

Children's Play as a Predictor of the Psychosocial Adjustment of Pupils with Conflict-related Traumatic Experiences in Buea Municipality, Cameroon

Lekunze Dieudonne Njuh

PhD Fellow, Department of Educational Psychology,
Faculty of Education, University of Buea, Cameroon

Therese Mungah Shalo Tchombe, Patrick Fonyuy Shey

Department of Educational Psychology, Faculty of Education, University of Buea, Cameroon

Abstract: This study was carried out to investigate children's play as a predictor of psychosocial adjustment of pupils with conflict-related traumatic experiences in Buea Sub Division, Cameroon. Specifically, the study sought to find out the degree to which children's play is a predictor of psychosocial adjustment of pupils with conflict-related traumatic experiences. The Quasi-experimental design was adopted for the study, with the Pre-test-Post-test design specifically used. The sample for the study was made up of 16 pupils in a primary school in Buea Sub Division, Cameroon with conflict-related traumatic experiences as a result of the on-going armed conflict in the Northwest and Southwest Regions of Cameroon and 15 teachers. Data was collected using a questionnaire, focus group discussions and observation checklist for pupils and an interview guide for teachers. The quantitative data was analysed using descriptive and inferential statistical tools. The descriptive statistical tools used are percentages, mean, T-test and standard deviation. The qualitative data derived from the observation, focus group discussion with pupils and interview with teachers was analysed using thematic analysis. The hypothesis was tested using the T-test. The results showed that children exposure to play significantly predicts their psychosocial adjustment (t-test value 24.740, p-value < 0.001). This implied that psychosocial adjustment of pupils with conflict-related traumatic life experiences is more likely to be high when there are exposed to children's play. The study recommended that school children with conflict-related traumatic experiences should be exposed to play activities which will help to enhance their psychosocial adjustment.

Keywords: Children's play, pupils, traumatic experiences, psychosocial Adjustment.



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Introduction

Children are the future of every nation and they thrive in environments where they feel safe, stable and bounded to their families. We want our children to grow up to be happy, healthy and well-adjusted adults. Unfortunately as children grow up they encounter different traumatic events that threaten or are harmful to their emotional, physical and social wellbeing. UNICEF (2022) identified conflict-related trauma as one of the leading causes of psychosocial adjustment difficulties in children. Children who have difficulty adjusting to conflict related trauma may experience a range of emotional, psychological and social problems at home, school and society (Manju, 2021).

At home, children are expected to engage in age appropriate daily chores. Engaging in these chores help them to develop and improve fine and gross motor skills, increase confidence and self-esteem. Children who have suffered from trauma struggle with self-care chores, such as doing laundry and household chores such as helping in cooking (Oladejo, 2022). Suri, Agarwa , Chauhan & Madhukar (2020) believe that identifying and addressing poor adjustment early on can help mitigate its negative effects and support children in achieving their full potential.

Adjustment is primarily the response to psychosocial stressors or multiple stressors, which is accepted as an important response indicator of mental health (Cao, 2022). According to the diagnostic criteria provided in the Diagnostic and Statistical Manual of Mental Disorders- 5th edition (DSM-5), individuals with adjustment disorders are accompanied by significant emotional and behavioural symptoms (American Psychiatric Association, 2013). Thus, adjustment has a predictive effect on mental health (Cao, 2022).

Psychosocial adjustment, which according to Lent (2002) is the accommodation of a person to a life altering event, seeks to enhance the social and psychological functioning of individuals affected by an overwhelming event like conflict. Well-adjusted children have high self-esteem, form and maintain good friendships and register good performance in school (Suri, Agarwal, Chauhan & Madhukar, 2020)

Background to the study

In Cameroon the adjustment needs of children because of the ongoing conflict in the Northwest and Southwest Regions is real (Kinkoh, 2023). Buea Municipality is located at the heart of conflict. The crisis has led to major humanitarian needs, especially food and healthcare, and affected at least 3 million people (OCHA, 2021). About 705,800 people are internally displaced with children making up 40 % (OCHA, 2021). Also, there have been attacks on schools as unknown assailants damaged, destroyed and burnt down at least 74 schools in the Northwest and Southwest regions since June 2019 (ACAPS, 2021). The Danish Refugee Council (2020) reported that in the Southwest region, the conflict has developed an environment conducive to child labour, child separation from parents, sexual harassment/abuse and physical violence. The DRC (2020) highlights a growing number of Unaccompanied and Separated Children (UASC) in 2020, with 5,816 unaccompanied children and 16,240 separated children recorded, caused by family separation as a direct consequence of the crisis. Regular attacks on villages are forcing families to flee to urban centres to seek economic and educational opportunities. Buea Municipality received a considerable number of these internally displaced persons, amongst them children. Humanitarian organisations have been assisting in the following domains; education, food security, health, nutrition, protection, shelter and non-food items, Wash and refugee response (OCHA (2023).

Various authors have documented the influence of internal (gender, health, age, temperament) and external (family, school environments) factors on the adjustment process of conflict-affected children (Catani, 2018; Diab, Palosaari, & Punamäki, 2018), but the role of children's play in promoting the psychosocial adjustment of these children has not been specifically determined.

This article therefore, sought to find out whether children's play can predict the psychosocial adjustment of children exposed to conflict-related traumatic experiences as a result of the armed conflict in South West Region of Cameroon where Buea Municipality is found.

Statement of the problem

Children's play and the psychosocial adjustment of school children with conflict related-traumatic experiences are important parameters that affect the wellbeing and achievement of children (Xioachang, Liu & Mao, 2019; Oladejo 2022). As a result of the socio-political crisis in Cameroon, families have been displaced, schools attacked and children separated from their familiar environment. These displaced children must adjust to their new environment. Most of them have to live in deplorable conditions. Some of the children have to drop out of school to do menial jobs to assist their families get food, shelter and other basic needs. Even in school, many of these children especially the displaced ones face discrimination and bullying from fellow schoolmates and at times teachers. The resulting consequences of these maladaptive conditions can dramatically affect learning through decreased cognitive capacity, poor memory and concentration, language delays, and the inability to create and sustain positive relationships with peers, teachers, and carers.

Several authors, including Brunzell, Waters, & Stokes (2015) have stressed the importance of children who experience trauma to receive therapy from qualified psychologists, psychiatrists, and/or social workers, but many children and their families in Buea Subdivision lack the resources, access, motivation, and ability to successfully participate in therapy and follow treatment plans. More so, these specialists are grossly insufficient in numbers as compared to the need. Consequently, children's play may provide a more practical and realistic indigenous alternative for helping these children heal and adjust socially and psychologically to traumatic experiences. Thus, the study seeks to find out whether children's play can significantly predict the psychosocial adjustment of school children with conflict-related traumatic experiences.

