily on symptoms of post-traumatic stress disorder (PTSD) (Study I).
3. To corroborate previous findings on the connection between exposure to armed conflict and adolescents' depressive symptoms (Study II).
4. To corroborate previous findings on the connection between exposure to armed conflict and adolescents' antisocial behavior (Study III).
5. To explore the potential mediating effect of physical punishment on the effect of exposure to armed conflict on adolescents' depression (Study II).

6. To explore the potential mediating effect of physical punishment on the effect of exposure to armed conflict on adolescents' antisocial behavior (Study III).
7. To explore the potential moderating effect of gender on the effect of exposure to the Fulani herdsmen's attacks on adolescents' depression, mediated by physical punishment (Study II).
8. To explore the potential moderating effect of gender on the effect of exposure to the Fulani herdsmen's attacks on adolescents' antisocial behavior, mediated by physical punishment (Study III).

2. Method

2.1 Samples

2.1.1 *Sample 1*

The sample was drawn from four secondary schools in the communities of Atakwu, Akegbe Ugwu Nkwo Nike, and Nimbo in Enugu State, which all had been subjected to attacks by the Fulani herdsmen.

The sample consisted of 250 adolescents, 170 girls (mean age = 16.1 years, SD = 1.1) and 80 boys (mean age = 16.2 years, SD = 1.1). The age difference between girls and boys was not significant. All except one reported Christianity as their religion. Regarding language, 248 reported Igbo as their first language, and two reported Yoruba.

Regarding their place of living, 225 (90%) reported that they “often” or “very often” lived with their family, 35 (15%) with relatives, 16 (6.4%) in the street, four (1.6%) in an orphanage, and eight (3.2%) in a refugee camp. It should be noted that some of the respondents reported living “often” or “very often” in more than one place.

2.1.2 *Sample 2*

At the conclusion of article one, the research group experienced a need to collect another data set that would include more variables, for example, depression. These data were collected among secondary school children in three communities of Igboland. Prior to the survey was distributed in schools, potential community secondary schools were selected. Normally, a community school has both girls and boys as students. For inclusion into the sample, schools were required to be within the Southeast region of Nigeria, to include adolescent students, and to be enrolling both boys and girls. A further criterion was that the selected schools were situated in towns where Fulani herdsmen conflicts had taken place. Through cluster sampling based upon these criteria, three secondary schools were selected for inclusion into the study.

The study was conducted in Akegbu-Ugwu, Ugwuogo-Nike, Ugwuaji-Awkunanaw and Umuchigbo communities in the Southeastern region of Nigeria. One secondary school each was randomly selected from each of the three communities that experienced the attacks of Fulani herdsmen. In total, 385 students participated in the study (227 girls, 157 boys; Mage = 16.3; SD = 1.35). 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%.

Akegbu-Ugwu, Ugwuogo-Nike, Ugwuaji-Awkunanaw and Umu-chigbo are communities of Enugu State in the Southeast region of Nigeria. While they can be regarded as rural, the communities have large market days that attract both indigenous and non-indigenous people across the region. These communities largely cultivate agricultural products for both family and commercial use. Paramount among the people of Akegbu-Ugwu, Ugwuogo-Nike, and Umuchigbo is kinship and the position of a chief that assists in maintaining peace and order.

2.2 Instruments

The questionnaires were constructed in the English language, which is the school language in the area. Data were collected by the use of a paper-and-pencil survey. There was one questionnaire used in Study I, and another used in Studies II and III. The questionnaires included a total of 9 scales, of which some were used only in Study I, some only in Studies II and III, and some used in both data collections. The scales will be presented below.

2.2.1 *Symptoms of Post-traumatic Stress Disorder*

In order to measure symptoms of post-traumatic stress disorder (PTSD), a scale was constructed based on the definition of PTSD in DSM-5 (American Psychiatric Association, 2013). For included items and the Cronbach’s α -value of the scale, see Table 1. The participants were to give responses on a five-point scale (0 = completely disagrees, 1 = slightly disagrees, 2 = neither agrees nor disagrees, 3 =slightly agrees, 4 = completely agrees) to 20 statements that measured symptoms of PTSD.

Table 1
Single Items and Cronbach’s α for the Scale Measuring Symptoms of PTSD in Study I (N = 250).

<i>How did it make you feel?</i>	(20 items, $\alpha = .93$)
Repeated, disturbing and unwanted memories	
Repeated, disturbing dreams about the event	
Sudden feeling or acting as if the event is ongoing	
Feeling upset when reminded of the conflict event	

Having a strong physical reaction when reminded of the event
 Avoiding memories, thought or feelings about the event
 Avoiding external reminders of the event
 Trouble remembering the event
 Having strong negative beliefs about oneself, other or world
 Blaming oneself or someone else for the event
 Having strong negative feelings like fear, horror, anger, shame
 Loss of interest in activities that one used to do
 Feeling distanced or cut off from other people
 Trouble experiencing positive feelings or loving feelings
 Irritable behavior, angry outbursts, or aggression
 Taking too many risks or doing things that harms,
 Being super-alert or watchful or on guard
 Feeling jumpy or easily startled
 Having difficulty concentrating
 Trouble falling asleep

2.2.2 *Specific War Experiences during the Nomadic Fulani Herdsmen's Attacks*

To investigate what specific war experiences the adolescents had had during the nomadic Fulani herdsmen's attacks, a scale for their measurement was created. The response alternatives were on a dichotomous scale (yes/no) (see Table 2).

Table 2

Single Items and Cronbach's α for the Scale Measuring Specific War Experiences during the Nomadic Fulani Herdsmen's Attacks (Study I) (N = 250).

Have you ever during the attacks witnessed a family member or someone close to you
(4 items, $\alpha = .76$)

Been involved in fighting in the attacks
 Been used as a spy during attacks
 Injured someone else in the attacks
 Lost someone close during the attacks

2.2.3 *The Family's Level of Poverty*

In order to measure the family's level of poverty, a scale was created, consisting of four items. The response alternatives were on a 5-point scale

ranging from 0 to 4 (0 = completely disagrees, 4 = completely agrees). The scale was used in Study I. The items and reliability score of the scale are presented in Table 3.

Table 3

Single Items and Cronbach's α for the Scale Measuring the Family's Level of Poverty (Study I) (N = 250).

<i>Have you experienced any of the following things in your home? (4 items α = .77)</i>
Lack of clothes or shoes
Food rationing
Unavailable or inadequate medication
Unavailable or inadequate food or drink

2.2.4 Victimization from Parental Negativity

Parental negativity towards the adolescents was measured using a scale adapted from Makinde et al. (2016). The response alternatives were on a 5-point scale ranging from 0 to 4 (0 = completely disagrees, 4 = completely agrees). The scale was used in Study I. The items and reliability score of the scale are presented in Table 4.

