



## Effect of Play Intervention on Aggression Behavior and Social Skills among Elementary School Children

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### ABSTRACT

**Background:** Play is critical for the healthy development of elementary school children. Play intervention assists children to reduce aggression tendencies while also build of social skills in a healthy manner. **Aim:** Assess the effect of play intervention on aggression behavior and social skills among elementary school children. **Design:** A Quasi-experimental research design was utilized to carry out the current study. **Setting:** The study was conducted at three governmental elementary schools at Ezbet Elwalda, which is affiliated to Helwan district **Sample:** A multi-stage random sample of 120 children was taken from three schools. **Tools:** Included (1) An interviewing questionnaire involved three parts; part I- Child demographic characteristics, part II- Plays data and history of the child, and part III: Aggressive behavior scale. (2) Social skills observational checklist. **Results:** The mean age  $\pm$  SD of the children was  $11.66 \pm 1.6$ , 51.7% of them were males and one-third of them were in the fifth grade. After the application of play intervention, there was a statistically significant difference in aggressive behavior among elementary school children at ( $p < 0.001$ ). Also, the result revealed that there was a statistical improvement in the mean score of social skills and all its sub-items among the studied sample at ( $p < 0.001$ ). **Conclusions:** Using play intervention was effective in decreasing aggressive behavior and improving social skills in all items among elementary school children. **Recommendation:** Continuous education programs should be applied in the school to raise the awareness of school children's parents and the teachers regarding the prevention of aggressive behaviors.

**Keywords:** Aggression behavior, Social skills, Elementary school children & Play intervention

### Introduction

Elementary school children make up a substantial and essential portion of any country's population; therefore efforts to improve their well-being as pillars for building human capital, preparing for the effective fulfillment and utilization of children's potential, are critical (The Central Agency for Public Mobilization and Statistics (CAPMAS), 2017). Aggression among elementary school children is a complex concept and can affect their social, psychological, and physical

health, it refers to behaviors and emotions that emerged to hurt, or destroy something or someone. In the case of persons, the intention of harm involves conflict between individuals of equal levels (Salimi et al., 2019). Aggressive behavior is a common disorder that occurs as a negative form experienced during childhood, but if left, it will hurt children's lives in the future (Saomah et al., 2020). This behavior causes harm to others. It may range from verbal to physical abuse, destroy personal property, disrupts social boundaries, and lead to breakdowns in the

relationships. It can be obvious or secretive (**Legg and Gabbey, 2019**). Predisposing factors of aggressive behavior include genetic factors as: In twins, family histories of mental disorders, chromosomal influences, psychological factors as intrinsic behaviors, social factors as frustration, direct provocation, television violence, and computer games, environmental factors as air pollution, noise, and crowding, situational factors as heightened physiological and sexual arousal, as well as physical pain (**Nursing Path, 2013**).

Social skills are life skills that allow school children to initiate and maintain positive social relationships with others such as communication, problem-solving, making decisions, controlling emotions in adaptive ways, self-direction, and peer relationships. The term "social relations" refers to the behavior characteristics that are required to initiate and maintain interactions with others (**Ölçer and Aytar, 2014**) & (**Sørli et al., 2020**). It's also crucial for the child to be able to have and sustain pleasant interactions with others. Many of these abilities and skills are necessary for forming and maintaining friendships. When challenges in social interactions emerge, the child must be able to execute appropriate techniques, such as dispute resolution (**Meiners, 2018**).

Play is fundamental for developing 21<sup>st</sup> century skills like creativity, which necessitate impulse control skills that are essential for life success. Play improves brain function and structure, as well as the learning process, allowing us to achieve our objectives. and ignore distractions (**Yogman et al., 2018**) & (**Salimi et al., 2019**). The type of play a child engages in is determined by his or her developmental maturity and personality, as well as the context, resources available, and the child's peer group. Children do not develop or learn anything vital if they are not engaged in an activity. Play isn't just a fun method for kids to pass the

time when they have nothing else to do (**Meiners, 2018**). Play develops social skills for children because they learn to work with others toward a shared goal and through their emotions, learn to be assertive, negotiate, and cooperate for building friendships (**Turner, 2019**). The play has a lengthy history across a variety of disciplines, and it has been acknowledged as a necessary component of human evolution for adaptability and survival. Play intervention helps children develop social skills such as making decisions, paying attention to detail, sequencing their activities, and resolving conflicts or solving issues. It also allows children to identify concepts such as right and wrong, good and bad (**Hart and Nagel, 2017**).

Nurses are on the front lines of dealing with repetitive aggressive behaviors that result in negative consequences over time. They teach aggressive children how to react, communicate, and reduce aggression toward their classmates, as well as how to ask the correct questions to learn how the child is feeling and help them to improve social skills and report problems to their parents and teachers. In elementary school, the nurse assesses, plans, and coordinates care for these children, as well as initiates an appropriate intervention to any situation. She can do prevention efforts, and execute anti-aggressive program (**Deitch, 2019**).

#### **Significance of the study:**

School children are the future youth and citizens of Egypt. They represent about 40% of the total Egyptian population (**CAPMAS, 2017**).