Research Questions

In addressing this problem, the following research questions were used:

General Research Question

Does children's play predict the psychosocial adjustment of pupils with conflict related traumatic life experiences?

Specific Research Questions

To what extent is children's play a predictor of psychosocial adjustment of pupils with conflict related traumatic life experiences?

Objective of the study

The objective of the study was to find out the extent to which children play is a predictor of psychosocial adjustment of pupils with conflict related traumatic life experiences.

Research Hypotheses

The hypotheses in this study are stated in their null and alternative forms.

H₀₁: Children's play does not significantly predict the psychosocial adjustment of pupils with conflict related traumatic. experiences.

H_{a1}: Children's play significantly predicts the psychosocial adjustment of pupils with conflict related traumatic life experiences.

Review of Related Literature

Play is a universally observed phenomenon in the early years of a child's development (Gibson, Cornell, & Gill, 2017). There is a considerable body of research (Dodd & Lester, 2021; Oladejo, 2022; Wallander & Thomson, 1995) which is indicative, relating children's play and aspects of their learning and development. This evidence includes work in evolutionary and developmental psychology, anthropology, neuroscience and educational studies (Whitebread, Neale, Jensen, Liu, Solis, Hopkins, Hirsh-Pasek, & Zosh, 2017).

Much of the research on play within developmental psychology has been inspired by the theoretical writings of Vygotsky (1978). During play, when it is spontaneous and child-initiated, he argued, children exercise control over their activity, set themselves appropriate challenges, and so create their own 'zone of proximal development' within which learning is most powerfully enhanced. Karpov (2005) reviewed the work of neo-Vygotskians supporting the notion that, in play, children are required to regulate their behaviour, making it a significant factor in their development of self-regulation.

Play is intrinsically rewarding for children and provides a way for them to interact with the world, express themselves, and make sense of the world around them (Dodd, Nesbit, & FitzGibbon, 2023). Schwartz & Badaly (2010) drew on the extensive literature related to the development of anxiety in children to argue that sufficient adventurous play experiences during childhood may help to prevent anxiety in children. Dodd & Lester (2021) have linked adventurous play to anxiety management, and Gray (2011) theorises a causal relation between play deprivation and increased psychopathology.

Qualitative evaluations of school-based interventions to increase levels of adventurous play report positive outcomes of adventurous play, including increases in resilience (Bundy, Lockett, Tranter, Naughton, Wyver, & Ragen, 2009) and improvements in children's happiness at school (Farmer, Fitzgerald, Williams, Mann, Schofield, McPhee, & Taylor, 2017). There is also evidence that play, in general, is good for children's wellbeing and mental health; children admitted to hospital show lower levels of anxiety and fewer negative emotions when they take part in a play intervention (Li WHC, Chung JOK, & Kwok, 2016) and, when given time for free play, hospitalised children show reductions in stress (Potasz, De Varela, De Carvalho, Do Prado, & Do Prado, 2013).

Outdoor play has a positive effect on children's wellbeing (Gill, 2014; Tillmann, Tobin, Avison, & Gilliland, 2018). Play is often considered an essential context for improving children's emerging social skills and the earliest opportunities to engage in it tend to correspond with the sensitive period for building foundational friendship skills (Coplan & Arbeau, 2009). Despite friendships being central to children's social lives in early childhood, Schwartz & Badaly (2010) argue that research on children's psychological and behavioural problems tends to focus on the influence of peer rejection, victimisation and friendlessness.

Furthermore, while friendship has received some attention in the literature, there is a dearth of empirical studies examining the role of peer play in mental health and psychological well-being. However, there are some preliminary findings in this area. Toseeb and colleagues (Toseeb, Gibson, Newbury, Orlik, Durkin, Pickles, Conti-Ramsden, 2020) showed that while controlling for factors such as children's friendships and pro-sociality between age 7 and 9, children's social play competences at age 7 significantly predicted lower levels of internalising and externalising problems at age 11 in a UK general population sample.

Similarly, Shim and Lim (2021) found that negative peer play behaviours reported by preschool teachers at age 4 predicted higher levels of internalising and externalising problems at age 6 in a Korean population after controlling for children's temperament. Thus, it is likely that peer play abilities can be added to the bio-psychosocial models that predict risks for internalizing and/or

externalising problems, which so far have focused upon early risks associated with heritability, socio-demographic background, parent–child relationships and the interactions between these factors (Goodman, Rouse, Connell, Broth, Hall, & Heyward (2011).

Studies prove that play impacts mental health in middle childhood, as at this age children are significantly affected by peer relationships and mental health at this age can have a long-lasting impact on psychosocial adjustment (Schwartz, Lansford, Dodge, Pettit, & Bates, 2015; Schwartz-Mette, Shankman, Dueweke, Borowski, & Rose, 2020).

Meta-analyses across clinical conditions have demonstrated a relation between social cognitive skills and psychological ill-being (Schwartz, Lansford, Dodge, Pettit, & Bates, 2015; Schwartz-Mette, Shankman, Dueweke, Borowski, & Rose, 2020).

Cognitive skills are important foundations for building the friendships and social support networks that have a key role in mental health (García-Carrión et al., 2019). These skills that support relationship development may emerge during early parent/caregiver interactions (Bernier, Carlson, & Whipple, 2010; Youngblade, & Dunn, 1995). Zhao & Gibson (2019) argue that peer play may be a particularly enriching context for relationship development skills to gain sophistication as children mature.

Children play requires participating children to engage in perspective taking and to deploy their theory of mind and emotion recognition skills. To successfully engage, a child must notice who is in the mood to play, initiate or respond appropriately to a playful overture and navigate the terms of interaction (for instance, not hitting too hard when play fighting).

Thus, peer play may provide a highly motivating opportunity to develop these socio-cognitive skills to a higher level which can then be used in new contexts, for example when making new friends, resolving disputes with classmates, or sustaining existing friendships (Street, Bischof, Kingstone, 2018). Cross-sectional research has found links between the theory of mind and successful cooperation in free-play (Etel & Slaughter, 2019) and in pretend play with peers. Furthermore, peer play may provide a safe and comfortable space for children to express experience and interact with different emotions, facilitating their emotion recognition skills (Astington, & Jenkins, 1995).

Another area of development which has potential to be enhanced through play is that of self-regulation (Colliver, Brown, Harrison, & Humburg, 2022). Regulatory skills are important for positive mental health development as they help to balance over-controlled and under-controlled attention, emotions and behaviours. Children who are more reactive face higher risks of both internalising and externalising problems. That is, children who get more easily irritated tend to exhibit more aggressive behaviours like hitting but these children can also suffer from social withdrawal and anxiety (Eisenberg, Sadovsky, & Spinrad, 2005).

