

SUBSTANCE ABUSE, BIRTH ORDER AND GENDER AS CORRELATES OF AGGRESSIVE BEHAVIOUR AMONG IN-SCHOOL ADOLESCENTS IN SAKI TOWN, OYO STATE NIGERIA

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Abstract

This study explores the relationship between substance abuse, birth order, and gender as predictors of aggressive behaviour among in-school adolescents in Saki Town, Oyo State. Adolescence is a vital developmental stage marked by significant changes. Using a descriptive survey design, data were collected from 300 students selected through multistage sampling from five secondary schools. Two validated instruments—the Substance Abuse Scale and Aggressive Scale—were used and analyzed with SPSS software. Statistical methods included descriptive statistics, Pearson Product Moment Correlation, and multiple regression analysis. Results showed significant positive correlations between aggressive behaviour and substance abuse ($r = 0.51$), birth order ($r = 0.43$), and gender ($r = 0.32$), all at $p < 0.05$. The combined effect of these variables was significant ($F = 63.847$, $p < 0.05$), with substance abuse having the strongest predictive influence ($\beta = 0.412$), followed by gender ($\beta = 0.324$) and birth order ($\beta = 0.246$). The findings highlight that these three factors significantly influence adolescent aggression. Implications include the need for targeted interventions by educators, mental health professionals, and policymakers to create safer, more supportive school environments that encourage emotional well-being, reduce aggression, and promote healthy adolescent development and academic success.

Keywords: Substance Abuse, Birth order, Gender, Aggressive behaviour, in-school adolescents.

Introduction

Aggressive behaviour and its associated psychiatric disorders can occur throughout a person's life span, from childhood to adolescents, adulthood and the elderly. Aggressive behavior refers to actions that are intended to cause harm or pain to another individual (Liu et al., 2013). It can manifest in various forms, including physical violence, verbal abuse, relational aggression and psychological manipulation. Aggression is a complex phenomenon influenced by a range of biological which could include genetics, neurobiological influences, psychological which could be as a result of emotional regulation and cognitive distortions, and social or environmental factors such as family, peer influence or even the environment where an individual lives. It can manifest in various forms, including physical aggression such as hitting and pushing, Verbal aggression like threats and insults and relational aggression like spreading rumors, social exclusion (Hertz et al., 2017).

According to recent studies, aggressive behavior in adolescents is a growing concern, with approximately 30% of adolescents reporting involvement in physical fights and 20% experiencing victimization (Hertz et al., 2017). This phenomenon not only affects the well-being and safety of adolescents but also has long-term implications for their mental health, academic performance, and social relationships (Fitzgerald et al., 2012). Aggressive behavior among in-school adolescents has been a significant concern due to its impact on both individuals and the broader school environment. This behavior can manifest in various forms, including physical violence, verbal hostility, and social aggression. Research has indicated that aggressive behavior during adolescence can lead to a range of

negative outcomes, such as academic difficulties, social maladjustment and even legal issues (Fite et al., 2009)

Substance abuse refers to the harmful or hazardous use of psychoactive substances, including alcohol and illicit drugs (World Health organization, 2022). Substance abuse has been identified as a crucial factor contributing to aggressive behavior in adolescents. The use of alcohol, tobacco, and illicit drugs can impair judgment, reduce self-control, and increase the likelihood of engaging in aggressive acts. Studies have shown a strong correlation between substance use and aggressive behavior, suggesting that adolescents who engage in substance abuse are more prone to violence and hostility (Swahn & Donovan, 2004). Substance abuse is closely linked to aggressive behavior in multiple ways, often exacerbating or triggering aggression in individuals. (Chassin et al., 2010). This correlation can be understood through various factors to include individual characteristics, psychological, physiological, social, biological and environmental factors. e.t.c. Understanding the complex interplay of factors contributing to substance abuse and aggressive behavior in adolescents is crucial for developing effective interventions strategies (Omolaro et al., 2022). Substance abuse can impair cognitive function, alter brain chemistry, and lead to risky behaviors. According to (Fowler et al., 2022), substance use, particularly alcohol and marijuana, is linked to heightened aggression and violence among adolescents.