Aggression is prevalent among school-age children; approximately, one in every 10 children suffers from chronic aggressive behaviors or is harassed by peers (**Abu Al Rub, 2018**). In 2018, UNESCO estimated that approximately 30% of all children annually experienced some type of aggression

at school (United Nations Educational, Scientific, and Cultural Organization (UNESCO), 2018). Aggressive phenomena in children worry parents and teachers. Behavioral control is so important for elementary school children because when they get to school they find themselves in a newly developed social situation that is vital for self-preservation (Saomah et al., 2020).

Play is one of the most important ways in which young children gain knowledge and skills, especially in physical, social, emotional, and cognitive aspects, and also can influence a child's overall growth as a person (Salimi et al., 2019). Aggressive behavior in children has become a major problem throughout the world and therefore, it is imperative to research in community health nursing to investigate this problem and implement appropriate play interventions to help elementary school children decline aggression behavior and develop social skills.

#### **The study aims to:**

Assess the effect of play intervention on aggression behavior and social skills among elementary school children. Through the following objectives:

- 1- Assessing the elementary school children's aggressive behavior and social skills.
- 2- Planning and implementing play intervention based on children's needs.
- 3- Evaluating the effect of play intervention among elementary school children.

#### **Research hypothesis:**

**H1:** Aggressive behavior will be declined after the implementation of play intervention among elementary school children.

**H2:** Social skills will be developed after the implementation of play intervention among elementary school children.

#### **Subjects and methods:**

##### **I. Technical design**

##### **Research design**

A quasi-experimental research design was utilized in this study.

##### **The setting of the study:**

The study was carried out in three government elementary schools in Ezbet Elwalda, which is piece of the Helwan district ( Nageeb Mahfoth, Osama bin Ziad and Asmaa bent Aby baker school ).

##### **Sample:**

A multi-stage random sampling technique was done through the following stages:

**First stage:** A random selection of three schools out of six governmental elementary schools in Ezbet Elwalda.

**Second stage:** The children of the existing study were enrolled in the academic year 2020- 2021, they include the children in 4<sup>th</sup>,5<sup>th</sup>, and 6<sup>th</sup> grades aged between (9-13) years, who attend the afternoon shift as a safety precaution of the ministry distribution in Covid- 19 infection.

**Third stage:** The children included in the study were chosen with the help of the school health nurse, social worker, and teachers in each school. The children had shown manifestations of hostility, anger, verbal or physical aggression with their peers.

**Fourth stage:** The total sample was 120 from the three schools that were selected, and they are: 45 children from Nageeb Mahfoth elementary school, 40 children from Osama Ben Ziad elementary school, and

35 children from Asmaa Bent Abo Baker elementary school.

#### Tools for data collection:

The researchers used two different tools:

**1<sup>st</sup> tool:** The researchers created an interview questionnaire after studying the relevant literature. It consists of three parts:

**Part I:** Child demographic characteristics as Age in years, sex, grade, family no., room no., crowding index, child order among siblings, (father and mother) age, education, and occupation.

**Part II:** Child history and behavior toward play as The person responsible for child rearing, live with parents, type of punishment, love playing, play style, duration of play, type, and place of play.

**Part III:** Aggressive behavior scale was adapted from **Ahmed & Youseff, (2012) and Abd-Elkariem, (1991)** and modified by the researchers for detecting manifestations of aggressive behavior among elementary school children. The scale was filled in by children under the researchers' direct observation and did not leave a statement unanswered.

**Scoring system:** Were distributed to the phrases as follows: Always (3) Sometimes (2) Never (1). Where the maximum degree of the scale reached (87) degrees, and the minimum degree of the scale reached (29) degrees

**2<sup>nd</sup> tool:** Social skills observational checklist (Pre-K/Elementary) adopted from **Anderson, (2013)**. It was observed by the researchers. This tool is composed of 3 main parts:

**1<sup>st</sup> part** is about social play and emotional development which is composed of three main segments; first about beginning play involved 6 questions, second about intermediate play behavior

composed of 8 questions, third segment about advanced play behavior composed of 6 questions.

**2<sup>nd</sup> part** about emotional regulation is also composed of 3 segments about understanding emotions composed of 10 questions, self-regulation includes 11 questions, and flexibility includes 5 questions, and problem-solving include 4 questions.

**3<sup>rd</sup> part** about communication skills which composed of 3 segments; conversational skills included 8 questions, non-verbal conversational skills composed of 4 questions, and compliments involved 4 questions so, the total questions were 66 questions

**Scoring system:** Were as follows:

- Always refer to the child consistently displayed this talent was tested in a number of contexts and with a range of children, and the results were scored (3).
- Sometimes referred to the child seldom displays this skill but may demonstrate it on infrequent occasions and scored (2).
- Never in which the child never or rarely exhibits this skill and scored (1).
- The maximum degree of the scale reached (198) degrees, and the minimum degree reached (66) degrees.

## II. Operational design

### a- Preparatory phase:

This phase included a study of previous and current researches, as well as various studies related to play activities' effect on aggressive behavior and improving children's social skills using text, articles, magazines, and the internet to get a clear picture of the research problem and design data collection tools.