Table 4

Single Items and Cronbach's α for the Scale Measuring Parental Negativity Towards the Adolescents (Study I) (N = 250).

<i>Have you experienced any of the following things from your parents? (6 items α = .87)</i>
Name calling or bullying
Insults
Breaking promises
Constant criticism
Intimidation
Harassment

2.2.5 Physical Punishment at Home

The scale used for the measurement of physical punishment was the Brief Physical Punishment Scale (BPPS; Österman & Björkqvist, 2007; Österman et

al., 2014). It was modified and used in all studies (I, II and III) to measure the frequency of parental physical punishment at home. However, there was a different number of items used in the first data collection (Study I) and in the second (Studies II and III). The items and the reliability scores measured with Cronbach’s α are presented in Table 5. The response alternatives were on a 5-point scale ranging from 0 to 4 (0 = completely disagrees, 4 = completely agrees).

Table 5
Single Items and Cronbach’s α for the Scale Measuring Physical Punishment at Home (Studies I, II, and III) 1st Data (N = 250), 2nd Data (N = 385)

<i>Has <u>an</u> adult at home done any of the following things to you?</i>			
<i>Study I (8 items α = .88), Study II (4 items α = .74) Study III (4 items α = .74)</i>			
Pulled your ears	I	II	III
Pulled your hair	I	II	III
Slapped you	I		
Hit you with an object	I	II	III
Pinched you	I		
Thrown things at you	I		
Knocking on the head	I		
Knell down and stay there	I		
Hit you with hand		II	III

2.2.6 Witnessing Domestic Violence

In order to measure the witnessing of domestic violence (fights between parents), an adapted version of the Direct Indirect Aggression Scale for Adults (DIAS-Adult: Österman & Björkvist, 2009) was used. The scale had previously been used in a study by Makinde et al. (2016). The response alternatives were on a 5-point scale ranging from 0 to 4 (0 = completely disagrees, 4 = completely agrees). The scale was used in Study I.

Table 6
Single Items and Cronbach’s α for the Scale Measuring Witnessing of Domestic Violence (Fighting between Parents) (N = 250).

<i>Have you witnessed your parents doing any of the things below to each other?</i>	
<i>Study I (6 items α = .86)</i>	
Fighting physically	
Breaking promises	

Throwing things at each other
 Damaging belongings
 Twist each other's arm

2.2.7 Perpetration of Antisocial Behavior

The scale for measuring the adolescents' engagement in antisocial behavior s was adapted from Makinde et al. (2016). The response alternatives were on a 5-point scale ranging from 0 to 4 (0 = completely disagrees, 4 = completely agrees). The scale was used in Studies I & III.

Table 7

Single Items and Cronbach's α for the Scale Measuring the Participants' Engagement in Antisocial Behavior 1st Data (N = 250), 2nd Data (N = 385)

Have you felt or done any of the following things?

Study I (7 items α = .87), & Study III (7 items α = .77)

Stolen petty things or items
 Used catapult on a friend, neighbor, or anyone
 Cheated a neighbor of their belongings
 Smoked a cigarette
 Been unconcentrated at school
 Fighting in school
 Absenteeism from school

2.2.8 Exposure to the Fulani Herdsmen Attacks in Studies II and III

Exposure to the Fulani herdsmen's attacks was measured with 5 items. These items were specifically created for the second data collection. The participants should assess whether any of their family members had been exposed to specific types of violence during the conflict, on a dichotomous scale (0 = no conflict experience and 1 = at least one experience at least once). The scale was used in Studies II & III.

Table 8
Single Items and Cronbach's α for the Scale Measuring the Adolescents' Exposure to the Fulani Herdsmen Attacks (Studies II and III) (N = 385).
Have you or any of your family members been?
 (5 items $\alpha = .79$)

Threatened with a weapon
Injured
Sexually assaulted
Tortured
Killed

2.2.9 Depressive Symptoms

In order to measure symptoms of depression suffered by the adolescents, a subscale from the Brief Symptom Inventory (BSI) (Derogatis, 1975) was used. The response alternatives were on a 5-point scale ranging from 0 to 4 (0 = completely disagrees, 4 = completely agrees).
 The scale was used in Study II.

Table 9
Single Items and Cronbach's α for the Scale Measuring the Adolescents' Symptoms of Depression (Study II) (N = 385).
To what extent you have been? (5 items $\alpha = .80$)

Feeling hopeless about the future
Feeling of worthlessness
Feeling lonely
Feeling blue, having no interest in things
Having thoughts of ending your life

2.3 Statistical Analysis

2.3.1 General

All analyses were performed using SPSS version 28. Prior to conducting the analyses, incidents of missing data were analysed. Regarding the second data collection (Studies II and III), after expected maximization imputation for missing data (Ghomrawi et al., 2011) a total of 385 questionnaires (157 boys

and 227 girls) were eligible for analysis. Prior to analysis, all variables were standardized to minimize potential multicollinearity between the main variables and the interaction terms (Dearing & Hamilton, 2006).

To identify group (gender) differences, multivariate analyses of variance (MANOVA) were conducted in Study I. Correlational analysis was employed to measure the relationship existing between continuous variables in Studies II and III. Fisher's *r*-to-*z* transformation was applied in Studies II and III to compare the strength of bivariate correlations between variables, to investigate whether the association between exposure to the Fulani herdsmen attacks, physical punishment, and depression would be stronger for either one of the genders (Colman, 2008).

2.3.2 Mediation and Moderation Analysis

Conditional process analysis was applied in Study II to examine the mechanism (mediator) and circumstances (moderators) resulting in the effect of one variable on another (Dearing & Hamilton, 2006; Preacher & Hayes, 2008). The PROCESS-macro for SPSS version 4.0 was employed to test the proposed hypotheses using bootstrapping (Hayes, 2018). The PROCESS macro was chosen since it is specifically developed to analyse regression pathways including both mediating and moderating variables, and all variables were directly measured (Hayes et al., 2017). Two sets of mediation analysis were performed.

In Study II, the mediating effect of physical punishment (M) on the relationship between exposure to the Fulani herdsmen conflict (X) and symptoms of depression (Y) was examined. In the case of Study III, the mediating effect of physical punishment (M) on the relationship between exposure to the Fulani herdsmen conflict (X) and engagement in antisocial behavior (Y) was assessed. In comparison with the traditional techniques for mediation analysis where each regression coefficient is analysed separately (Baron & Keeny, 1986; Sobel, 1982), the conditional process analysis utilizes bootstrapping to build an empirical approximation of the sampling distribution and to construct confidence intervals for the indirect effects (Preacher & Hayes, 2004). In the analyses, the PROCESS macro generated 5000 bootstrap samples with a 95% confidence interval.