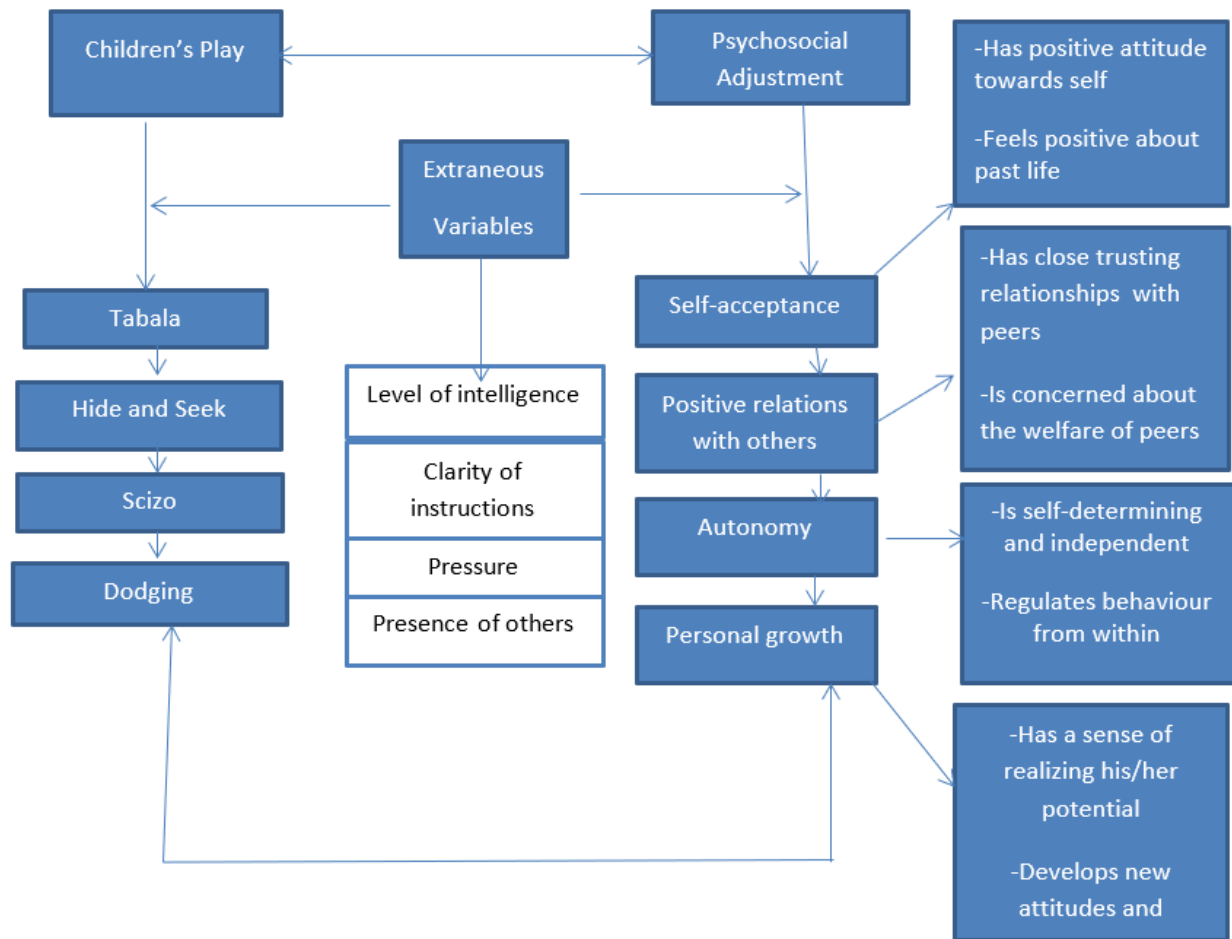
Zhao & Gibson (2019) also agree that children play could foster children's self-regulation of attention, emotion and behaviour. They believe that peer interactions naturally elicit effective opportunities for social communicative skills, such as turn-taking and joint attention. However, they create opportunities for disputes and negotiations among children over possible choices of props, competition for toys, different opinions over the given rules and so on (O'Brien, Roy, Jacobs, Macaluso, & Peyton, 1999). Thus, self-regulatory skills enhanced during peer play may also contribute to the number and strength of social bonds in a child's network, which in turn offer protective effects against the likelihood of mental and psychological difficulties (Nangle, Erdley, Newman, Mason, & Carpenter, 2003; Cotter, Granger, Backx, Hobbs, Looi, & Barnett, 2018)

Whitebread et al. (2017) catalogue the different types of play that children engage in; physical play, symbolic (including language play, musical play and drawing play), pretend play and games with rules. The authors believe for instance, that play with mark-making and drawing is

ubiquitous across cultures and is widely accepted as an important way in which children, record their experiences and express their ideas.

Young children work hard at play. They invent scenes and stories, solve problems, and negotiate their way through social roadblocks. They know what they want to do and work diligently to do it. Because their motivation comes from within, they learn the powerful lesson of pursuing their ideas to a successful conclusion (Whitebread et al., 2017). Darling-Hammond & Snyder (2009) in a study of 50 'play-based kindergartens' and 50 'early learning centres' in Germany, found that by Grade 4 the children from the former were more advanced in reading, maths and social/emotional adjustment in school.

Figure 1 Conceptual diagram



Source: Formulated by the researcher, 2025.

Methodology

The design of the study was experimental research design. The type of experimental design chosen for the study was the quasi-experimental research design. The type of quasi-experimental design adopted for the study is the Pre-test-Post-test design. The quasi-experimental research design was deemed appropriate because of the complete lack of control over the children, cost effectiveness, real world applicability, time constraint, and the fact that the sample size of the study is small. With this design, the children after being identified using an adapted version of the Gaza Traumatic Events Checklist for Children (Guido, Fayez, Dana, Hania & Federica, 2024) in some selected primary schools in Buea Municipality were assigned to two groups namely the experimental and control groups and subjected to pre-test and post-test. It was at the level of the post-test that the researcher examined children's play and how they predict to the psychosocial adjustment of the identified children.

Area of Study

The area of study was Buea Sub Division in Fako Division of the South West Region of Cameroon. Buea Sub-Division is located on latitudes $4^{\circ} 12'$ and $4^{\circ} 31'$ North of the Equator and from longitudes $9^{\circ} 9'$ to longitude $9^{\circ} 12'$ east of the Greenwich Meridian. It is bounded to the West by Mount Cameroon, to the East by Tiko Sub-Division, to the North by Muyuka Sub-Division and to the South by Limbe I Sub-Division. Buea sub Division covers a surface area of about 36000 hectares and it is about 915 metres above sea level and tends to be less humid and experiencing cooler temperatures than the coastal areas very conducive for children's development.