### Validity of tools

The validity of measuring tools is determined by whether the elements in the tool appear to be

reasonable, complete, unambiguous, and clear. The study's tools were evaluated for validity by three experts in Community Health Nursing and statistics.

### **Reliability of the tools**

Cronbach's alpha was used to determine the reliability of the following study instruments, which demonstrated strong internal consistency and reliability: aggressive behavior scale (Cronbach's alpha = 0.759) and social skills observational checklist (Cronbach's alpha = 0.843).

### **Ethical considerations**

Permission has been obtained orally from each child and her parents to participate in the research. Children were notified about the study's purpose and what would be done with the results prior to data collection. The play intervention didn't have any harm on the children. They were given the option to refuse participation in the study and were informed that they might withdraw at any moment. They were also informed that the information would be kept private and solely utilized for research purposes. Ethics, values, culture, and beliefs were respected.

### **b- Pilot study**

A pilot study was conducted on 10% (12) of the children to assess tool clarity, appropriateness, and feasibility, as well as to estimate the time required to complete the tools. The data from the pilot study was analyzed, but the study tools were not modified. As a result, those who took part in the pilot study were included in the main study sample.

### **c- Field work**

The study carried out through the academic year 2020-2021, and the data collecting took around six months, from end of October 2020 to the end of April 2021. The current study was conducted after receiving

official authorization from the Dean of the Faculty of Nursing and the managers of Ezbet Elwalda elementary schools in the Helwan district, where it was done. The researchers began by speaking with the children and introducing themselves. The study's goal was explained to the children. The questionnaire took about 35-40 minutes to complete because each child was interviewed and observed separately, as well as within-group. The responses were completed by the researchers.

The initial data were collected from the studied children. The results were analyzed statistically and manually prepared, and the play intervention activities were implemented for them. Then the evaluation of the studied children was carried out by using the same research tools.

### **The application of play intervention was carried out in four phases:**

**Phase I: Assessment phase:** In this phase, the researchers collected data from elementary school children. by using pretest to assess the needs and determine the baseline of aggressive behavior and social skills to build up the play intervention.

**Phase II: Planning phase:** It involved designing the play intervention sessions, which were arranged according to the needs of the children based on the analysis of the actual results of the pre-test of aggressive behavior and social skills observational checklist to help in the design of the sessions of the play intervention. The general objective was to assess the effect of play intervention on aggression behavior and social skills for elementary school children. The researchers identified a suitable free time for the children to attend the sessions based on their school schedule which started after the completion of the pre-test. The play intervention sessions booklet was prepared by the researchers, in simple Arabic language

and consistent with the related literature. This included data about: Meaning, aim of play intervention, importance and positive effects, types of play that decrease aggression and improve social skills, methods to apply any game, benefits from every game & activities, equipment used in play, and how to practice arts, sports and games. The researchers had implemented the play intervention in the playground, the activity room, and library of the previously mentioned schools. The researchers presented in the schools 2 days/week (Wednesday, and Thursday) in the afternoon period from 12:30 am. - 4:00 pm.

**Phase III: Implementation phase:** The researchers were conducted different types of play interventions whether individualized or in groups. Also, due to the country's conditions and the continuing spread of the Covid-19 pandemic, researchers were forced to make small groups to implement play intervention that considers the protective precautions among the school children. Play intervention was designed by the researchers' and sessions began with an orientation about the interventions and their objectives. Every session took about 50-60 minutes. The total number of children was 120 children from three schools the researchers considered every school as a group and every group based on their number were divided into other subgroups. The total number of subgroups was 10; each subgroup composed 10-13 children distributed as the following 3 groups for 35 children from Asmaa Bent Abo Baker elementary school and 3 subgroups for 40 children from Osama Ben Ziad elementary school and 4 subgroups for 45 children from Nageeb Mahfoth elementary school. The play intervention applied in 4 sessions for every subgroup (two theoretical and two practical).

**The theoretical part included:** A set of organized and planned procedures as well as steps based on scientific principles, techniques, and theories of play, and even a set of games and interventions given to children over a period of time to help them reduce aggressive behavior and develop social skills.

**The practical part included:** Practice of various games to three main groups as follows:

- Arts and crafts activities: It includes making kites, painting, and drawing.
- Sports activities include football, handball, and movement games.
- Games include many types as inflating and pop balloons that were a way to vent and release anger as well as another type of games that spread the spirit of cooperation, friendship, and fun by taking off the jump.

The teaching methods are designed and developed based on their needs and include group discussions, and role-play. The media was a booklet, pictures, power point presentation also, videos on the laptop screen.

**Phase IV: Evaluation phase:** It includes a post-test done after one month of implementing the intervention for every group one time only by using the same formats of the pre-test tools to assess the effect of play intervention.

### III- Statistical design:

The statistical package for social sciences (SPSS) version 20 was used for data entry and statistical analysis on a personal computer. Frequency, percentage, mean, and standard deviation were utilized as appropriate descriptive statistics. The relationship between the variables was determined using the Chi-square test. The correlation coefficient (r) test was also employed to determine the degree of closeness between variables. The mean score of the analyzed variables

was compared using a paired (t) test. The p-value indicates the likelihood that a difference observed is attributable to chance rather than a true difference. When the p-value was less than 0.05 and the level value was very significant, it was termed a significant level value.