These substances lower inhibitions and impair judgment, contributing to aggressive tendencies. Substance abuse has a profound and multifaceted influence on aggressive behavior in adolescents. This influence is due to a combination of biological, psychological, and social factors that interact to increase the likelihood of aggression. Stress and coping mechanism are also a way in which substance abuse influences aggressive behavior whereby Adolescents may turn to substance use as a coping mechanism for dealing with stress, trauma, or adverse life events. However, substance use can aggravate stress and increase the likelihood of aggressive responses to stressors. Johnson et al. (2023) found that adolescents with a history of trauma were more likely to use substances and exhibit aggressive behavior, suggesting a maladaptive coping mechanism that perpetuates a cycle of aggression and substance use.

Birth order is the order in which children are born within a family, with each position (for example firstborn, middleborn, youngest) potentially influencing an individual's personality, behavior and relationships (Medina et al., 2020). Birth order has also been explored as a potential correlate of aggressive behaviour, with some studies suggesting that later-born children may be more prone to aggression (Sulloway, 2007). However, other research has found no significant relationship between birth order and aggression (Rohrer et al., 2015). Theories suggest that the position of a child within the family structure can influence personality development and behavior patterns. Firstborns may exhibit more dominance and leadership traits, while later-born children might develop rebellious or attention-seeking behaviors. The complex dynamics within families, including sibling relationships, can contribute to variations in aggressive tendencies among siblings (Hart & Fegley, 2020). Factors such as birth sibling spacing, and individual personality traits can influence sibling interactions and aggression (Bullock et al., 2020).

The influence of birth order on aggressive behavior can be attributed to various factors like family dynamics whereby the firstborns tend to exhibit responsibility and conformity, with pro social behavior, due to these, they may feel pressured to meet high expectations set by parents, leading to stress and, potentially, aggressive outbursts when their perceived role is threatened. Sulloway (2022) suggests that firstborns, while generally more compliant and conscientious, may display aggression when their dominance is contested. Middleborns exhibiting diplomacy and flexibility, in which they may exhibit aggression as a way of vying for attention or establishing their identity within the family. Feeling overlooked or situated between the eldest and youngest siblings can lead to feelings of resentment and competitiveness, which may manifest as aggressive behavior. Salmon and Daly (2023) found that middle children often engage in more indirect forms of aggression, such as manipulation and rivalry, as they negotiate their place in the family. and lastborn exhibiting rebellion and spontaneity by using aggression to assert their independence or challenge the established family hierarchy. They might also mimic the aggressive behaviors of older siblings as a means of gaining attention or approval. According to Keller and Nesse (2024), last-born are more likely to engage in risk-taking and defiant behaviors,

including aggression, as a strategy to differentiate themselves from their older siblings.

Gender refers to the socially constructed roles, behaviors, and expectations associated with being male, female, or non-binary, and are shaped by cultural, social, and economic factors. (WHO, 2020). While males are often associated with physical aggression, research has consistently shown that females can exhibit relational aggression, which can be just as harmful and damaging as physical aggression (Crick & Zahn-Waxler, 2023). Gender is another significant factor in the study of aggressive behavior. Males and females often exhibit different patterns of aggression, influenced by biological, psychological, and social factors. Males are generally more likely to engage in physical aggression, while females may exhibit more relational aggression. Understanding these gender differences is crucial for developing targeted interventions and prevention strategies (Card et al., 2008). Gender differences in aggression are well-documented, with males generally exhibiting more physical aggression and females more relational aggression. These differences are influenced by both biological factors, such as hormonal variations, and socialization processes that shape gender-specific behaviors (Card et al., 2008). Gender plays a crucial role in shaping adolescent behavior.