Next, two sets of moderated mediation analyses were performed using a multigroup analysis to test the indirect effect of the Fulani herdsmen attacks (X) on the adolescents' symptoms of depression (Y) with gender (W) as a moderator, in Study II. The same procedure was applied in Study III, with antisocial behavior as the outcome variable.

2.4 Procedure

The data were collected from secondary schools in the Southeastern part of Nigeria that had been under attack from nomadic Fulani herdsmen. Permission was obtained from the mayor and from the police department. Several meetings were organized between the researcher and the school administration, and informed parental consent was also provided.

On the day of data collection, two assistants who themselves were researchers from a University in Enugu State, Nigeria, aided in the data collection process. Teachers responsible for the different classes assigned by the school principals were assisting in the process of distributing questionnaires, papers and pencils. Participation was voluntary, and accepting participants were instructed to keep their responses anonymous. The researcher read the questions aloud in order to ensure that the students would understand, and the respondents were given opportunity to clarify questions both before and during the exercise.

2.5. Ethical Considerations

The 1st author, who was responsible for the data collections, was duly granted permission from the school administration. Together with the assigned class teachers, he and his assistants administered the questionnaires to students in class. 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 over 15 years of age, and therefore considered 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. No conflict of interest existed for any of the studies.

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).

3. Overview of the Original Studies

3.1 Study I: An Analysis of the Nomadic Fulani Herdsmen's Violent Attacks in Southeastern Nigeria, and their Effects on Adolescents

The purpose of the study was to analyze the negative effects of the violent attacks by the nomadic Fulani herdsmen in Southeastern Nigeria, with a focus on adolescents living in the region. A descriptive statistical analysis and a MANOVA were applied to understand the impact of the attacks on different aspect of adolescents' life, such as PTSD.

The questions were grouped into different parts: (1) background questions, (2) questions about specific war experiences, and (3) six scales measuring (a) symptoms of post-traumatic stress syndrome (PTSD), (b) experiences of physical punishment, (c) witnessing of domestic violence, (d) parental negativity, (e) antisocial behavior, and (f) specific war experiences. The sample consisted of 250 adolescents.

As many as thirteen (5.2%) admitted having killed someone, and 52 (20.8%) confirmed having lost a close relative during the attacks. Eleven (5.6%) reported being threatened or had experienced family members being threatened with a weapon, 11 (4.4%) confirmed that family members had been sexually assaulted *often* and seven (2.8%) declared experiencing sexual assault *very often*. Fourteen (8.2%) confirmed witnessing their household being set ablaze by the nomadic Fulani herdsmen. The results further reveled an association between PTSD, physical punishment, domestic violence, parental negativity, anti-social behavior, poverty and war experience, and girls reported significantly more symptoms of PTSD than boys.

The results demonstrate that exposure to these traumatic events contributes to PTSD among adolescents living in Southeast Nigeria. In addition, the study indicates the need for immediate proper treatment for these adolescents, to reduce the effect of their war trauma.

3.2 Study II: The Effect of Exposure to Armed Conflict on Depression as Mediated by Physical Punishment in Adolescents: A Study among Nigerian Adolescents

The purpose of the study was to examine the relationship between exposure to the Fulani herdsmen attacks, among Igbo adolescents in Southeastern Nigeria, in the form of armed conflict and symptoms of depression. In a conditional process analysis, it was examined whether physical punishment mediated, and gender moderated this relationship. The analysis was conducted on 385 adolescents from the second data collection.

The results of the analysis revealed a total effect of exposure to the Fulani herdsmen attacks on the adolescents' depressive symptoms ($\beta = .23_{[.13, .33]}$). The effect of exposure to the Fulani herdsmen conflict on depressive symptoms was partially mediated by physical punishment ($\beta = .05_{[.02, .09]}$). Thus, exposure to the Fulani herdsmen attacks was related to an increased level of depression, partly through the impact on physical punishment at home. In addition, there was a significant moderation effect by gender, so that the effect of exposure to the Fulani herdsmen attacks on depression via physical punishment was higher for girls than for boys. This means that physical punishment played a more prominent role for girls than for boys.

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

The purpose of the study was to examine the relationship between exposure to the Fulani herdsmen attacks among Igbo adolescents in Southeastern Nigeria and antisocial behavior. A mediation analysis was applied to examine whether physical punishment mediated the relationship. The sample was the same as in Study II (the second data collection).

There were no differences between girls and boys regarding the frequency of antisocial behavior and physical punishment at home. Girls and boys scored equally high on antisocial behavior. This result was surprising and not in line with previous research which suggests that boys engage in antisocial behavior more than girls (e.g., Belknap & Holsinger, 2006; Gardner et al., 2015; Trillo & Redondo, 2013). 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, the participants in the current study were Igbos, while the participants in the Makinde et al. study belonged to other tribes.

The results indicated that physical punishment mediated the effect of exposure to armed conflict on antisocial behavior, but weakly. 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.

4. Discussion

4.1 Summary of the Findings

Research Question 1, investigated in Study I, concerned to what extent the participants reported having had different types of war experiences. Of the 250 adolescents, 20.8% had lost someone close to them during the war, and 8.4% had themselves been injured. Nine percent had themselves injured someone during the war, and 5.2% had actually killed someone during the war. Three (1.8%) had been raped by an armed group, and two (1.2%) had been taken as a sex slave. The results indicate that the Fulani herdsmen attacks had a strongly negative impact on the adolescents.

Research Question 2, investigated in Study I, pertained to the question of to what extent PTSD and a number of other symptoms/behaviors among the participants occurred, and whether gender differences in this respect existed. In the current study, girls were found to show significantly more symptoms of PTSD than boys. Previous studies have established a strong link between exposure to trauma and PTSD symptoms, especially among females (American Psychiatric Association, 1994; Breslau et al., 1998; Kessler et al., 1995). The findings in the present study corroborate previous research.

Regarding the other dependent variables in Study I (physical punishment, domestic violence, parental negativity, and anti-social behavior), there were no gender differences. Girls and boys reported having experienced these issues equally much.

Research Question 3 concerned the connection between exposure to armed conflict and depressive symptoms. It was investigated in Study II. It was found that armed conflict may indeed increase adolescents' risk of developing depression. This finding is in accordance with prior research suggesting that children exposed to more frequent and/or severe armed conflict are likely to demonstrate higher levels of depressive symptoms (Gupta & Zimmer, 2008; Slone & Shoshani, 2010; Shaw, 2003).