### Results:

**Table (1)** shows that the mean age  $\pm$  SD of the elementary school children was  $11.66 \pm 1.6$  and 51.7% of them were males, 35.8% in the fifth grade. Regarding the family no. 66.7% were 5-7 members and 79.2% of them had 1-2 rooms so the crowding index of school children's families was 48.3% who had three or more family members per room. Additionally, 42.5% of them were in the middle among their sibling. Regarding fathers' age 56.7% of them their age from 41-50 years. As well as 32.5% of their parents had preparatory education and 28.4% of their father's work was free working. While the mothers' ages range from 30-50 years in 45.8% and 36.7% had primary education and 70.8 % of them were worked.

**Table (2)** illustrates 35.0% of them their mothers were only responsible for their raring and 80.8% of school children live with their parents while only 19.2 % of them didn't live with parents as 10.8% of them their parent was divorced. Regarding the type of punishment, 43.3% of school children reported that they get punished physically, verbally, and with deprivation of something they loved. Regarding child play behavior 58.5% of the school children reported that their preferred playstyle was in the group with 66.7% of them playing 1-3 hours/day.

**Figure (1)** shows that 35.1% reported that the preferred type of play was pubg phone games followed by football 24% then PlayStation 13%.

**Figure (2)** displays that 57% of school children reported that the preferred place of playing were homes followed by street which about 24% of them and 16% reported they play in the club.

**According to the study hypothesis which confirmed play intervention will have a positive effect on elementary school children's aggressive behavior and social skills; it will be discussed through the following parts of study results; tables (3,4,5, and 6)**

**Table (3)** clarifies all sub-items of the aggression scale that involves the anger, hostility physical, and verbal aggression were decreased post rather than pre-implementation of play intervention with a highly statistically significant difference with p-value  $< 0.001$ . As well as regarding the total scores of aggression scale the mean scores were  $86.28 \pm 4.88$  pre-play intervention and decreased to be  $48.95 \pm 6.62$  post implementing of play intervention with a p-value  $< 0.001$ .

**Table (4)** describes that there were highly statistically significant differences between pre and post-play intervention in all items of the aggression behavior scale with a p-value  $< 0.001$ .

**Table (5)** presents that the mean scores of all main items of school children social skills that were increased post-play intervention rather than a pre-play intervention with highly statistically significant differences in the total social skills scores as well in every separate sub-items of social skills checklist post-play intervention with p-value  $< 0.001$ .

**Table (6)** confirms that there was a highly statistically significant difference between pre and post-play interventions of all sub-items of the social skills checklist p-value  $< 0.001$ .

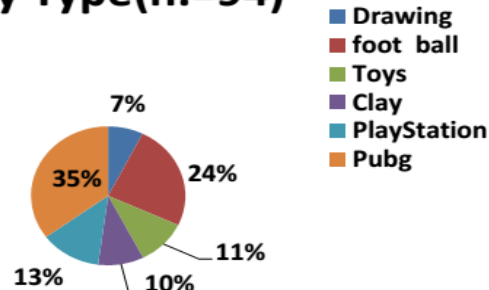
**Table (1): Demographic Characteristics of the Elementary School Children and Their Parents (No.=120)**

Demographic Characteristics	No. (%)	Demographic Characteristics	No. (%)
<b>Age/Years</b>		<b>Father age</b>	
- 9-10	14(11.7)	- 30-40	31(25.8)
- 11-12	78(65.0)	- 41-50	68(56.7)
- 13	28(23.3)	- ≥ 51	21(17.5)
<b>Mean± SD</b>	11.66±1.6	<b>Father education</b>	
<b>Sex</b>		- Primary	30(25.0)
- Male	62(51.7)	- Preparatory	39(32.5)
- Female	58(48.3)	- Secondary	31(25.8)
<b>Grade</b>		- University	20(16.7)
- Fourth	40(33.3)	<b>Father occupation</b>	
- Fifth	43(35.8)	- Not work/ retired	8(6.7)
- Sixth	37(30.8)	- Worker	22(18.3)
<b>Family No.</b>		- Free work	34(28.4)
- 2-4	35(29.2)	- Professional work	31(25.8)
- 5-7	80(66.7)	- Employee	25(20.8)
- ≥ 8	5(4.2)	<b>Mother age</b>	
<b>Mean± SD</b>	5.20±1.78	- 30-40	55(45.8)
<b>Room No.</b>		- 41-50	55(45.8)
- 1-2	95(79.2)	- ≥ 51	10(8.4)
- ≥ 3	25(20.8)	<b>Mother education</b>	
<b>Mean± SD</b>	2.20±0.4	- Primary	44(36.7)
<b>Crowding Index</b>		- Preparatory	33(27.5)
- ≤ 1-	12(10.0)	- Secondary	32(26.7)
- 2-	50(41.7)	- University	11(9.1)
- ≥ 3	58(48.3)	<b>Mother occupation</b>	
<b>Child order</b>		- Housewife	35(29.2)
- First	21(17.5)	- Worked	85(70.8)
- Middle	51(42.5)		
- Last	48(40.0)		