Buea is made up of 67 villages and fast becoming a cosmopolitan town in Cameroon. The indigenes are the Bakweris, who have lived around Mount Cameroon for at least 4,000 years. Buea has urban and rural settings.

The current socio-political crisis has affected the area of the study in that the armed conflict has brought so much psychological distress in children including trauma. Most children in Buea are exposed to traumatic events as a result of the armed conflict. Some of them are internally displaced in Buea, coming from other towns and villages / neighborhoods and live in crowded living arrangements, are distressed, and out of school. Thus, the study area is characterised by negative experiences associated with armed conflict: fear, anxiety, homelessness, deprivation, depression, school dropout, marginalization, school problems, substance abuse, risky sexual behaviours and child labour. These experiences impede child normal development and necessitate measures to ensure the psychosocial wellbeing of the children.

The Molyko - Mile 17 - Bomaka - Muea axis and Mile 17 - Mile 16 Bolifamba - Mile 14 Dibanda stretch are some of the localities in Buea Municipality most affected with skirmishes, shootings between government forces and separatist fighters. The fighting has forced the population to move from these areas to safer places (OCHA, 2021). Consequently, Molyko, Mile 16 Bolifamba, Muea, Bomaka and Mile 14 Dibanda, constituted the study site of this work.

Inclusion Criteria

The child must be in either class 3, 4, 5 or 6.

The child must be within the age range of 8-12 years.

Sample and Sampling Techniques

The sample of the study was made up of 16 pupils in a primary school in Buea with high to very score of conflict-related traumatic experiences from the adapted Gaza Traumatic Events checklist for Children. Most importantly, the child must have a score of 13 out of 21 items on the checklist. In other words, the child must have had at least 13 Yeses out of the 21 adapted questions on the Traumatic Events Checklist for children. More so, all 15 teachers sample for the study to get their own experiences and coping mechanisms on how they have been managing children severely affected by the on-going crisis in their class. .

Table 4 Sample Size Frame

School	Class	Pupils	Sample	Teachers
GPS Molyko	Three	151	4	4
	Four	120	4	4
.	Five	122	4	4
.	Six	135	4	3
Total		528	16	15

Source: Head Teacher GPS Molyko (2024/2025 enrolment).

The sample frame shows that an equal number of pupils (4) were selected from each class despite their numbers. This was to strive for a balance by making sure that an equal number of pupils from the four classes take part in the experiment.

Demographic Information

The demographic information of the children and teachers selected for the study was obtained as shown on tables 5 and 6 below.

Table 5: Demographic Information of Pupils

School Class		Frequency	Percentage
School (n=16)	Class Three	4	25.0
	Class Four	4	25.0
	Class Five	4	25.0
	Class Six	4	25.0
Gender (n=16)	Male	6	37.5
	Female	10	62.5
Age range (n=16)	8-10	8	50
	10-12	8	50
Religion (n=16)	Christians	15	93.7
	Non-Christians	1	6.2

N=16

Among the 16 children who took part in the experiment based on their traumatic life experiences score, an equal proportion 25.0% (4) were sampled from four classes each. That is, classes three, four, five and six. Gender wise, female 62.5% (10) were slightly above male 37.5% (6). With reference to age range, 50% (8) were within the age range of 10-12 years and 50% (8) 8-10 years. Finally, majority of the children 93.7% (15) were Christians and just 6.2% (1) was non-Christian.

Table 6 Demographic Information of Teachers

Demographic information		Frequency	Percentage
Age range (n=15)	30-40 years	9	60.0
	41 years and above	6	40.0
Gender (n=15)	Female	15	100.0
	Male	0	0.0
Years of teaching experience (n=15)	5-10	8	53.3
	11-15	5	33.3
	16 and above	2	13.3
Educational level (n=15)	Teacher Grade 1 Certificate	12	80.0
	Bachelor's Degree	3	20.0

Among the 15 teachers interviewed in the study, 60.0% (9) were 30-40 years and 40.0% (6) were 41 years and above. All 15 teachers sampled were female. The years of teaching experience for half 53.3% (8) of the teachers was 5-10 years while 33.3% (5) had taught for 11-15 years, and 13.3% (2) for 16 years and above. Finally, majority of the teachers 80.0% (12) had just Teacher Grade 1 Certificate, while 20.0% (3) had further their education to bachelor's degree (university level).

Instrument for Data Collection

The questionnaire, observation checklist and focus group discussion were for the pupils and interview guide for teachers.

Master Plan of Activities

This explains how the experiment was carried out. First, a diagnosis was done to determine the 16 pupils eligible for the study were divided into experimental and control groups of 8 pupils each. By this, the experiment was done four times according to the four types of play (Tabala, Hide & Seek, Scizo and Dodging). Only the 8 pupils of the experimental group were exposed to play activities. The other 8 of the control group were not.

The pupils were continuously participating in each play activity for one week and after which the post-test evaluation was carried out. It was believed that the continuous follow-up of pupils for one week was enough for internalisation of some emotional and behavioural effects of the activities by the pupils. By using one week for each type of play, it implies that the entire process took four weeks (one month). However, for precautionary reason, one week was added and distributed across each group. During five days, the pupils were continuously exposed to the activities and on the sixth day, a post-test evaluation of the activities on their psychosocial adjustment was carried out and scores for the pupils recorded on record sheets for each type of play showing their score at the pre-test and post-test levels.

Table 7 Children's Play Activities

No.	Name of Play/game	Aims	Activities/procedures	Time
1	Tabala	To find out the degree to which children play is a predictor of psychosocial adjustment of pupils with traumatic experiences.	<ul style="list-style-type: none"> -Formation of the team of players (maximum of 8) -Drawing of 8 rectangular boxes on the ground (using chalk, charcoal or a nail) - Getting a pebble or a piece of tiles to be used for the game -Balloting for the first player to start the game -The first player kick-starts the game by throwing the pebble into the first box -Jumping into the 1st, 2nd and 3rd boxes on one leg -Jumping into the 4th and 5th boxes with two legs -Jumping into the 6th box on one leg -Jumping into the 7th and 8th boxes with both legs. -Taking turns on the game -Making sure that the rules of the game are respected (For example, if a player's leg touches the line, she/he is out of the game) -Cheering up the players -Arguing about errors committed -Defending one's position. 	30 minutes
2	Hide and Seek	To find out the degree to which children's play is a predictor of	<ul style="list-style-type: none"> -Constitution of the group of participants. -Formation of circle. -Counting of days of the week to get the player who will do the final counting. (that is, each person counts a day and the next person counts the next day 	

