



# Effortful control and shyness as correlates of aggressive behaviour among adolescents

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## ABSTRACT

This study examined the utility of instigation, impellance and inhibition (Triple "I" or I3) theory in describing if the levels of effortful control and shyness traits were related to aggression in a sample of 325 adolescents selected from Awka metropolis of Anambra State Nigeria. These participants comprised of boys ( $n = 133, 40.9\%$ ) and girls ( $n = 195, 59\%$ ). Their ages ranged from 13-15 years ( $M = 13.29, SD = 1.36$ ). Early Adolescent Temperament Questionnaire-revised, which has sub-scales for aggression, effortful control and shyness traits were used for data collection. Pearson's product moment correlation was used to analyze the data. The results confirmed that the subscales of effortful control (attention, activation and inhibition control) were negatively related to aggression,  $r_s = -.25, -.25$  and  $-.27, p < .01$  respectively. Shyness had a positive relationship with aggression,  $r = .23, p < .05$ . The discussion focused on the implementation of the model in preventing the manifestation of aggression at individual level.

## Introduction

One of the phenomena that usually manifest in the society, which is ignited by complications and cumulative effects of the dynamics within different individuals is aggressive behaviour (Nwafor, Onyeizugbo, & Anazonwu, 2015). The major denominators among the various definitions of aggression can manifest in several ways. First, it can be direct or indirect hostile behaviour, which is often harmful to social interaction whereby the aggressors have the intention of inflicting damage(s) or other unpleasant acts upon another individual or group of individuals (Caabral, Tavares, & De Almeida, 2016). Second, it may occur either in retaliation or without provocation (Caabral, Tavares, & De Almeida, 2016). Third, it involves actions such as physical, relational or verbal abuse, or harm to self or others (Nwafor, Anazonwu, Okafor, & Obi-Nwosu, 2015). Fourth, aggression can occur as a result of adaptive benefits or negative-affect. The adaptive category is often referred to as instrumental, goal-oriented or predatory, that is, situations where aggression is used as a means of achieving a goal. The negative affect, on the other hand, is referred to as emotional and hostile, reactive or retaliatory aggression, that is, response to provocation (Berkowitz, 1993). Fifth, it is a developmental and lifelong phenomenon which can be developed and sustained very early in life, through consistent interaction with the different ecological systems, and it has the potential of activating the inner dispositions (Dishion & Patterson, 2006).

Childhood and adolescence stages were very significant points in human lifespan development. This is because, most of the behaviours found in adults originated during the childhood, get consolidated during adolescence and certainly influence the subsequent behavioural manifestations (normal or abnormal) throughout the lifespan (Frick, Ray, Thornton, & Kahn, 2014;

Wildeboer, 2015). There are numerous cases of unsavoury aggressive incidences involving Nigerian adolescents such as persistent violent protest, suicide bombing, bullying, fighting and homicide, hooliganism, and gang/cult killing (Ajayi, Ekundayo, & Osalusi, 2010; Aluede, 2011; Egbochukwu, 2007; Onyeizugbo, 2009; Owuamanam & Makinwa, 2015). These actions are unwarranted, and most times resulted to death, serious bodily harm or long-term incarceration in prison facilities. Nwafor, Anazonwu, Okafor and Obi-Nwosu (2016) noted that aggressive behaviours are potential markers of social incompetence and tend to activate the inability to navigate and cope with the daily developmental tasks within the acceptable social norms. It may be a significant problem that can have impact on physical and psychological health of those who are involved and may likely have negative consequences on the entire society (Egbochukwu, 2007; Nwafor et al., 2015; Owuamanam & Makinwa, 2015).

Among the many perspectives that offered explanations to the origin and sustenance of aggression in an individual is the temperamental perspective (Denson, DeWall, & Finkel, 2012; Rothbart & Bates, 2006). Denson, Dewall and Finkel (2012) proposed in their instigation, impellance and inhibition theory (Triple "I" theory) that three processes may underlie aggressive behaviour: instigation, impellance, and inhibition. Instigation is the effect of exposure to a target object in a particular context that normatively affords or triggers a certain behaviour. Impellance is effect of dispositional or situational factors that psychologically prepare the individual to experience a strong urge to behave in certain manner when encountering specific instigators in specific contexts (e.g., shyness; aggressiveness). The most powerful behaviour urges arise when both instigation and impellance are strong. Inhibition is the effect of dispositional or situational factors that increase the likelihood that people will override certain behavioural urge (e.g., effortful control). When the strength of inhibition exceeds the strength

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of the particular behavioural urge, people tend to step down in acting out such behaviour (Denson et al., 2012). In agreement with this perspective, Rothbart and Bates (2006) assumed that aggression is a process that is related to individual differences in reactivity and self-regulation, which are genetically influenced, biologically based and shaped by socialization and contextual experiences (Rothbart & Bates, 2006). In other words, aggression can be activated by both internal (biological) and external (social) mechanisms. While the interaction of both may give a broader view of the mechanisms that may be related to aggression among adolescents, the present study will limit its scope to two internal independent factors: effortful control and shyness and examine their extent of and direction of relationships with aggression.