Research Question 4 investigated whether exposure to armed conflict such as the Fulani herdsmen attacks was positively correlated with antisocial behavior. This issue was investigated in Study III. The findings corroborated previous research indicating an association between exposure to armed conflict and antisocial behavior (Gaias et al., 2019; McCouch, 2008).

Research Question 5 concerned the potential mediating effect of physical punishment at home on the effect of exposure to armed conflict on

adolescents' depression. In the current study, it was found that physical punishment at home was a significant mediator of the effect of exposure to armed conflict on depression. This finding is in line with previous research by Catani et al (2008) and Palosaari et al. (2013).

Research Question 6 concerned the potential mediating effect of physical punishment on the effect of exposure to armed conflict on antisocial behavior. It was found that physical punishment did indeed serve as a significant mediator. However, only five percent of the variance was explained by the mediation model; 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.

Research Question 7 investigated the potential moderating effect of gender on the effect of exposure to the Fulani herdsmen's attacks on adolescents' depression, mediated by physical punishment (Study II). The indirect effect of exposure to the Fulani herdsmen's attacks on depressive symptoms via physical punishment was moderated by gender, that is, it was higher for girls than for boys. However, the direct effect of exposure to the Fulani herdsmen conflict on depressive symptoms was higher for boys than for girls. This last finding was unexpected, and it is not in accordance with most prior research (Kimhi et al., 2010; Qouta et al., 2007), but it is in line with the findings of Betancourt et al. (2011).

Research Question 8 aimed at investigating the potential moderating effect of gender on the effect of exposure to the Fulani herdsmen's attacks on adolescents' antisocial behavior, mediated by physical punishment, in Study III. 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.

There were some unexpected results in the studies. In the second data collection (Studies II and III), girls reported a higher level of having experienced negative events during the Fulani herdsmen's attacks. Logically, boys should have experienced equally many as girls, as the questions included in the scale pertained to whether any of the respondents' family members had been threatened with a weapon, injured, sexually assaulted, tortured, or whether a family member had been killed in conjunction with the Fulani herdsmen's attacks. Such experiences should have been equally frequent among both genders. The finding could perhaps be explained by the

fact that girls run a risk of becoming sexually assaulted and raped, or becoming abducted to become a sex slave, a risk that boys do not experience, at least to the same extent. The fear of such experiences in girls may perhaps explain this finding.

Another unexpected finding was that 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, especially as it occurred within both data collections. Another explanation for the divergent result might be the existence of a response tendency within the current samples, either over-reporting by girls or under-reporting by boys.

A third unexpected finding was that there was no gender difference regarding experiences of physical punishment at home. This was the case in both the first data collection (Study I) and in the second one (Studies II and III). In general, boys report a higher frequency of exposure to physical punishment than girls (Darko et al., 2019; Österman et al., 2014; Straus & Stewart, 1999). The fact that the finding was made in both data collections suggests it to be valid. There seems to be no gender difference among the Igbo adolescents regarding experiences of physical punishment at home. The alternative explanation is a response tendency within the current samples.

4.2 Limitations of the Studies

The studies have certain limitations that should be noted. Above all, the design of Studies II and III 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 depression and antisocial behavior.

4.3 Implications of the Studies

Despite the limitations, the results of the studies suggest that exposure to the Fulani herdsmen attacks in Southeast region of Nigeria have contributed to symptoms of PTSD, depression, and antisocial behavior among adolescents exposed to these attacks. Since no previous studies of this kind could be found, the current thesis may hopefully serve as an eye-opener to the communities and the government of Nigeria. The types and frequencies of their traumatic experiences have been investigated. These findings highlight the need for the government to address the cause of violent attacks between Fulani herdsmen and the farming communities in Nigeria. In addition, the study indicates the need for immediate proper treatment for these adolescents, to reduce the effect of their war trauma. Societal institutions should organize activities to help families and adolescents to improve their mental health and overcome their trauma through various therapeutic and educational programs.

Interventions to reduce the use of physical punishment may be needed at homes, schools, and at community levels. UNICEF (2014) and the American Academy of Paediatrics (Sege et al., 2018) have called for the abolition of all forms of physical punishment. Consequently, the use of evidence-based interventions that aim to prevent and reduce physical punishment as well as community-based programs and public education to change attitudes and behavior around physical punishment are recommended (Gershoff et al., 2017). It is also important that those working with families and children are able to suggest the use of positive disciplinary measures, such as emotional warmth and support (Rohner, 2004; Rohner et al., 2008).

The results of the current thesis align with the global discussion on physical punishment (<https://endcorporalpunishment.org/>), suggesting that physical punishment may be harmful for children and adolescents everywhere and therefore also in Nigeria.

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

References

- Allwood, M. A., Bell-Dolan, D., & Husain, S. A. (2002). Children's trauma and adjustment reactions to violent and nonviolent war experiences. *Journal of the American Academy of Child & Adolescent Psychiatry, 41*(4) 450–457.
<https://doi.org/10.1097/00004583-200204000-00018>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders: DSM 5*. American Psychiatric Association.
- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders: DSM 5*. American Psychiatric Association.
- Anih, A. S., & Björkqvist, K. (2018). An analysis of the nomadic Fulani herdsman's violent attacks in Southeastern Nigeria, and their effects on adolescents. *Pyrex Journal of African Studies and Development, 4*(1), 1–8.
- Attanayake, V., McKay, R., Joffres, M., Singh, S., Burkle Jr, F., & Mills, E. (2009). Prevalence of mental disorders among children exposed to war: A systematic review of 7,920 children. *Medicine Conflict and Survival, 25*(1) 4–19.
<https://doi.org/10.1080/13623690802568913>
- Aucoin, K. J., Frick, P. J., & Bodin, S. D. (2006). Corporal punishment and child adjustment. *Journal of Applied Developmental Psychology, 27*(6), 527–541.
- Bacchini, D., Concetta Miranda, M., & Affuso, G. (2011). Effects of parental monitoring and exposure to community violence on antisocial behavior and anxiety/depression among adolescents. *Journal of Interpersonal Violence, 26*(2), 269–292.
- Bandura, A. (1973). *Aggression: A social learning analysis*. Prentice-Hall.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology, 52*(1), 1–26. doi:10.1146/annurev.psych.52.1.1
- Bandura, A., Ross, D., & Ross, S. A. (1963a). Transmission of aggression through imitation of aggressive models. *Journal of Abnormal and Social Psychology, 63*(3), 575–582.
- Bandura, A., Ross, D., & Ross, S. A. (1963b). Vicarious reinforcement and imitative learning. *Journal of Abnormal and Social Psychology, 67*(6), 601–607
- Barber, B. K. (1999). Political violence, family relations, and Palestinian youth functioning. *Journal of Adolescent Research, 14*(2), 206–230.
- Barber, B. K., & Schluterman, J. M. (2009). An overview of the