		psychosocial adjustment of pupils with traumatic experiences	<ul style="list-style-type: none"> -Counting of number with closed eyes by the person to start the search -Participants hide themselves. -Search for participants in their hideouts. -First person to be discovered is the next person to count and begin the search for hidden participants. - making sure rules are respected (for instance, the person counting must close his/her eyes) 	
3	Scizo	To find out the degree to which children's play is a predictor of psychosocial adjustment of pupils with traumatic experiences.	<ul style="list-style-type: none"> It is a game played by three persons at a time. -Getting a rope to be used for the game. -Two players are chosen to be spinning the rope. -One person standing in between them is jumping over the spinning rope. -In the process of jumping if the rope hooks on the leg or the body, the person has failed and is out of the game. -Next player takes his/her turn in jumping over the spinning rope. -Arguing over the respect of rules -Laughing -Shouting. 	
4	Dodging	To find out the degree to which children's play is a predictor of psychosocial adjustment of pupils with traumatic experiences.	<ul style="list-style-type: none"> It is a game played by 8 players or more -Formation of the group of players -Getting a small ball or shocks filled with sand to be used for the game. -Choosing of two shooters. -Arrangement of players in the middle - kick start of the game. -The shooters start with semi, pass and play shots, before shooting at a player in the middle. - Counting of points gained by the players - Replacement of players touched by the ball - Shouting -Arguing (shooters are not in their positions) - End of game 	
.

Table 7 above shows the four types of play (Tabala, Hide & Seek, Scizo and Dodging) that the pupils were engaged in and the procedure for the play/game. Each type play lasted for 30 minutes per session.

FINDINGS

The presentation of the findings began with the diagnostic results of the 16 children selected for the study to ascertain their level of traumatic life experiences.

Diagnostic Results

Before the required sampled of children needed for the experiment were chosen for the study, a diagnostic test was carried out on some pupils and the results is presented below.

Table 9 Diagnosis of Children for Traumatic Experiences (Before the Experiment)

Checklist items	Yes	No
Hearing of heavy gun shots	15(93.7%)	1(6.25%)
Witnessing people carrying guns/arms	14(87.5%)	2(12.5%)
Hearing killing of people	15(93.7%)	1(6.25%)
Witnessing killing of people	11(68.4%)	5(31.2%)
Is internally displaced	13(81.2%)	3(18.7%)
Has once run for shelter	15(93.7%)	1(6.25%)
Witnessing shooting of people	10(62.5%)	6(37.5%)
Hearing kidnapping of people into the bush	11(68.4%)	5(31.2%)
Witnessing people being beaten up	13(81.2%)	3(18.7%)
Hearing people being beaten up	14(87.5%)	2(12.5%)
Hearing the burning of houses	15(93.7%)	1(6.25%)
Witnessing the burning of houses	10(62.5%)	6(37.5%)
Hearing the burning of school	14(87.5%)	2(12.5%)
Witnessing the burning of school	11(68.4%)	5(31.2%)
Has seen person(s) with gunshot wounds	12(75.0%)	4(25.0%)
Has seen people shot	10(62.5%)	6(37.5%)
Has been out of school for a year and above	13(81.2%)	3(18.7%)
Has seen armoured cars	15(93.7%)	1(6.25%)
Has stayed indoors for a week and above	14(87.5%)	2(12.5%)
Has witnessed people running for safety	12(75.0%)	4(25.0%)
Has changed school due to the conflict	11(68.4%)	5(31.2%)

Among the 16 primary pupils selected for the study, before their involvement in any of the play activities, their results scored during the diagnostic test of traumatic life experiences as a result of the on-going armed conflict in the Northwest and Southwest Regions, showed that almost all of them 93.7% (15) have heard heavy gun shots, have once run for shelter, heard burning of houses and have seen armoured cars, 87.5% (14) have witness people been beaten up and people carrying guns/arms, and burning of schools, 68.4% (11) have heard about kidnapping of people, burning of schools, and have changed school, 62.5% (10) have witnessed shooting of people, seen people shot and burning of houses, 81.2% (13) are internally displaced, witnessed people being beating up and have been out of school for a year and above, and 75% (12) have seen people with gunshot wounds and people running for safety.

Research Question: To what extent is children's play a determinant of psychosocial adjustment of children with conflict-related traumatic experiences?

Table 10 Children Traumatic Life Experience Score at Pretest Level before Exposure to Children Play

Group	N	Mean	Median	Minimum	Maximum	Variance	Std. Deviation	Std. Error of Mean
Experimental group	8	20.50	20.50	20	21	.286	.535	.189
Control group	8	19.13	19.00	19	20	.125	.354	.125
Total	16	19.81	20.00	19	21	.696	.834	.209

At pretest level, in both experimental and control groups, the traumatic life experience score for the children were very high without any difference in both groups. In the experimental group, the mean score was 20.50 plus or minus 0.189, median 20.50, minimum score 20, and maximum 21

on 21. In the control group, the mean score was 19.13 plus or minus 0.125, median 19.00, minimum score 19, and maximum 20 on 21.

Table 11 Appraisal of Psychosocial Adjustment of Children at Post Test Level after Exposure to Play Activities

Group	N	Mean	Median	Minimum	Maximum	Variance	Std. Deviation	Std. Error of Mean
Experimental group	8	38.38	39.00	35	40	2.554	1.598	.565
Control group	8	15.50	15.00	13	19	4.286	2.070	.732
Total	16	26.94	27.00	13	40	142.73	11.947	2.987

Moreover, after children in the experimental group were exposed to play, results showed that they score very high in their psychosocial adjustment with a mean of 38.38 plus or minus 0.565 more than two times children in the control group with a mean of 15.50 plus or minus 0.732, who were not exposed to play.

Table 12 Appraisal of Children's Play Percentage Wise on Pupils' Psychosocial Adjustment

Measurement issues	Experimental group		Control group	
	SA/A	D/SA	SA/A	D/SA
After the play I felt confident	8 (100%)	0 (0.0%)	1 (12.5%)	7 (87.5%)
After the play I felt happy	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I felt energetic	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I made new friends	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I built good relationship with my friends	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I was no longer depressed	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I felt less stress	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I felt less emotional	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
After the play I felt accepted by my friends	8 (100%)	0 (0.0%)	1 (12.5%)	7 (87.5%)
After the play I felt safe on the school campus	8 (100%)	0 (0.0%)	0 (0.0%)	8 (100%)
MRS	80 (100%)	0 (0.0%)	2 (2.5%)	78 (97.5%)

Key: SA =Strongly Agree, A= Agree, D=Disagree, SD=Strongly Disagree, MRS=Multiple Response Set

Moreover, percentage wise, 100% of the children in the experimental group became adjusted more psychosocially more after exposure to children play while for those in those in the control group, only 2.5% became psychosocially adjusted and majority 97.5% were not. In fact, all the children in the experimental group 100% (8) after exposure to child play became less depressed, less stress, less emotional, more energetic, self-confident, happier, felt safer, and concentrated in class more.