**Table (2): Frequency Distribution of Child History & Child Behavior toward Play (No.=120)**

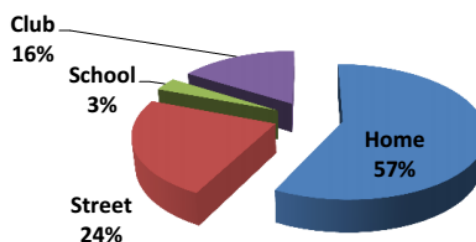
Child history	No (%)	Child behavior	No (%)
<b>The person responsible for child raring</b>		<b>Play style (no=94)</b>	
- Father only	17(14.2)	- Individualized	36(38.3)
- Mother only	42(35.0)	- Group	55(58.5)
- Father and mother	31(25.8)	- Both	3(3.2)
- None of them	15(12.5)		
- Uncle/ Aunt/ Grandma or grand ba	15(12.5)	<b>Play at school</b>	
<b>Live with parents</b>		- Yes	54(45.0)
- Yes	97(80.8)	- No	66(55.0)
- No	23(19.2)	<b>Play duration</b>	
<b>Causes of not living with parents(no.=23)</b>		- Not play	26(21.7)
- Divorce of parents	13(10.8)	- 1-3hours	80(66.7)
- Traveling	6(5.0)	- 4 and more hours	14(11.6)
- Death	4(3.3)		
<b>Type of punishment</b>			
- Physical	36(30.1)		
- Verbal	13(10.8)		
- Deprivation of something	19(15.8)		
- All of above	52(43.3)		
<b>Child love playing</b>			
- Yes	94(78.3)		
- No	26(21.7)		

**Play Type(n.=94)**



**Figure (1) Percentage Distribution of the School Children Play Type (n.=94)**

**Place of playing (n.= 94)**



**Figure (2) Percentage Distribution of the School Children Place of Playing (n.=94)**

**Table (3): Mean Scores of School Child Aggression Behavior Scale Pre and Post Play Intervention (No.=120)**

Aggression behavior items	Pre-play intervention Mean± SD	Post Play Intervention Mean± SD	Paired t-test	P-value
- Anger	29.50±2.18	15.70± 2.48	43.966	0.000**
- Hostility	22.51±1.86	12.6±2.88	32.009	0.000**
- Physical Aggression	22.83±1.83	13.77±1.84	35.911	0.000**
- Verbal Aggression	11.42±0.90	6.52±1.53	32.001	0.000**
<b>Total</b>	<b>86.28±4.88</b>	<b>48.95±6.62</b>	<b>50.373</b>	<b>0.000**</b>

\*\*High statistical significant difference p-value <0.001

**Table (4): Percentage Distribution of Aggression Behavior Scale among School Children Pre and Post Play Intervention No= 120.**

Aggression behavior scale Items	Pre-Play Intervention			Post-Play Intervention			Chi <sup>2</sup> X <sup>2</sup>	P-Value
	Never %	Sometimes %	Always %	Never %	Sometimes %	Always %		
Anger domain								
Spit on others	0.0	2.5	97.5	46.7	44.2	9.1	188.46	0.000**
Kicks ,hits or slaps others	1.7	3.3	95.0	55.8	40.0	4.2	198.30	0.000**
Through things on others	0.8	3.4	95.8	48.4	40.8	10.8	174.11	0.000**
Plays with sharp objects	1.7	1.7	96.7	63.3	32.5	4.2	205.42	0.000**
Rips, pulls or chews his clothes	1.7	3.3	95.0	51.7	41.6	6.7	187.53	0.000**
Cry and scream	0.0	3.3	96.7	50.8	47.5	1.7	217.18	0.000**
Hits things with feet while yelling and shouting	0.8	4.2	95.0	42.5	48.3	9.2	177.53	0.000**
Through him self on the floor ,shouting and screaming	0.8	4.2	95.0	52.5	43.3	4.2	198.65	0.000**
Hits his feet or slams doors violently	0.8	2.5	96.7	41.7	40.8	17.5	153.64	0.000**
Hostility domain								
Breaks windows	1.7	2.5	95.8	52.5	41.7	5.8	194.53	0.000**
shreds his notebooks, books, or other belongings	0.8	2.5	96.7	49.2	38.3	12.5	171.67	0.000**
shreds notebooks, books, or other belongings of others	0.8	4.2	95.0	38.3	43.4	18.3	144.07	0.000**
Tears pull or chew on other people's clothing.	8.3	8.4	83.3	48.3	41.7	10.0	129.69	0.000**
Contaminates other people's clothes	19.2	0.8	80.0	50.8	32.5	16.7	103.08	0.000**
Playing violent games	6.7	11.6	81.7	49.2	33.3	17.5	101.16	0.000**
Chases his colleagues with intent to harm them	10.0	8.3	81.7	70.0	20.8	9.2	129.86	0.000**