Effortful control is thought to be one of the temperamental dimensions that captured individual differences in the ability to regulate emotions and actions in internally guided or voluntary mode (Rueda, 2012). Effortful control is also defined as the ability to inhibit a dominant response in order to perform a sub-dominant response, to detect errors, and to engage in planning (Rothbart & Bates, 2006; Rothbart & Rueda, 2005). It has three components: activation, attention and inhibition control. The attention control component is the capacity to focus attention as well as to shift attention when desired. It also includes the ability to voluntarily move, focus and sustain attention as needed, and behavioural regulation. Inhibition control is the capacity to suppress inappropriate approach behaviour or the ability to inhibit behaviour when appropriate, while activation control is the capacity to perform an action when there is a strong tendency to avoid it (Rueda, 2012).

Shyness is generally defined as a tendency to feel anxious and show inhibited behaviour in interpersonal situations and/ or in situations of perceived social evaluation (Cheek & Brigg, 1990). Kagan (1998) opined that it is a social wariness toward strangers that is biologically based and relatively stable over time. Shyness can be manifested in anxious and avoidant behaviour in response to negative social evaluation. Adolescents who are shy tend to bottle-up emotions thereby leading to build up of behaviour that ought to have been expressed in neutral manner. It is plausible that due to the bottled-up negative emotions, reactions of such adolescents manifest in aggression. The anxious form of shyness appears to emerge later in life and is typically associated with being rejected and neglected by familiar peers (Asendorpf, 2000). Those psychological and social difficulties arise in childhood and tend to persist and worsen as individual grows and, consequently more severe symptoms emerge with the achievement of greater self-awareness (Godwin, Ferguson, & Horwood, 2004). In fact, during adolescence and early adulthood, shy individuals are more likely to develop various forms of emotional and psychiatric disorders (Heiser, Turner, & Beidel, 2003; Henrikson & Murberg, 2009). Also, shy adolescents tend to show problems in expressing their own opinions or talking in the presence of others, in meeting people and establishing and maintaining relationships, resulting in having fewer social relationships, which are less intimate and supportive (Nelson et al., 2008). As a result, they may receive less social support from their social networks than their non-shy counterparts hence may predispose them to aggressive behaviour.

For the purpose of the present study we followed the assumptions of triple "I" theory and hypothesized that the three components of effortful control are dispositional factors akin to inhibition. Thus, an increase in any of the sub-factors of effortful control is expected to have negative correlation with aggressive trait (impellance) and would manifest in a given context (instigation). Some studies have attempted to establish the relationship between effortful control and aggressive behaviour. In particular, Mak and Cheung (2008) reported that some different forms effortful control (temper, impulsive and

adventure) correlated with adolescents' problem behaviours (bullying, fighting, and vandalizing). Similarly, Pung, Yaacob, Baharudin and Osman (2015) examined the correlation between low self-control and aggressive behaviour among Malaysian adolescents. The result indicated that adolescents with low self-control tend to be more aggressive. Rathbert, Fite, Gaertner and Vitulano (2011) in their study examined relations between one's ability to focus and shift attention in an adaptive manner, psychological control (caregiver attempts to manipulate the child's internal world) and proactive and reactive aggression. The results indicated that psychological control and effortful control indicators contributed to proactive aggression. Winstok (2009) examined the influence of different types of self-control (adolescents' self-control, urge to control others) on different types of aggression (reactive and proactive aggression). The findings of the study revealed that adolescents with high self-control possessed low level of reactive aggression and adolescents with high level of the need to control others possessed high level of proactive aggression.

The same pattern of findings reported above may not hold for shyness because shyness is a type of impellance which may even trigger the manifestation of aggressive trait in a given context (instigation). Thus, we assumed that shyness will have positive correlation with aggressive behaviour. There is dearth of empirical literature linking shyness with aggression. Chen, Arria and Anthony (2003) in a population-based case control study examined the hypothesis that the occurrence of fire-setting might be greater in youths who exhibit a combination of shyness and aggressiveness. Result showed strong associations between fire-setting and shyness and aggressiveness. Similarly, Han, Wu, Tian, Xu and Gao (2016) found among Chinese children that shyness is positively related to aggression. We believed that the extent and directions of the correlations between this variable may further the understanding of the role some dispositional factors may play in aggressive behaviour.

## Method

### Participants and procedure

Three hundred and twenty-five (325) secondary school children participated in the study. They included boys ( $n = 133$ , 40.9%) and girls ( $n = 192$ , 59%). Their ages ranged from 13-15 years ( $M = 13.29$ ,  $SD = 1.36$ ). These students were in JSS 3 and SS 1 classes. They were drawn randomly from five schools in Awka metropolis. Each class that participated was selected using simple random sampling. However, only the students available in the class at the time of the study had the chance to take part in the study.