- empirical literature on adolescents and political violence. In B. K. Barber (Ed.), *Adolescents and war: How youth deal with political violence* (pp. 35–61). Oxford University Press.
- Baron, R. M., & Kenny, D. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and School Psychology*, 51, 1173–1182.
- Betancourt, T. S., Borisova, I. I., De la Soudiere, M., & Williamson, J. (2011). Sierra Leone's child soldiers: War exposures and mental health problems by gender. *Journal of Adolescent Health*, 49(1) 21–28.
<https://doi.org/10.1016/j.jadohealth.2010.09.021>
- Betancourt, T. S., Meyers-Ohki, M. S. E., Charrow, M. A. P., & Tol, W. A. (2013). Interventions for children affected by war: An ecological perspective on psychosocial support and mental health care. *Harvard Review of Psychiatry*, 21(2), 70–91.
<https://doi.org/10.1097/HRP.0b013e318283bf8f>
- Bello, A. U. (2013). Herdsmen and farmers conflicts in North-eastern Nigeria: Causes, repercussions and resolutions. *Academic Journal of Interdisciplinary Studies*, 2(5), 129–141.
- Belknap, J., & Holsinger, K. (2006). The gendered nature of risk factors for delinquency. *Feminist Criminology*, 1(1), 48–71.
- Binder, A. (1987). A historical and theoretical introduction. In H. C. Quay (Ed.), *Handbook of juvenile delinquency*, 1–33. John Wiley.
- Björkqvist, K. (1997). Learning aggression from models: From a social learning toward a cognitive theory of modeling. In S. Feshbach & J. Zagardoza (Eds.), *Aggression: Biological, developmental, and social perspectives*, 69–81. Plenum Press.
- Björkqvist, K., & Österman, K. (1992). Parental influence on children's self-estimated aggressiveness. *Aggressive Behavior*, 18(6), 411–423.
- Bob, U. (2010). Land-related conflicts in sub-Saharan Africa. *African Journal on conflict resolution*, 10(2), 11–22.
- Bordin, I. A., Handegård, B. H., Paula, C. S., Duarte, C. S., & Rønning, J. A. (2022). Home, school, and community violence exposure and emotional and conduct problems among low-income adolescents: the moderating role of age and sex. *Social Psychiatry and Psychiatric Epidemiology*, 57(1), 95–110.
- Breslau, N., Chilcoat, H. D., Kessler, R. C., Peterson, E. L., & Lucia, V. C. (1999). Vulnerability to assaultive violence: further specification of the sex difference in post-traumatic stress

- disorder. *Psychological Medicine*, 29(4), 813–821.
- Breslau, N. Kessler, R.C., Chilcoat, H.D., Schultz, L.R., Davis, G.C. & Andreski, P. (1998). Trauma and posttraumatic stress disorders in the community: The 1996 Detroit Area Survey of Trauma. *Archives of General Psychiatry*, 55(4), 626–632.
- Breslau, N., Wilcox, H. C., Storr, C. L., Lucia, V. C., & Anthony, J. C. (2004). Trauma exposure and posttraumatic stress disorder: a study of youths in urban America. *Journal of Urban Health*, 81(7), 530–544.
- Bronfenbrenner, U. (1974). Developmental research, public policy, and the ecology of childhood. *Child Development*, 45(1), 1–5.
- Burnette, M. L., Oshri, A., Lax, R., Richards, D., & Ragbeer, S. N. (2012). Pathways from harsh parenting to adolescent antisocial behavior: A multidomain test of gender moderation. *Development and Psychopathology*, 24(3), 857–870.
- Catani, C., Schauer, E., Elbert, T., Missmahl, I., Bette, J. P., & Neuner, F. (2009). War trauma, child labor, and family violence: Life adversities and PTSD in a sample of school children in Kabul. *Journal of Traumatic Stress*, 22(3), 163–171.
- Catani, C., Schauer, E., & Neuner, F. (2008). Beyond individual war trauma: Domestic violence against children in Afghanistan and Sri Lanka. *Journal of Marital and Family Therapy*, 34(2), 165–176.
<https://doi.org/10.1111/j.1752-0606.2008.00062.x>
- Center for Disease Control and Prevention National Center for Injury Prevention and Control. (2006).
<https://www.cdc.gov/violenceprevention/pdf/yv-factsheet508.pdf>
- Charlson, F., van Ommeren, M., Flaxman, A., Cornett, J., Whiteford, H. & Saxena, S. (2019). New WHO prevalence estimates of mental disorders in conflict settings: A systematic review and meta-analysis. *The Lancet*, 394(10194), 240–248.
[https://doi.org/10.1016/S0140-6736\(19\)30934-1](https://doi.org/10.1016/S0140-6736(19)30934-1)
- Chiang, L. F., Kress, H., Sumner, S. A., Gleckel, J., Kawemama, P. & Gordon, R. N. (2016). Violence Against Children Surveys (VACS): towards a global surveillance system. *Injury Prevention*, 22(1), 17–22.
<http://dx.doi.org/10.1136/injuryprev-2015-041820>
- Colman, A. M. (2008). *A dictionary of psychology*. Oxford: Oxford University Press
- Conway, A., McDonough, S. C., MacKenzie, M. J., Follett, C., & Sameroff, A. (2013). Stress-related changes in toddlers and their mothers following the attack of September 11. *American Journal of Orthopsychiatry*, 83(4), 536–544.