Table 13 Observation of Pupils after Involvement in PlayActivities

Measurement issues	Group	
	Experimental	Control
Appears confident	Observed with almost all the children	Not observed with almost all the children
Looks happy	Observed with almost all the children	Not observed with almost all the children
Full of energy	Observed with all the children	Not observed with almost all the children
Makes friends	Observed with all the children	Not observed with almost all the children
Builds good relationships with friends	Observed with almost all the children	Not observed with almost all the children
No signs of depression	Observed with all the children	Not observed with almost all the children
Shows signs of less stress	Observed with all the children	Not observed with almost all the children
Appears less emotional	Observed with all the children	Observed with many of the children
Is accepted by friends	Observed with all the children	Observed with many of the children
Moves safely on school campus	Observed with all the children	Not observed with almost all the children

Moreover, from the observation carried out by the researcher, majority to all children in the experimental group were psychosocially adjusted more after exposure to play whereas those in the control group were not. In-fact, all the children in the experimental group emerged confident, happy, full of energy, more sociable, no signs of depression, were less stressed and less emotional, and developed more sense of safety in the school.

Table 14 Teachers' Opinion on Observed Behavioural Changes in Pupils after Participating in Play Activities

Themes	Quotations
Happiness/excited	"They were happier." "There were very happy." "They were excited." "They were happy." "I observed that they were more enthusiastic." "I observed they were excited." "They were jubilant." "It makes them feel happy and excited." "They were very happy, full of confidence and energy."
Friendliness	"They became more friendly to fellow mates." "They build good relationships with friends." "They became friendlier." "They become more friendly."
Increased self-esteem	"Their self-esteem increased." "They believed more in their abilities." "Their self-esteem is high." "They have a positive impression about themselves."

	"It improves on their self-esteem."
Less depression	"They were no longer looking depressed." "I observed that there were less depressed." "They became less depressed."
Boost confidence	"There were confident in themselves." "They became more confident." "No shyness."
Improved communication	"They talked so freely (more communication)." "They speak out freely." "There were no more shy to speak up." "They express themselves freely."
Stress reduction	"They were less stressed up." "They appear less stressed up." "They become less stressed up."
Motivation for learning	"They were more disposed to learn more." "They look motivated to engage in learning." "They feel motivated to learn."
More cooperative	"They became more cooperative."

Based on teachers' opinion on changes observed in pupils with traumatic experiences after participation in play activities, many of them said the pupils were excited/happy as narrated "*There were very happy.*", "*They were excited*". More so, some said the pupils became friendlier to mates as stated "*They became more friendly to fellow mates.*" Again, some said their self-esteem increased as stated in the statements "*They have a positive impression about themselves.*", "*It improves on their self-esteem.*" In addition, some teachers said they were less depressed as explain "*They became less depressed.*" Other observed changes were increased self-confidence and communication as narrated "*They became more confident.*" "*There were no more shy to speak up.*" Finally, some teachers said the pupils became less stressed, more motivated to learning, and more cooperative as depicted in the statements "*They become less stressed up.*", "*They look motivated to engage in learning.*", "*They became more cooperative.*"

Thus, play activity helps pupils with traumatic life experiences to feel happier, to be more excited, more friendly, improves self-esteem, makes them less depressed and less stressed up, boost their self-confidence, enhance their ability to communicate, boost their motivation for learning, and make them more cooperative in class.

Table 15 Summary of Findings

Research Question: To what extent is children play a predictor of psychosocial adjustment of pupils with conflict-related traumatic experiences?	Percentage, Mean, T-test, and Thematic Analysis	<p>The results showed that pupils exposure to play significantly predicts their psychosocial adjustment (t-test value 24.740, p-value < 0.001), with those in the experimental group found to score very high in their psychosocial adjustment with a mean of 38.38 plus or minus 0.565 which is significantly different by 22.88 when compare to the mean score for children in the control group 15.50 plus or minus 0.732, who were not exposed to play. Percentage wise, 100% of the children in the experimental group became adjusted more psychosocially more after exposure to children play while for those in those in the control group, only 2.5% became psychosocially adjusted and majority 97.5% were not.</p> <p>The children emerged confident, happy, full of energy, more sociable, no depression, show less stress, less emotional, and develop more sense of safety in the school. Substantiating</p>
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		with teachers, they added that play activity help pupils with traumatic life experiences to feel happier, more excited, more friendly, improve self-esteem, makes them less depressed and stress, boast their self-confidence, enhance their ability to communicate, boast their motivation for learning, aid learning of social skills, makes the pupils bold, improve communication skills, boast concentration in class, enhance socialization, regulate behaviour, help in emotional expression, enhance safety and sense of belonging, and makes them more cooperative in class. Therefore, the null hypothesis was rejected, and alternative hypothesis was accepted.
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Table 14 above presents a summary of the findings. The results showed that pupils' exposure to play significantly predicts their psychosocial adjustment (t-test value 24.740, p -value < 0.001), with those in the experimental group found to score very high in their psychosocial adjustment with a mean of 38.38 plus or minus 0.565 which is significantly different by 22.88 when compare to the mean score for children in the control group 15.50 plus or minus 0.732, who were not exposed to play.

Table 15 Teachers' Opinion on the Relevance of Play to Children with Traumatic Experiences

Themes	Quotations
Socialisation	<p>"It helps them to form new friends."</p> <p>"It helps them form new bonds of friendship with other pupils."</p> <p>"Play gave them the opportunity for socialization."</p> <p>"It helps them to form bonds of friendship and build relationship with other children."</p> <p>"It helps them to socialize."</p>
Stress reduction	<p>"Play reduces stress in the children."</p> <p>"It reduces stress in the children."</p> <p>"Play reduces stress."</p> <p>"It reduces depression and stress in them."</p> <p>"It helps them to reduce stress."</p>
Happiness	<p>"Play makes them feel happier."</p> <p>"Play makes them to feel happy."</p> <p>"It makes them happy."</p> <p>"They were happy."</p> <p>"It helps them to be joyful."</p>
Heals depression	<p>"It heals them from depression."</p> <p>"Play makes them to feel better."</p> <p>"Play helps them to express their emotion."</p> <p>"It helps them to forget about their past."</p> <p>"It reduces depression and even tension."</p>
Boosts confidence and self-esteem	<p>"It makes them more confident in their activities."</p> <p>"Play helps them to develop their self-confidence."</p> <p>"Play builds confidence level of the children."</p> <p>"It increases their self-esteem."</p>
Self-regulation	<p>"Play makes them to regulate their behaviour."</p> <p>"It helps them to regulate their body."</p> <p>"It regulates their emotions."</p>

Learn social skills and relationship formation	"Play helps them to learn new skills." "It helps them to build new relationship with others." "It helps them to learn social skills."
Boldness	"It makes them bold." "It makes them to become bold." "It makes them bold."
Emotional expression	"It helps them to express themselves emotionally." "Play is a means to express emotions."
Improve communication	"It helps them to improve on their communication." "It reduces shyness thereby boasting communication."
Safety	"Play help build trust in the children."
Feel belong	"It makes them to feel at home."
Boost concentration	"It helps them to improve on their attention."
Energetic	"It makes them have more energy."
Motivation	"Play makes them to love the school environment."
Initiative	"It helps them to take initiatives."