Approval for this study was obtained from the Faculty of Social Sciences, Nnamdi Azikwe University, Awka. With the approval letter the researchers obtained consent of the authorities from the various selected schools. The five secondary schools were drawn from Awka metropolis, in Awka South Local Government Area of Anambra State, Nigeria, using simple random sampling technique. From each class selected from each school only the student that volunteered to participate in the study were given the questionnaires, after they completed an informed consent form. These participants were adequately informed about the nature and purpose of the study both in Igbo and English languages. In each school the first 65 students that volunteered were enlisted for the study. The questionnaire forms containing the scales were administered to them in a class. It took about 10 minutes to complete the forms.

### Instruments

*Early Adolescent Temperament Questionnaire-Revised (EATQ-R)*

The EATQ-R, developed by Ellis and Rothbart (2001), has thirteen subscales but in the current study, three sub-scales of aggression, effortful control and shyness were used to measure

the variables of interest. Items are scored on a 5-point likert response format ranging from Strongly Disagree = 1 to Strongly Agree = 5. Aggression has eleven (11) items. The authors reported a Cronbach's alpha of .81 for the scale. The Cronbach's alpha for aggression subscale was .70. Effortful control has twenty-six (26) items with three dimensions (inhibition, attention and activation control). Inhibition has eleven (11) items with Cronbach's alpha of .70. Attention (7 items) yielded a Cronbach's alpha of .71, and activation (8 items) items had a

Cronbach's alpha of .65. The Cronbach's alphas for the present study were .72, .70 and .71 respectively. Shyness subscale has 7 items. The original authors reported Cronbach's alpha of .69 while the present study the Cronbach alpha was .70.

**Design/Statistics**

The study utilized a correlational design. Pearson's (r) product moment correlation coefficient (Pearson- r) was used to analyze the data.

**Results**

**Table 1: Pearson product moment correlation coefficient of aggression, activation, inhibition, attention and shyness**

Variables	1	2	3	4	5
1. Aggression	-				
2. Activation	-.25**	-			
3. Inhibition	-.27**	.30**	-		
4. Attention	-.25**	.24**	.22**	-	
5. Shyness	.23**	-.10	-.12	-.01	-

\*\*p<.05. Bold coefficient that tested the study hypotheses

Result showed that the correlation between activation control and aggression was significant ( $r = -.25, p < .01$ ), and the co-efficient of determinant ( $r^2$ ) was .06. By implication, the correlation explained 6% of the relationship. Also, the result showed that the value of r for correlation between inhibition control and aggression was  $-.27 (p < .01)$ , and the  $r^2$  was .07. By implication, the correlation explained 7% of the relationship. The result further showed that the value of r for the correlation between Attention and aggression was significant ( $r = -.25, p < .01$ ) and the ( $r^2$ ) was .06. By implication, the correlation explained 6% of the relationship. The result also showed that the value of r for correlation between shyness and aggression was significant ( $r = .23, p < .05$ ), and the  $r^2 = .05$ . By implication, the correlation explained 5% of the relationship.

**Discussion**

The aim of the study was to examine the degree and direction of relationship of effortful control (activation, inhibition and attention control) and shyness with aggression among adolescents in Nigeria. The result confirmed that the different subscales of effortful control correlated significantly and negatively with aggressive behaviour. The result agrees with previous studies (e.g., Pung et al., 2015; Rathbert et al., 2011; Winstok, 2009) who also found that the various forms of effortful control correlated with various forms of violence and aggression. The finding can be explained using Triple I theory (I<sup>3</sup>) (Denson et al., 2012) which assumes that inhibition can reduce aggression tendency and impellance will cause undeserving behaviour to occur.

The study also showed that shyness was positively correlated with aggression. The result is in tandem with findings previous studies (e.g., Chen et al., 2003; Han et al., 2016) who found that shyness was related to aggression. The positive correlation of shyness and aggression further strengthens the temperamental theory (Rothbart & Bates, 2006) which classified shyness and aggression as reactive temperament thus are expected to have positive correlation.

The present study supported the utility of triple "I" theory in explaining the negative relationships between effortful control sub factors and aggression and a positive relationship between shyness and aggression. At the individual levels, appropriate therapy could be designed targeting the improvement of effortful control (one of the entrained traits) with the view of reducing dispositional factors that can trigger aggression. Parents, teachers, school administrators and counselors should be on the look-out of shyness among children since result of this study has suggested that it can trigger aggressive behaviour.

The major limitation of the present study was that since temperament was assumed to be an enduring characteristic, a longitudinal design would have provided a more reliable result than the cross-sectional design. Similarly, correlation design does not offer any causality or dependency claim thus we cannot really infer from our study whether aggression depends on the effortful control and shyness or vise-versa.

**Conclusion**

This study offered the understanding of aggression from trait model and it equally observed that other forms of entrained traits (effortful control and shyness) have important and unique relationships with aggression. We believed that the outcome of our study will not only add to the existing literature in the area of aggression but will also enhance the techniques (e.g. considering how to increase or reduce entrained traits such as effortful control and shyness) used by caregivers and policy makers in tackling aggressive behaviours among adolescents.

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