- Coulton, C. J., Crampton, D. S., Irwin, M., Spilsbury, J. C. & Korbin, J. E. (2007). How neighborhoods influence child maltreatment: A review of the literature and alternative pathways. *Child Abuse & Neglect*, 31 (12), 1117–1142. <https://doi.org/10.1016/j.chiabu.2007.03.023>
- Darko, G, Björkqvist, K. & Österman, K. (2019). Sex differences in the intergenerational transmission of harsh punishment of children in Ghana. *European Journal of Social Science, Education and Research*, 6(3), 104–111.
- Dearing, E., & Hamilton, L. C. (2006). Contemporary advances and classic advice for analyzing mediating and moderating variables. *Monographs of the Society for Research in Child Development*.
- Derogatis, L. R. (1975). *Brief Symptom Inventory*. Clinical Psychometric Research.
- Dollard, J., Doob, L. V., Miller, N. E., Mowrer, O. H., & Sears, R. R. (1939). *Frustration and Aggression*. Yale University Press.
- Duncan, R. D., Saunders, B. E., Kilpatrick, D. G., Hanson, R. F., & Resnick, H. S. (1996). Childhood physical assault as a risk factor for PTSD, depression, and substance abuse: Findings from a national survey. *American Journal of Orthopsychiatry*, 66(3), 437–448.
- Elgar, F. J., Donnelly, P. D., Michaelson, V., Gariépy, G., Riehm, K. E., Walsh, S. D., & Pickett, W. (2018). Corporal punishment bans and physical fighting in adolescents: an ecological study of 88 countries. *BMJ open*, 8(9), 210–218. <http://dx.doi.org/10.1136/bmjopen-2018-021616>
- End Corporal Punishment. (2023). <https://endcorporalpunishment.org/>
- Eniola, P. O., Adeleke, O. A., & Okanlawon, O. M. (2016). Effect of transhumance pastoralism on farming activities among crop farmers in Oke-Ogun area of Oyo State. *Nigerian Journal of Rural Sociology*, 16(2202-2019-1103), 45–50.
- Erondu, C. I., & Nwakanma, E. (2018). New dimensions of the farmers and herdsman crisis in Nigeria and the implications for development. *African Research Review*, 12(4), 16–27.
- European Commission. (2016). Data protection. Rules for the protection of personal data inside and outside the EU. https://ec.europa.eu/info/law/law-topic/data-protection_en
- Evans, S. Z., Simons, L. G., & Simons, R. L. (2012). The effect of corporal punishment and verbal abuse on delinquency: Mediating mechanisms. *Journal of Youth and Adolescence*, 41(8), 1095–1110.

- Famularo, R., Fenton, T., Kinscherff, R., Ayoub, C., & Barnum, R. (1994). Maternal and child posttraumatic stress disorder in cases of child maltreatment. *Child Abuse & Neglect*, 18(1), 27-36.
- Gardner, F., Waller, R., Maughan, B., Cluver, L., & Boyes, M. (2015). What are the risk factors for antisocial behavior among low-income youth in Cape Town? *Social Development*, 24(4), 798-814.
- Ghomrawi, H. M., Mandl, L. A., Rutledge, J., Alexiades, M. M., & Mazumdar, M. (2011). Is there a role for expectation maximization imputation in addressing missing data in research using WOMAC questionnaire? Comparison to the standard mean approach and a tutorial. *BMC Musculoskeletal Disorders*, 12(1) 1-7. <https://doi.org/10.1186/1471-2474-12-109>
- Giacaman, R., Abu-Rmeileh, N. M., Husseini, A., Saab, H., & Boyce, W. (2007). Humiliation: The invisible trauma of war for Palestinian youth. *Public Health*, 121(8), 563-571.
- Gaias, L. M., Lindstrom Johnson, S., White, R. M., Pettigrew, J., & Dumka, L. (2019). Positive school climate as a moderator of violence exposure for Colombian adolescents. *American Journal of Community Psychology*, 63(1-2), 17-31
- Gershoff, E. T., Lee, S. J., & Durrant, J. E. (2017). Promising intervention strategies to reduce parents' use of physical punishment. *Child Abuse & Neglect*, 71(2), 9-23.
- Gershoff, E. T. (2013). Spanking and child development: We know enough now to stop hitting our children. *Child Development Perspectives*, 7(3), 133-137.
- Giacaman, R., Shannon, H. S., Saab, H., Arya, N. & Boyce, W. (2007). Individual and collective exposure to political violence: Palestinian adolescents coping with conflict. *The European Journal of Public Health*, 17(4), 361-368. <https://doi.org/10.1093/eurpub/ckl260>
- Gleditsch, N. P., Wallensteen, P., Eriksson, M., Sollenberg, M., & Strand, H. (2002). Armed conflict 1946-2001: A new dataset. *Journal of Peace Research*, 39(5), 615-637.
- Grogan-Kaylor, A., & Otis, M. D. (2007). The predictors of parental use of corporal punishment. *Family Relations*, 56(1), 80-91.
- Gorman-Smith, D., Henry, D. B., & Tolan, P. H. (2004). Exposure to community violence and violence perpetration: The protective effects of family functioning. *Journal of Clinical Child and Adolescent Psychology*, 33(3), 439-449.
- Gupta, L. & Zimmer, C. (2008). Psychosocial intervention for war-

- affected children in Sierra Leone. *The British Journal of Psychiatry*, 192(3), 212–216. <https://doi.org/10.1192/bj.p.bp.107.038182>
- Haro, G. O., Doyo, G. J., & McPeak, J. G. (2005). Linkages between community, environmental, and conflict management: Experiences from Northern Kenya. *World Development*, 33(2), 285–299.
- Hayes, A. F. (2018). Partial, conditional, and moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85(1), 4–40.
- Hayes, A. F., Montoya, A. K. & Rockwood, N. J. (2017). The analysis of mechanisms and their contingencies: PROCESS versus structural equation modelling. *Australasian Marketing Journal (AMJ)*, 25(1), 76–81.
- Hong, J. S., Huang, H., Golden, M., Upton Patton, D., & Washington, T. (2014). Are community violence-exposed youth at risk of engaging in delinquent behavior? A review and implications for residential treatment research and practice. *Residential Treatment for Children & Youth*, 31(4), 266–283.
- Huesmann, L. R. (1986). Psychological processes promoting the relation between exposure to media violence and aggressive behavior by the viewer. *Journal of Social Issues*, 42(3), 125–139.
- doi:10.1111/j.1540-4560.1986.tb00246.x. [17]
- Hurt, H., Malmud, E., Brodsky, N. L., & Giannetta, J. (2001). Exposure to violence: Psychological and academic correlates in child witnesses. *Archives of Pediatrics & Adolescent Medicine*, 155(12), 1351–1356.
- Jegede, T. O., Tunde-Ayinmode, M. F., Jegede, T. O., Aloba, O. O., & Alimi, T. I. (2022). Adolescent bullying and Big-Five personality traits among in-school adolescents in Ilesa, Nigeria. *International Journal of Bullying Prevention*, 13(5), 1–9.
- Johnson, I., & Olaniyan, A. (2017). The politics of renewed quest for a Biafra Republic in Nigeria. *Defense & Security Analysis*, 33(4), 320–332.
- Levesque, R. J. (1994). Sexual use, abuse and exploitation of children: Challenges in implementing children's human rights. *Brooklyn Law Review* 60(3), 959–998
- Kadir, A., Shenoda, S., & Goldhagen, J. (2019). Effects of armed conflict on child health and development: a systematic review. *PLoS One*, 14(1), 109–118
- Kerig, P. K., Ward, R. M., Vanderzee, K. L., & Arnzen Moeddel, M. (2009). Posttraumatic stress as a mediator of the relationship between trauma and mental health problems among juvenile