Furthermore, based on teachers' opinion on the relevance of play to pupils with traumatic life experiences, many said it helps the pupils to socialize more as explain *"It helps them to form new friends."*, *"It helps them form new bonds of friendship with other pupils."* More so, some teachers said it aids in stress reduction as narrated *"Play reduces stress in the children."*, *"It reduces stress in the children."* In addition, some said the pupils became happier as stated *"Play makes them to feel happy."*, *"It makes them happy."*. In addition, they added that it heals the pupils of depression as stated *"Play helps them to express their emotion."*, *"It helps them to forget about their past."*

To elucidate, some teachers said it boosts the self-confidence and esteem of the pupils as stated *"Play helps them to develop their self-confidence."*, *"Play builds confidence level of the children."*. More so, some said it helps the pupils in self-regulation and learning social skills as explain *"Play makes them to regulate their behaviour."*, *"It helps them to build new relationship with others."* Finally, some teachers said it makes the pupils become bold, aid them to express their emotions, improve their communication skills, feel safe, feel belonged, boost concentration in class, enhance motivation to learning, makes them energetic, and makes them to take initiatives as depicted in some of the statements *"It makes them to become bold."*, *"It helps them to express themselves emotionally."*, *"It reduces shyness thereby boasting communication."*, *"It helps them to improve on their attention."*

In addition, the children added that play makes them energetic, makes them healthy, and helps them in making new friends. Based on how play can be supported in the children school, they opined that play materials and playground be provided, play be included during sporting activities, and play specialist be recruited.

Thus, play was reported to enhance socialization, reduce stress and depression, boost-confidence and self-esteem, regulate behaviour, aid learning of social skills, make the pupils bold, improve communication skills, enhance safety and sense of belonging, boost concentration in class and motivation, and help pupils to express their emotion well.

Testing of Hypothesis:

H₀₂: Children's play does not significantly predict the psychosocial adjustment of pupils with conflict-related traumatic experiences.

H_{a2}: Children's play significantly predicts the psychosocial adjustment of pupils with conflict related traumatic life experiences.

Table 16 Comparing the Psychosocial Adjustment of Children after Exposure to Play

Group	N	Mean	Std. Deviation	Std. Error Mean	Mean Difference	Independent Samples Test
Experimental	8	38.38	1.598	.565	22.88	t= 24.740 p-value < 0.001
Control	8	15.50	2.070	.732		

Equal variances not assumed, df=14, cl=95%, Std. Error Difference=0.925

Statistically, results showed that children exposure to play significantly determines their psychosocial adjustment (t-test value 24.740, p -value < 0.001), with those in the experimental group found to score very high in their psychosocial adjustment with a mean of 38.38 plus or minus 0.565 which is significantly different by 22.88 when compared to the mean score for children in the control group 15.50 plus or minus 0.732, who were not exposed to play. Therefore, the null hypothesis was rejected, and alternative hypothesis was accepted.

DISCUSSION

The results revealed that exposure to play significantly determined their psychosocial adjustment of school children with conflict-related traumatic experiences. The findings are in line with Schwartz & Badaly (2010) who argue that sufficient adventurous play during childhood may help prevent anxiety. The finding also corroborate Bundy et al. (2009) who reported positive outcomes of play, including resilience and improvements in children's happiness in school.

From the observation checklist for children who were exposed to play, the children appeared confident, happy, full of energy and lively after the play. This observation is in line with Gill (2014) who asserts that outdoor play has a positive effect on children. This means that play activities make children happy, excited and energetic.

Furthermore, teachers reported observed positive emotional changes in the children after they participated in play activities. These emotional changes include happiness, excitement, and increased self-esteem. This aligns with Dodd & Lester (2021) who opined that play reduces anxiety thereby making the children happy, excited and confident. These are indices of adjustment in children after experiencing trauma inducing events.

The findings also showed that play has positive behavioural changes on children exposed to traumatic experiences. The children indicated in Focus group discussions after play that they build good relationships, are accepted by friends, their communication skills improved and they move freely on school campus. The findings are in line with Whitebread et al. (2017) who identified play as one of the effective factors in strengthening children's social skills. It also ties with Braunerger's (2014) assertion that play increases children's affiliation with peers, improves the quality of social life, social relations, physical health, spirituality and overall daily life. The findings equal align with Gill (2014) who believes play has a positive effect on wellbeing, Coplan & Arbeau (2009) who consider play as an essential context for improving children's emerging social skills and friendship skills and Schwartz et al. 202015 who affirm that play impacts mental health and psychosocial adjustment in middle childhood.

Also, the children reported reduction in stress, depression and emotional difficulties after taking part in play activities. This falls in line with Braunerger (2014) who is of the opinion that play reduces stress and somatic symptoms. This implies that play is good for the mental health of children as it enables them to overcome stress, depression and maintain a state of wellbeing that enable them to learn to do domestic chores and be productive.

Teachers reported that they observed behavioural changes in the children after they participated in play activities. They indicated that the children became more friendly, were happy, excited, communicated more and were more confident in themselves. These positive emotions elicited by

the children align with Roderiquez-Ayllon et al. (2019) who established significant association between play and psychological wellbeing - self-image, satisfaction with life, and happiness.

Theoretically, the findings are in line with the satisfaction of esteems needs on Maslow hierarchy of human needs theory (Maslow, 1943). The typical human being desires to be accepted and valued by others. McLeod (2018) queued in that children have a need to feel respected, to have self-esteem and a need to feel respected by others. Play activities provides an opportunity for children, including those with traumatic experiences to satisfy this fundamental human need of esteem that fosters psychological equilibrium and adjustment to traumatic experiences.

Again, the finding align with the sociocultural theory of Vygotsky (1978) who believes that children's development is influenced by social forces of which play is one. According to Vygotsky children learn through social interactions that include collaboration with people more knowledgeable than them. They could be parents, teachers or peers. The different play activities (Tabala, Hide & Seek, Scizo, Dodging and Egg race) that the children were engaged in were rooted in the sociocultural environment of the children. These children played with their peers who were a source of social support that boosted their psychosocial wellbeing.

Furthermore, the findings are in line with psychosocial development theory of Erikson (1950). Erikson (1982) opines that children in the middle and late childhood are very busy or industrious. They are constantly panning, playing and getting together. Parental/teacher encouragement will help them develop skills and a sense of confidence (industry). Play provides the opportunity for the expression of social skills and the building of confidence in children in children with conflict-related traumatic life experiences.