Aggression behavior scale Items	Pre-Play Intervention			Post-Play Intervention			Chi <sup>2</sup> X <sup>2</sup>	P-Value
	Never %	Sometimes %	Always %	Never %	Sometimes %	Always %		
Takes over his teammates' games by force	3.3	8.3	73.3	73.3	20.8	5.8	169.85	0.000**
Physical aggression								
Pushes scrape or pinch others.	0.8	3.3	95.8	33.3	60.0	6.7	191.02	0.000**
Pulls other people's hair or ears.	0.8	3.3	95.8	50.8	49.1	0.0	221.08	0.000**
bite others	0.8	3.3	95.8	50.8	20.8	28.3	117.35	0.000**
Pollutes his property.	1.7	2.5	95.8	44.1	48.3	7.5	187.49	0.000**
pet abuse	0.8	2.5	96.7	35.0	57.5	7.5	191.18	0.000**
behaves violently with things (cuts books and notebooks)	0.8	19.2	80.0	32.5	54.2	13.3	113.28	0.000**
Deals with furniture excessively (such as hitting it, breaking it, or throwing it on the ground	14.2	15.8	78.3	25.8	56.7	17.5	89.09	0.000**
tampering with electrical switches	15.8	11.7	72.5	45.8	39.2	15.0	80.70	0.000**
Verbal aggression								
Cries and screams	0.0	3.3	96.7	50.8	47.5	1.7	217.18	0.000**
Invites colleagues to harm	7.5	15.0	77.5	41.7	54.2	4.2	134.12	0.000**
Uses inappropriate words with his colleagues	0.0	17.5	82.5	41.7	42.5	15.8	116.73	0.000**
Bullies verbally , co-workers (mocking co-workers)	10.0	8.3	81.7	70.0	20.8	9.2	129.86	0.000**

\*\* Highly statistically significant p-value < 0.001

**Table (5): Mean Scores and Standard Deviation of the Total Summary of Sub Items of Child Social Skills Checklist Pre and Post Play Intervention (No. =120)**

Items	Pre-play intervention Mean± SD	Post Play Intervention Mean± SD	Paired t-test	P-value
<b>Social play and Emotional development</b>	24.658±4.19	49.483±9.48	26.220	0.000**
- Beginning play behaviors	8.19±1.78	14.81±3.24	20.239	0.000**
- Intermediate play behaviors	8.24±2.33	9.33±2.57	32.622	0.000**
- Advanced play behaviors	7.13±2.34	16.32±3.16	23.074	0.000**
<b>Emotional regulation</b>	35.591±4.41	84.09±9.34	33.073	0.000**
- Understanding Emotions	11.116±3.60	27.77±4.71	28.206	0.000**
- Self-regulation	13.91±2.69	30.87±5.33	30.321	0.000**
- Flexibility	5.29±0.72	14.00±2.54	35.889	0.000**
- Problem solving	5.75±1.34	11.12±2.01	23.902	0.000**
<b>Communication skills</b>	19.77±3.94	84.09±9.66	47.877	0.000**
- Conversational skills	10.03±2.17	22.10±3.96	29.776	0.000**
- Nonverbal conversational skills	4.86±1.19	11.12±2.09	28.450	0.000**
- Compliments	4.87±1.31	10.83±2.06	26.411	0.000**
<b>Total</b>	<b>80.02±8.66</b>	<b>174.4±10.01</b>	<b>32.873</b>	<b>0.000**</b>

\*\* Highly statistically significant p-value < 0.001

**Table (6): Percentage Distribution of Social Skills Checklist of School Children Pre and Post Play Intervention (No= 120).**

Social skills checklist Items	Pre-Play Intervention			Post-Play Intervention			Chi <sup>2</sup> X <sup>2</sup>	P-Value
	Never %	Sometimes %	Always %	Never %	Sometimes %	Always %		
<b>Beginning play behaviors</b>	64.2	35.8	0.0	22.5	7.5	70.0	181.68	0.000**
<b>Intermediate play behaviors</b>	90.0	2.5	7.5	18.3	7.5	74.2	104.65	0.000**
<b>Advanced play behaviors</b>	14.2	83.3	2.5	16.7	5.1	78.2	229.03	0.000**
<b>Understanding Emotions</b>	92.5	4.2	3.3	4.2	8.3	87.5	207.89	0.000**
<b>Self-regulation</b>	88.3	11.7	0.0	7.5	5.8	86.7	206.03	0.000**
<b>Flexibility</b>	85.8	10.0	4.2	5.8	6.7	87.5	180.70	0.000**
<b>Problem solving</b>	45.0	55.0	0.0	5.0	8.3	86.7	218.22	0.000**
<b>Conversational skills</b>	83.3	14.2	2.5	5.8	8.4	85.8	208.35	0.000**
<b>Nonverbal conversational skills</b>	80.0	20.0	0.0	5.8	10.0	84.2	198.25	0.000**
<b>Compliments</b>	80.0	19.2	0.8	5.8	9.2	85.0	202.08	0.000**

\*\* Highly statistically significant p-value < 0.001

## Discussion

Aggression is considered the most prevalent and destructive behavior that elementary school children may be exposed to. Also, these children may be at risk of becoming either the aggressors or the victims of aggression Since children spend most of their time at school, it's possible that aggression behaviors occur there (Jackson et al., 2015 ). So, Play intervention is a very important tool that can be used in elementary school to decrease aggressive behaviors among school children. Also, through play intervention, school children can attain valuable physical and mental skills that improve their social skills (Zand & Nekah, 2015).