- delinquents. *Journal of Youth and Adolescence*, 38(2) 1214–1225.
- Kessler, R. C., Sonnega, A., Bromet, E., Hughes, M., & Nelson, C. B. (1995). Posttraumatic stress disorder in the National Comorbidity Survey. *Archives of general psychiatry*, 52(12), 1048–1060.
- Kim, S., Eshel, Y., Zysberg, L. & Hantman, S. (2010). Postwar winners and losers in the long run: Determinants of war related stress symptoms and posttraumatic growth. *Community Mental Health Journal*, 46(1), 10–19.
<https://doi.org/10.1007/s10597-009-9183-x>
- Kimhi, S., Eshel, Y., Zysberg, L. & Hantman, S. (2010). Postwar winners and losers in the long run: Determinants of war related stress symptoms and posttraumatic growth. *Community Mental Health Journal*, 46(1), 10–19.
<https://doi.org/10.1007/s10597-009-9183-x>
- Krug, E. G., Mercy, J. A., Dahlberg, L. L., & Zwi, A. B. (2002). The world report on violence and health. *The Lancet*, 360(9339), 1083–1088.
- Ma, J. & Grogan-Kaylor, A. (2017). Longitudinal associations of neighbourhood collective efficacy and maternal corporal punishment with behaviour problems in early childhood. *Developmental Psychology*, 53(6), 1027–1041.
<https://doi.org/10.1037/dev0000308>
- 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(16), 1–9.
<https://doi.org/10.1017/gmh.2016.10>
- Marietu, E. T., & Olarewaju, O. I. (2009). Resource conflict among farmers and Fulani herdsmen: Implications for resource sustainability. *African Journal of Political Science and International Relations*, 3(4) 360–366
- Martinez, P., & Richters, J. E. (1993). The NIMH community violence project: II. Children's distress symptoms associated with violence exposure. *Psychiatry*, 56(1), 22–35.
- Mazefsky, C. A., & Farrell, A. D. (2005). The role of witnessing violence, peer provocation, family support, and parenting practices in the aggressive behavior of rural adolescents. *Journal of Child and Family Studies*, 14(1), 71–85.
- McCoy, D. C. (2013). Early violence exposure and self-regulatory development: A bioecological systems perspective. *Human Development*, 56(4), 254–273.
- McCouch, R. J. (2008). The effects of wartime violence on young Bosnians' postwar behaviors: Policy contours for the reconstruction period. In B.K.

- Barber (Ed.), *Adolescents and war: How youth deal with political violence* (pp. 121– 129). Oxford University Press.
- Millichamp, J., Martin, J. & Langley, J. (2006). On the receiving end: Young adults describe their parents' use of physical punishment and other disciplinary measures during childhood. *New Zealand Medical Journal*, 119(1228) 13–26.
- Moeddel, M. (2009). Posttraumatic stress as a mediator of the relationship between trauma and mental health problems among juvenile delinquents. *Journal of youth and adolescence*, 38(8) 1214–1225.
- Mur, A. O. (2001). Pastoralism ecological environment and livestock house. *A report submitted to African Economic Research Conservation (AERC), Nairobi, Kenya*.
- Muldoon, O. T. & Trew, K. (2000). Children's experience and adjustment to political conflict in Northern Ireland. *Peace and Conflict: The Journal of Peace Psychology*, 6(2), 157–176.
- Mulder, E., Brand, E., Bullens, R., & Van Marle, H. (2011). Risk factors for overall recidivism and severity of recidivism in serious juvenile offenders. *International Journal of Offender Therapy and Comparative Criminology*, 55(1), 118–135.
- Muldoon, O. T., & Trew, K. (2000). Children's experience and adjustment to political conflict in Northern Ireland. *Peace and Conflict: The Journal of Peace Psychology*, 6(2), 157–176.
- Ney, P. G., Fung, T., & Wickett, A. R. (1994). The worst combinations of child abuse and neglect. *Child Abuse & Neglect*, 18(7), 705–714.
- Norris, F. H., Friedman, M. J. & Watson, P. J. (2002). 60,000 disaster victims speak: Part II. Summary and implications of the disaster mental health research. *Psychiatry*, 65(3), 240–260.
<https://doi.org/10.1521/psyc.65.3.240.20169>
- Österman, K., Björkqvist, K., & Wahlbeck, K. (2014). Twenty-eight years after the complete ban on the physical punishment of children in Finland: Trends and psychosocial concomitants. *Aggressive Behavior*, 40(6), 568–581.
<https://doi.org/10.1002/ab.21537>
- Österman, K., & Björkqvist, K. (2007). *Brief Physical Punishment Scale*. Åbo Akademi University.
- Odoh, S. I., & Chilaka, F. C. (2012). Climate change and conflict in Nigeria: A theoretical and empirical examination of the worsening incidence of conflict between Fulani herdsmen and farmers in Northern Nigeria. *Oman Chapter of Arabian Journal of Business and Management Review*, 34(970), 1–15.

- Olaoye, O. A. (2014). Potentials of the agro industry towards achieving food security in Nigeria and Other Sub-Saharan African Countries. *Journal of Food Security*, 2(1), 33-41.
- Okafor, J. C., & Fernandes, E. C. (1987). Compound farms of southeastern Nigeria. *Agroforestry Systems*, 5(12), 153-168.
- Oladeji, B. D., Makanjuola, V. A., & Gureje, O. (2010). Family-related adverse childhood experiences as risk factors for psychiatric disorders in Nigeria. *The British Journal of Psychiatry*, 196(3), 186-191.
- Oni, A. A. (2009). Citadel of violence: effect and control of cult activities on students' social adjustment in Nigeria. *African Journal of Crime & Criminal Justice (AJCJ)*, 1(1), 257-275.
- Patricia, J. O. (2001). Arid human ecological livestock production activities. *IFPRI Research Journals*, 2(3), 85-91
- Palosaari, E., Punamäki, R. L., Qouta, S. & Diab, M. (2013). Intergenerational effects of war trauma among Palestinian families mediated via psychological maltreatment. *Child Abuse & Neglect*, 37(11), 955-968. <https://doi.org/10.1016/j.chiabu.2013.04.006>
- Pierre, C. L., Burnside, A., & Gaylord-Harden, N. K. (2020). A longitudinal examination of community violence exposure, school belongingness, and mental health among African-american adolescent males. *School Mental Health*, 12(2), 388-399.
- 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.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.
- Reijntjes, A., Kamphuis, J. H., Prinzie, P., Boelen, P. A., Van der Schoot, M., & Telch, M. J. (2011). Prospective linkages between peer victimization and externalizing problems in children: A meta-analysis. *Aggressive Behavior*, 37(3), 215-222.
- Renner, M., Pianta, M., Franchi, C. (1991). International conflict and environmental degradation. In R. Väyrynen (Ed.), *New directions in conflict theory: Conflict Resolution and Conflict Transformation* 108-128. SAGE.
- Ruchkin, V., Henrich, C. C., Jones, S. M., Vermeiren, R., & Schwab-Stone, M. (2007). Violence exposure and psychopathology in urban youth: The mediating role