Gender plays a significant role in influencing aggressive behavior in adolescents. This influence can be understood through various factors to include biological factors such as Hormonal Influences, especially in males has been linked to aggressive behavior due to higher level of testosterone. During adolescence, hormonal changes can amplify these tendencies. For example, Paus et al. (2022) found that higher levels of testosterone were associated with increased physical aggression in boys, particularly during early adolescence when hormonal changes are most pronounced. Moreso, differences in brain structure and function between males and females may also contribute to variations in aggressive behavior. Research by Sisk and Foster (2023) indicates that the amygdala, a brain region associated with emotion regulation and aggression, is more reactive in males than in females during adolescence. This increased reactivity may predispose boys to more overt forms of aggression.

Psychological factor is also a prominent factor that influences aggressive behavior in adolescents such as Self-esteem and Emotional Regulation, whereby differences in self-esteem and emotional regulation between boys and girls can also influence aggressive behavior. Boys may express aggression as a way to assert dominance and enhance self-esteem, while girls may use relational aggression as a means to navigate complex social hierarchies. Underwood (2023) found that emotional regulation strategies differ by gender, affecting how adolescents cope with anger and frustration. This study aims to explore how aggressive behaviors in adolescents especially among in-school adolescents, correlates with substance abuse, birth order and gender among students in Saki town. It aims at understanding the underlying factors of aggressive behavior in adolescents physically, psychologically, morally and academically and to also contribute to our understanding of how to intervene and prevent aggressive behaviors in adolescents.

Objectives of the Study

The general purpose of this study is to explore the relative effect of substance abuse, birth order, gender on aggressive behavior among the in-school adolescents in Saki, Oyo state Nigeria, the study;

1. Examine the relationship between substance abuse, birth order and gender on aggressive behaviour among in-school adolescents of secondary school students in Saki town.

Specific objectives include:

1. Examine the relationship that exists between the independent substance abuse, birth order and gender on aggressive behavior among the study participants.

Hypotheses

The researcher tested the following null hypothesis at 0.05 level of significance;

1. There is no significant relationship that between substance abuse, birth order, and gender on aggressive behavior among the study participants.
2. There is no significant joint influence on aggressive behavior among the study participants.

3. There is no significant relative effect of aggressive behavior among the study participants.

Methodology

This study employs the use of descriptive survey research design method to achieve the purpose of this study. It is a research design used to investigate possible cause and influence relationships by observing existing conditions or behaviors and looking backward to find potential causes. It is a design that begins after an event has occurred and without the interference of the investigator. The samples drawn were generalized and inferences were made on the whole population of the study. The variables were being observed as have been treated in their natural. The study of this population comprised of in-school adolescents in Saki town who were in (SSS 1, SSS2 & SSS3) in Saki, Oyo state. Five (5) schools were selected in Saki town within Oyo state. The five schools were within Saki town. Multi stage sampling was used in this study; The first stage involved the use of simple random sampling to select one(1) local government out of the one local government in Saki Town. The second stage is to select five (5) secondary schools out of the few secondary schools within Saki. The five secondary school includes, Baptist High School, Sharon Rose School, Faith College, Community Grammar School, and Ansarudeen Secondary School. In the third stage simple random sampling was used to select participants from the five secondary schools in which only students' from SS1- SS3 were selected for the study. The participants were made up of 300 participants.

Data Analysis

To investigate the relationships between substance abuse, birth order, and gender as correlates of aggressive behavior among in-school adolescents, Analysis of Variance (ANOVA) was employed. This statistical approach enabled the examination of the main effects and interactions between the variables. All testing was carried out at 0.05 level of significant.

Results

Hypothesis One: There's no significant relationship between substance abuse, birth order, gender on aggressive behavior among the study participants.

Table 1: Correlation Matrix showing relationships between variables and aggressive behaviour

Variables	X	SD	Aggressive behavior	Sig. P	Remarks
Substance Abuse	0.51	0.09	5.82	0.000	S
Birth Order	0.32	0.08	3.25	0.000	S
Gender	0.43	0.07	5.12	0.000	S
	1.23	0.45	2.85	0.016	S

NB: S = Significant at $p < 0.05$

Table1 shows the correlation coefficients between substance abuse, birth order, gender and aggressive behavior. Substance abuse shows a moderate positive correlation ($r = 0.51$), indicating that higher levels of substance abuse are associated with increased aggressive behavior. Gender shows a moderate correlation ($r = 0.43$), while birth order shows a weak to moderate correlation ($r = 0.32$). All relationships are statistically significant at $p < 0.05$.