Regarding demographic characteristics of the elementary school children. According to the findings of the present study, the mean age ± SD of studied children was 11.66 ±1.6, more than half of them were male, one-third of the sample was in the fifth grade. The result of this study was in similarity with Gulfia, (2016) who carried out his study in Kazan about managing and preventing aggressiveness in primary school children. Who reported that the mean age ± SD of the studied children was 10.78±1.5, three-quarters of students were male, two-third of the students were in the fourth grade. Also, the results of this study are supported by Salimi et al., (2019) who conducted their study in Iran about aggression and its predictors among elementary students. They reported that the mean age & standard deviation of school students were 11.16±0.96 years. More than half of them were male. The agreement in the findings could be due to similarity in choosing sample characteristics and also, increase in the age was significantly associated with an increasing percentage of aggression and victimization among the students especially among males than females.

Regarding family members, nearly two-thirds of the studied sample had five to seven members and

nearly three-quarters of them had one-two rooms which indicated that nearly one-half of the studied school children had a family crowding index in their home with three or more members in the same room. These findings matched with those of a research conducted by **Alami et al., (2015)** who conducted their study in Iran about students' aggression and its relevance to personal, family, and social factors. They revealed that one-half of the students had more than five family members with one-two rooms in their house with the average number of children being  $2.31 \pm 1.01$  in the family. This consistency in the finding could prove that increasing family crowding index can decrease playing facilities and increase aggression behaviors among children.

In terms of the demographic characteristics of school children parents. The current study revealed that, more than half of children's fathers were between the ages of forty one to fifty years, nearly one-third of their fathers had preparatory education and had free work. While nearly one-half of the children, mothers were between age group thirty to fifty years, one third had primary education and nearly two-thirds of them were worked. This result didn't agree with **Assaf et al., (2018)** who conducted their study in Egypt about the assessment of aggressive behavior among preparatory school children. They reported that the age of the parents was between age group 30-45 years, the majority of the parents had diploma education and most of the mothers were housewives. This disagreement may be related to the difference in the place of collecting data in this study, and parents with preparatory education had low knowledge in dealing with their children which increase their aggressive behaviors. So, level of education had a relationship with aggression among students.

The current study illustrated that one-third of children; their mothers were responsible for their rearing. It also showed that more than three-quarters of children live with their parents but one-fifth of the sample didn't live with parents as one-tenth of them, their parent was divorced. Also, these findings were supported by **Assaf et al., (2018)**. They indicated that two-third of children had been evaluated by their mothers and most of the children lived with their parents. This agreement could prove the similarity in culture as in Egypt as most of the mothers were responsible for raising their children and controlling all of their activities.

Regarding the type of punishment; the current study indicated that, more than one-third of school children reported that they get punished physically, verbally, and deprived of something they loved. These findings were congruent with **Alimoradi et al., (2016)** who conducted their study in Asia, which based on the theory of planned behavior, indicators of aggressive behaviors in guidance and high school male students. They reported that school children are at risk to be punished as a result of their faulty behaviors and the type of punishment varied from physical, psychological, or verbal aggression based on the cause. Also, the results were similar to **Shalmali et al., (2016)** who carried out their study in Hamadan about the impact of instruction based on the idea of planned behavior on aggression prevention behaviors. They stated that children at this age are subjected to many types of aggression and victimization whether in the school or the home. They reported that one-fifth of the student was subjected to physical aggression, one third received verbal aggression, and one third had emotional aggression. This similarity could prove that lack of parents' and teachers' knowledge on aggression whether

at home or school contributes to increasing aggressive behaviors among elementary school children.

The present study indicated that more than half of the school children reported that they preferred to play in the group, one-third of them reported that the preferred type of play was pubg phone games as well the home is the preferred place of playing and more than half of them played one to three hours/day. This finding consistent with **Zavareh et al., (2015)**, who investigated factors related to anger in male adolescents: An application of social cognition theory in Iran. They reported that the majority of the students used the Android games for more than three hours in their homes. This similarity could prove that the use of electronic games as a result of modern lives can be a risk factor for aggressive behaviors among school children. Also, more hours spent using electronic devices might lead to aggressive behavior.

Regarding the effect of play intervention on mean scores of school child aggression behavior scale. The present study reported that all sub-items of the aggression scale that involves anger, hostility, physical and verbal aggression were decreased at post than in pre-implementation of play intervention with a highly statistically significant difference with  $p\text{-value} < 0.001$ . In the same line, the results of the current study showed that the mean total scores of the aggression scale were  $86.28 \pm 4.88$  pre-play intervention and decreased to be  $48.95 \pm 6.62$  at post-implementation of play intervention with a  $p\text{-value} < 0.001$ . These findings were congruent with **Hemdan, (2020)** who conducted his study in Elbaha on the effect of play counseling programs in reducing aggression behaviors among elementary sixth grades girls, who found that the extension playing program is very effective in decreasing aggressive behavior in the overall score and its three dimensions of physical, verbal, and psychological aggression. Also,

they indicated that after play therapy intervention, the mean total scores of the aggression scale were  $88.38 \pm 5.15$  before intervention and decreased to be  $45.55 \pm 7.12$  post-intervention at  $p\text{-value} < 0.001$ . This from the researchers' point of view reflects the success of play intervention and its positive effect on elementary school children.