- of posttraumatic stress. *Journal of Abnormal Child Psychology*, 35(6), 578-593.
- Rohner, R. P., Khaleque, A., & Cournoyer, D. E. (2005). Parental acceptance-rejection: Theory, methods, cross-cultural evidence, and implications. *Ethos*, 33(3), 299-334.
- Rohner, R. P. (2004). The parental "acceptance-rejection syndrome": Universal correlates of perceived rejection. *American Psychologist*, 59(8), 830-840.
- Salami, S. O. (2010). Moderating effects of resilience, self-esteem and social support on adolescents' reactions to violence. *Asian Social Science*, 6(2), 101-112.
- Sampson, R. J., Morenoff, J. D. & Gannon-Rowley, T. (2002). Assessing neighbourhood effects: Social processes and new directions in research. *Annual Review of Sociology*, 12(2), 443-478.
- Sege, R. D., & Siegel, B. S. (2018). Effective discipline to raise healthy children. *Pediatrics*, 142(6), 81-91.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13(4), 290-312.
- Shaw, J. A. (2003). Children exposed to war/terrorism. *Clinical Child and Family Psychology Review*, 6(4), 237-246.
- <https://doi.org/10.1023/B:CCFP.0000006291.10180.bd>
- Shenoda, S., Kadir, A., & Goldhagen, J. (2015). Children and armed conflict. *Pediatrics*, 136(15), 309-311.
- Siegfried, C. B., Ko, S. J., & Kelley, A. (2004). Victimization and juvenile offending. *National Child Traumatic Stress Network*, 15(3), 12-22.
- Slone, M., & Shechner, T. (2009). Psychiatric consequences for Israeli adolescents of protracted political violence: 1998-2004. *Journal of Child Psychology and Psychiatry*, 50(3), 280-289. <https://doi.org/10.1111/j.1469-7610.2008.01940.x>
- Slone, M., & Mayer, Y. (2015). Gender differences in mental health consequences of exposure to political violence among Israeli adolescents. *Children and Youth Services Review*, 58(2), 170-178.
- Slone, M. & Shoshani, A. (2010). Prevention rather than cure? Primary or secondary intervention for dealing with media exposure to terrorism. *Journal of Counseling & Development*, 88(4), 440-448.
- Slone, M., & Mann, S. (2016). Effects of war, terrorism and armed conflict on young children: A systematic review. *Child Psychiatry & Human Development*, 47(6), 950-965.
- Snyder, J., McEachern, A., Schrepferman, L., Zettle, R.,

- Johnson, K., Swink, N., & McAlpine, C. (2006). Rule-governance, correspondence training, and discrimination learning: A developmental analysis of covert conduct problems. *Journal of Speech and Language Pathology–Applied Behavior Analysis*, 1(1), 43–54.
- Sobel, M. E. (1982). Asymptotic intervals for indirect effects in structural equations models. In S. Leinhardt (Ed.), *Sociological Methodology* 290–312. American Sociological Association
- Thabet, A. A., Abed, Y. & Vostanis, P. (2002). Emotional problems in Palestinian children living in a war zone: A cross-sectional study. *The Lancet*, 359(9320), 1801–1804. [https://doi.org/10.1016/S0140-6736\(02\)08709-3](https://doi.org/10.1016/S0140-6736(02)08709-3)
- Trillo, V. M., & Redondo, L. M. (2013). The role of gender identity in adolescents' antisocial behavior. *Psicothema*, 25(4), 507–513.
- Turner, H. A. & Muller, P. A. (2004). Long-term effects of child physical punishment on depressive symptoms in young adults: Potential moderators and mediators. *Journal of Family Issues*, 25 (12), 761–782. <https://doi.org/10.1177/0192513x03258313>
- Ugoji, F. N. (2009). Parental marital status, religion and the media as predictors of sexual behaviors of female secondary school students in Nigeria. *African Journal of Educational and Developmental Studies*, 6(1), 102-120.
- UNICEF. (1989). *Children on the Front Line: The Impact of Apartheid, Destabilization and Warfare on Children in Southern and South Africa: 1989 Update with New Section on Namibia*. United Nations Children's Fund.
- UNICEF. (2014). *Hidden in plain sight A statistical analysis of violence against children*. United Nations Children's Fund. file:///C:/Users/OWNER/Downloads/Hidden-in-Plain-Sight-Statistical-Analysis-Summary_EN.pdf
- VandenBos, G. R. (2007). *APA dictionary of psychology*. American Psychological Association.
- Wakefield, J. C., Pottick, K. J., & Kirk, S. A. (2002). Should the DSM-IV diagnostic criteria for conduct disorder consider social context? *American Journal of Psychiatry*, 159(3), 380–386.
- Wang, M. T. & Kenny, S. (2014). Parental physical punishment and adolescent adjustment: Bidirectionality and the moderation effects of child ethnicity and parental warmth. *Journal of Abnormal Child Psychology*, 42(5), 717–730. <https://doi.org/10.1007/s10802-013-9827-8>

World Health Organization. (2020).
*Global status report on preventing
violence against children 2020.*
<https://www.unicef.org/sites/default/files/2020-06/Global-status-report-on-preventing-violence-against-children-2020.pdf>

World Medical Association. (2013).
Declaration of Helsinki: Ethical
principles for medical research
involving human subjects. *JAMA*,
310(20), 2191–2194.
<https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

Anthony Sopuruchi Anih

Predictors of Igbo Adolescents' Well-being and Behavioral Problems in Southeastern Nigeria: Exposure to Armed Conflict and Physical Punishment at Home

The overall aim of this thesis was to investigate the mental well-being and behavioral problems among Igbo adolescents in Southeastern Nigeria, living in an environment of constant armed conflict in the form of violent attacks from Fulani herdsmen. It was accomplished by investigating two samples of Igbo adolescents.

In the first sample consisting of 250 adolescents, 20.8% had lost someone close to them during the war, and 8.4% had themselves been injured. Nine percent had themselves injured someone during the war, and 5.2% had actually killed someone during the war. Three (1.8%) had been raped by an armed group, and two (1.2%) had been taken as a sex slave. Girls showed higher levels of PTSD than boys.

The second sample consisted of 385 different adolescents from the same area. The data were analyzed with mediation analysis. The outcome variables were depression and antisocial behavior, and it was examined whether the effect of exposure to armed conflict in the form of the Fulani herdsmen attacks on the outcome variables was partially mediated by physical punishment at home. This was found to be the case.