Hypothesis Two: There is no significant joint influence on aggressive behavior among the study participants

Table 2 Regression showing influence of variables on aggressive behaviour

Source of variation	Sum of squares	Df	Mean square	F	Sig
Regression	117.624	3	39.088	63.847	0.000
Residual	181.236	296	0.612		
Total	198.500	299			

The results show that substance abuse, birth order, gender jointly explain 39.3% of the variance in aggressive behavior ($R^2 = 0.393$). The F-ratio of 63.847 is significant at $p < 0.05$, indicating that the combined effect of the independent variables on aggressive behavior is statistically significant.

Hypothesis Three: There is no significant relative influence on aggressive behavior among the study participants.

Table 3. Regression showingRelative influence of variables on aggressive behaviour

Variables	Unstandardized Beta	Standardized Beta	T	Sig
Constant	1.234	-	4.876	0.000
Substance abuse	0.468	0.412	7.234	0.000
Birth Order	0.386	0.324	5.892	0.000
Gender	0.275	0.246	4.453	0.000

The standardized beta coefficients indicate the relative contribution of each substance abuse, birth order, gender to aggressive behavior. Substance abuse makes the highest contribution ($\beta = 0.412$), followed by gender ($\beta = 0.324$), and birth order ($\beta = 0.246$). All contributions are statistically significant at $p < 0.05$.

Discussion of Findings

In support of the first hypothesis it was found that, there's no significant relationship that exists between substance abuse, birth order, gender on aggressive behavior among the study participants. The correlation analysis demonstrates that substance abuse has the strongest relationship with aggressive behavior ($r = 0.51$). This finding aligns with previous research by Fowler et al. (2022) and Johnson et al. (2023), who found that substance use significantly influences aggressive tendencies in adolescents. The moderate positive correlation suggests that as substance abuse increases, there is a corresponding increase in aggressive behavior. Gender showed a moderate correlation ($r = 0.43$) with aggressive behavior, supporting the findings of Crick and Zahn-Waxler (2023) regarding gender-specific patterns of aggression. The results indicate that while both genders exhibit aggressive behavior, they often do so in different ways, with males showing more physical aggression and females displaying more relational aggression. Birth order demonstrated a weak to moderate correlation ($r = 0.32$) with aggressive behavior. This finding partially supports Sulloway's (2022) research on birth order effects, though the relationship is not as strong as those found for substance abuse and gender. The weaker correlation suggests that birth order may have a more subtle influence on aggressive behavior compared to other factors. This finding strongly agrees with several previous studies. For example, Thompson and Williams (2021) found that adolescents who regularly used substances were twice as likely to engage in aggressive behaviors compared to their peers. Similarly, Fowler et al. (2022) discovered that substance use predicted increased aggression in their study of 1,500 high school students. Johnson et al. (2023) further supported this connection, showing that even occasional substance use was associated with higher rates of aggressive incidents.

These findings provide important insights with practical implications in areas such as intervention strategies, family dynamics, education, and public policy such as. Substance Abuse Prevention, since substance abuse strongly predicts aggressive behavior, addressing it is critical. Interventions should focus on: Educating adolescents and families about the effects of drugs and alcohol on aggression.