The above-mentioned results proved the research hypothesis **H1** which stated aggressive behavior was declined after the implementation of play intervention among elementary school children.

Concerning the percentage distribution of aggression behavior scale among school children. The current study findings described that a  $p\text{-value} < 0.001$ , and there were highly statistically significant differences in all items of the aggression scale in the post-play intervention compared to the pre-intervention. These findings were supported by the study was done by **Park et al., (2021)** in Korea on the influence of physical education, extracurricular sports, and leisure satisfaction on teenage aggression behavior. They clarified that after the use of different types of activities as physical education and extracurricular sports activities, there was an increase in satisfaction and decreasing all types of aggressive behaviors among the study sample ( $P < 0.001$ ). Also, the findings were incongruent with a study done by **Ebrahimi et al., (2019)** in Iran regarding the impact of group play therapy on aggressive behavior and social skills in preschoolers they found that play therapy was beneficial in reducing aggression and its various components, such as verbal, physical, relational, and impulsive aggression at ( $P=0.000$ ). This could confirm the importance of play that can enhance children mode, facilitate cooperation in a group, and decrease their aggressive behaviors.

In relation to the effect of play intervention on the mean score of social skills among the study sample. The present study results indicated that the mean score of social skills of the elementary school children after the play intervention was  $174.4 \pm 10.01$  in post-test while in pretest was  $80.02 \pm 8.66$ . These findings were similar to **Loukatari et al., (2019)** who conducted their study in Greece discusses the impact of an organized playfulness program on kindergarten children's social skills. They indicated that the social skills of the students within the intervention group after playfulness intervention were  $57.5 \pm 5.1$  in the second measurement while in the first measurement was  $46.7 \pm 5.8$ . This from the researchers' field experiences reflects that mean score  $\pm$  SD play intervention has its power in improving students' social skills.

Also, the results of the present study indicated that there was an increase in mean scores of all main items of the school children's social skills as social play and emotional development, emotional regulation, and communication skills in the post-play intervention than a pre-play intervention. Also, there were highly statistically significant differences in the total social skills scores and separate sub-items of social skills checklist post-play intervention with a p-value  $<0.001$ . This finding was in context with a study was done by **Loukatari et al., (2019)**. They indicated that there was a statistically significant difference between all items of social skills of the students after play intervention with a p-value  $<0.05$ . In addition, the findings were congruent with **Siregar et al., (2018)** who carried out their study in Asia about the correlation between educational games and the development of motor, verbal, and social abilities in children aged 3 to 4. They reported that after the intervention of play activity. There is an improvement in social skills and self-confidence of the students ( $P=0.000$ ). The agreement in

the results when children spent time playing with their peers at school or out of the school, helped in finding their identities and decreasing aggressive behaviors. Also, they can learn social skills that include working in groups, learning to be patient, and waiting their turn. The child can apologize when to make a mistake, and demonstrate respect for others.

Concerning percentage distribution of social skills of school children pre and post-play intervention. The results of the current study confirmed that a highly statistically significant difference between play interventions pretest and post-test of all sub-items of social skills checklist especially problem solving, conversational skills, understanding emotions, and compliments at p-value  $<0.001$ . This finding is congruent with **Ashori et al., (2019)** whose study was conducted in Isfahan about the effects of cognitive-behavioral play therapy on preschool children with attention deficit hyperactivity disorder's social abilities. They reported that after play therapy, the mean score of all items of social skills in the intervention group was significantly higher than in the control group ( $P<0.0001$ ). Also, the mean scores on all subscales were significantly higher in the intervention group than in the control group ( $P<0.0001$ ). These similarities prove the positive effect and efficiency of play intervention in modifying school children's aggressive behaviors as well as improving their social skills in the school environment.

The above-mentioned results proved the research hypothesis **H2** which stated that the social skills were developed after the implementation of play intervention among elementary school children.

### **Conclusion:**

Based on study results, it could be concluded that play intervention was an effective tool in decreasing aggressive behaviors and improving social skills among

elementary school children. After the application of play intervention, there was a highly statistically significant decrease in the total mean score of the scale of the aggressive behavior and also, improvement in total scores of social skills among elementary school children.

### Recommendations:

**Based on the findings of the study, the following suggestions are made:**

- Continuous education programs should be applied in the school to raise the awareness of school children's parents and the teachers regarding the importance of play intervention in preventing aggressive behaviors.
- A guidance booklet should be available for parents and teachers in the preschool and elementary school library about the importance of play for children in decreasing aggression and developing social skills.
- Further research should be done to expand understanding of the special needs of elementary school children regarding playing activities.

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