CONCLUSION

The findings of the study indicated that pupils with conflict-related traumatic experiences enjoyed play activities. Above all, play significantly predicts the psychosocial adjustment of pupils with conflict-related traumatic experiences. This implies that psychosocial adjustment of pupils with conflict-related traumatic life experiences is more likely to be high when their school and teachers expose them to organised play activities.

The study has proven that play activities organised within the ecological niche of the children can be utilised to help them adjust socially and psychologically to traumatic experiences resulting from armed conflict. This is a sort of indigenous solution to the stressors of armed conflict.

RECOMMENDATIONS

Based on the findings, some recommendations were made with the aim of increasing the exposure of children to play activities and improving the psychosocial adjustment of school children with conflict-related traumatic experiences. The recommendations were made following the specific objectives of the study. The findings revealed that children's play significantly determines the psychosocial adjustment of school children with conflict-related traumatic experiences. Those taking care of children including teachers, parents and guardians should give the opportunity for children to take part in play activities. Play activities for children should be encouraged, especially play that is rooted in the local community of the children. Play space and materials should be provided to children especially those who have witnessed traumatic events. This will help them to express their emotions, socialise and feel happy.

Children are traumatised by armed conflict. Governments and national and international development partners should take necessary measures to ensure that sustainable play activities and interactions are facilitated for children affected by the on-going armed conflict. The findings of this study have shown that children play activities have significantly influenced the psychosocial adjustment of pupils with conflict-related traumatic experiences.

Figure 2: Model to Foster Psychosocial Adjustment of Children with Traumatic Life Experiences through Play

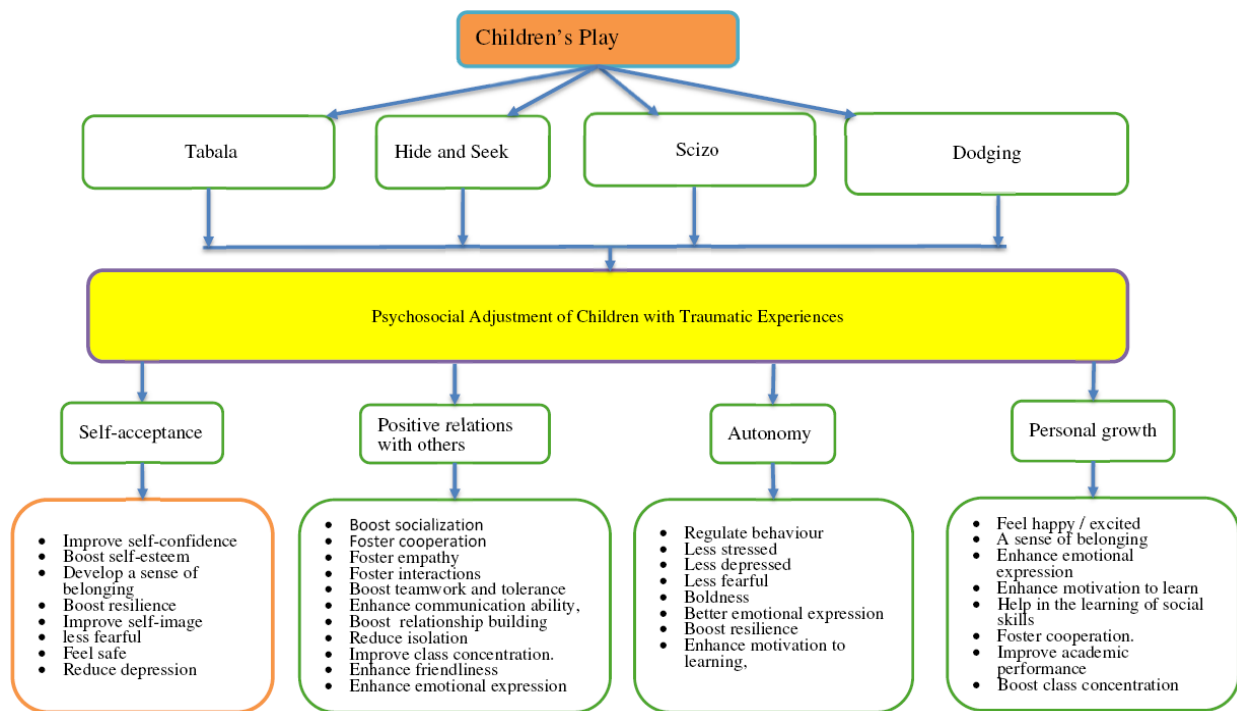


Figure 2 above presents a Model to foster the psychosocial adjustment of children with traumatic experiences. It is an explanatory model on how children's play influence the psychosocial adjustment of children with traumatic experiences. Children with traumatic life experiences have adjustment difficulties. When these children are exposed to play activities, they are adjusted psychosocially. The adjustment is observable in their social and psychological wellbeing in the four domains of self-acceptance, positive relations with others, autonomy and personal growth.

Firstly, children who are self-accepted have a positive attitude towards self, feels positive about past life and accept multiple aspects of self. Self-acceptance is shown in adjusted children in improved self-confidence, improved self-image, improved self-esteem, feeling of safety, a sense of belonging and less fear. Secondly, psychosocially adjusted children will have positive relations with others (close trusting relationships with others, capable of affection and concerned about the welfare of others). Participating in play boost socialisation, communication, teamwork, tolerance; foster cooperation, empathy, and interactions; enhance class interaction, friendliness and reduce isolation in the children. These are the behavioural indices of positive relations with others.

Thirdly, participating in play activities lead to psychosocial adjustment in the domain of autonomy for the children. Autonomous children (self-determining & independent, regulate behaviour from within and are able to resist social pressures) regulate their behaviour, are less fearful and have better emotional expression. They are resilient, have improved concentration and reduction in stress and depression. Fourthly, children involvement in play as shown on the model will result to psychosocial adjustment in the area of personal growth (has a sense of realising his/her own potential, sees improvement in self and develops new attitudes and behaviour). Children, who adjust in the domain of personal growth, feel happy/excited, bold and become less fearful. They experience improved academic performance, mental health and are motivated to learn. Again, participation in social and cultural activities will aid them in learning social skills and concentration in class.

This model to foster the psychosocial adjustment of children with traumatic life experiences will be a valuable contribution to trauma-informed teaching and learning strategy as it clearly

illustrates children's play as a predictor of psychosocial adjustment of school children with traumatic experiences. Many parts of the world are plagued by violent armed conflicts with children bearing the psychological brunt. This model has come to add on existing literature on how to utilise play activities to help children with conflict-related traumatic experiences to adjust socially and psychologically so as to live healthy, happy and productive lives.

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