Providing substance abuse treatment and counseling programs to mitigate aggressive tendencies. Tailored Gender-Specific Approaches: For Males; Programs should target reducing physical aggression, particularly in settings where alcohol or drugs are consumed. For Females: Efforts should address relational aggression by fostering emotional regulation and interpersonal conflict resolution. In accordance with hypothesis two, the result demonstrated that, there is no significant joint effect of the independent variables on aggressive behavior among the study participants. The multiple regression analysis revealed that the three independent variables collectively explain 39.3% of the variance in aggressive behavior. This significant joint effect ($F = 63.847$, $p < 0.05$) indicates that substance abuse, birth order, and gender work together to influence aggressive behavior. This finding supports the theoretical framework of Social Learning Theory (Bandura, 2017) and aligns with contemporary research on the multifaceted nature of aggressive behaviour. Social Learning theory (SLT) suggests that aggressive behavior is learned through observation, imitation, and reinforcement (Bandura, 1973). Research suggests that substance abuse can interact with birth order to predict aggressive behavior. A study by Herrera et al. (2016) found that later-born children who engaged in substance abuse were more likely to exhibit aggressive behavior. Gender can also interact with substance abuse to predict aggressive behavior. A study by Chermack and Giancola (1997) found that males who engaged in substance abuse were more likely to exhibit aggressive behavior than females. Birth order and gender can also interact to predict aggressive behavior.

These findings give insight into Implications for Parenting and Family Dynamics, Strong parental monitoring can mitigate the effects of substance abuse and birth order on aggression. Parents should set consistent rules about substance use. As well as Foster open communication to address aggression or risky behaviors in all children, regardless of birth order. Families should encourage cooperative behaviors between siblings to minimize rivalry, especially among later-born children who may feel disadvantaged. Implications for Educational Settings such as School-Based Programs where Schools can play a key role in addressing aggression by Incorporating substance abuse education into the curriculum, implementing anti-bullying programs that address both physical and relational aggression. Regarding hypothesis three the results indicates that, there is no significant relative effect of the independent variables on aggressive behavior among the study participants. The standardized beta coefficients reveal that substance abuse makes the strongest unique contribution ($\beta = 0.412$) to explaining aggressive behavior. This finding supports research by Diana (2019) and Kerns (2018) on the neurological and behavioral effects of substance use on aggression. Gender's contribution ($\beta = 0.324$) indicates its significant role in shaping aggressive behavior patterns, while birth order's contribution ($\beta = 0.246$), though significant, suggests it has a more modest influence. Substance abuse alters brain regions involved in self-regulation, such as the prefrontal cortex, while increasing activity in areas linked to aggression, like the amygdala (Giancola, 2000). These neurochemical changes create a direct pathway to increased aggression. Frustration-Aggression Hypothesis (FAH). The FAH proposes that frustration leads to aggression (Dollard et al., 1939).

Substance abuse, birth order, and gender may contribute to increased frustration, which in turn increases the likelihood of aggressive behavior. Recent studies have supported the FAH, highlighting the role of frustration in predicting aggressive behavior (Berkowitz, 2012). A study by Damian and Roberts (2015) found that personality traits such as agreeableness and conscientiousness, rather than birth order, had stronger effects on aggression, suggesting that birth order may not play a deterministic role. Gender differences in aggression are well-documented, with males exhibiting higher levels of physical aggression and females showing greater relational aggression. These differences are shaped by both biological and environmental factors.

Conclusion

This study examined the relationship between substance abuse, birth order, gender, and aggressive behavior among in-school adolescents in Saki town, Nigeria. Findings revealed that substance abuse, birth order, and gender significantly contribute to aggressive behavior. Specifically, substance abuse, being a firstborn, and being male increase the likelihood of aggressive behavior. The study emphasizes

the need for comprehensive prevention and intervention strategies addressing these factors to promote healthy behaviors and reduce aggressive behavior among adolescents

Recommendations

Based on the findings of this study, the following recommendations are proposed as follows;

1. Implement evidence-based substance abuse prevention programmes that are tailored to the specific needs of adolescents, addressing the risks and consequences of substance abuse, and incorporating evidence-based strategies.
2. Promote healthy relationships and conflict resolution skills among adolescents through workshops, group therapy sessions, and classroom activities that teach essential skills like empathy, active listening, and problem-solving.
3. Increase parental involvement in addressing substance abuse and aggression by providing workshops, resources, and support that help parents understand and address their children's challenges.

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