

## Correlation Between Bullying and Social Anxiety Among Burn Survival School-Age Children

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### Abstract

**Background:** Burn survival children were more likely to experience bullying particularly in school due to their visible scar. Frequent exposure to bullying might lead to avoidance, social fear, and social anxiety. **Aim:** The current study aimed to assess the correlation between bullying and social anxiety among burn survival school-age children. **Methods:** A descriptive correlational design was used in this study. **Setting:** The current study was conducted in pediatric plastic outpatient clinics, plastic surgery department, at Ain shams university hospitals. **Subjects:** A purposive sample of 96 school-age children was obtained in this study. **Tools for data collection** included: **1)** Children's Interviewing Questionnaire, **2)** The Child's and Adolescent Bullying Scale (CABS), **3)** Liebowitz Social Anxiety Scale (LSAS), and **4)** Effects of bullying behavior on the student's scale. **Results:** This study showed that the majority of burns survival school-age children under study had the highest experience of exposure to bullying problems involved (verbal bullying, disability bullying, and physical bullying) with a mean score of 91.3%, 90.8, % and 89.6% respectively. It also shows that nearly half of children under study had a moderate level of social fear and anxiety representing 48%, This study also illustrated that more than two-thirds of children under study suffer from severe psychological and academic effects of bullying, representing 71.9%, 69%. Moreover, the present study indicated that there is a strong positive correlation between social fear and anxiety and types of bullying behavior among burn survival school-age children under study ( $p < 0.001^{**}$ ). **Conclusions:** Burn survival children are exposed to different types of bullying, mostly verbal bullying, disability bullying, and physical bullying. Moreover, exposure to bullying behaviors among burn survival school-age children leads to social avoidance, fear, and anxiety. In addition, exposure to bullying behaviors leads to physical, social, and academic adverse effects among burning survival school-age children. **Recommendations:** This study recommends developing and implementing a psychoeducational counseling program to improve coping and psychosocial recovery and approaches to handle bullying behaviors among school-age children with burn scars.

**Keywords:** Bullying, Social Anxiety, Avoidance, Fear, Burn Survival, School-age, Children.

### Introduction:

Globally, burning during childhood is one of the public health problems and a major cause of death among children. It mainly occurs in resource-poor environments and countries with low economical levels. Recovery from burns is widely reported to be constrained by physical, psychological, relationship, and reintegration challenges (Peck & (2020).

A burn injury is a painful and stressful trauma experience with disputing effects on normal life due to both physical consequences of the injury and the stigma, disfigurement, discrimination, and bullying, especially in school (Abu Al Rub, 2018).

Adverse consequences of burn injury have been explained by Van Niekerk, et al. (2020), who found that severe burn may lead to growth and development delays, behavioral and social problems within or outside the family, and school interruptions. Burn survivors can suffer serious short and long-term consequences among which are post-traumatic stress disorders, depression, anxiety, sleep disturbances, increased aggressiveness, disturbed self-esteem, and distressing memories of the burn. these consequences are acerbated with community stigmatization of survivors and bullying. Moreover, Acquah, et al. (2016) added that burn injury is usually associated with pain of burn care, and potential physical outcomes (e.g., disfigurement, limited

mobility), that in turn place the child at substantial risk for maladjustment.

Bullying is a common phenomenon involving a power imbalance across countries. Recently, bullying among children and adolescents has been recognized as an increasingly growing problem (**Radwan, Abd-Ellatif & Abu-Elenin, 2021**), Bullying is an unacceptable form of repeated interpersonal violence. It causes distress and involves a power play of the bully over the victim. As reported by **Alemayehu, et al. (2020)**, 25% of burn survival children reported bullying mostly for verbal, physical, disability bullying, and social bullying.

Bullying has been defined by **Harbin, (2019)** as harmful, aggressive, intentional, and repeated negative behavior by peers directed against children who have difficulty defining themselves or have illness or disability.

As clarified by **Pinquart, (2017)**, that bullying can be perpetrated directly or indirectly. Indirect form of bullying includes threatening, embossing, physical harming, and verbally pressuring others. On the other hand, an indirect form of bullying can involve spreading rumors. In this perspective, **Runions, et al, (2018)**, explained that bullying occurs in several typologies such as physical (e.g., hitting, kicking, pushing), verbal (e.g., teasing, toughing), social (exclusion, dirty looks), and indirect (e.g., spreading nasty rumors, avoidance or telling others not to play with the child). Moreover, **Galal, Emadeldin & Mwafy, (2019)**, added that exposure to bullying appears to be equal in both sexes. However, males are more exposed to physical bullying while females engage in spreading rumors and ostracism.

According to **Johnson, Taggart & Gullick, (2016)**, burn survivor children display a persistent and extreme phobia and social anxiety caused by negative evaluation of others, scrunching judgment, or humiliation inflicted by others at school, home, or social facilities which generate intense fear from social interaction and social anxiety. In addition, **Onyekuru & Ugwu, (2017)**, reported that bullying due to the visible scar of a burn might lead to behavioral changes such as avoidance, hyper-vigilance, and development

of social anxiety Furthermore, **Moselhy, (2020)**, Explained that negative bullying experience would impact the development of a self-concept. However, bullies-victims have been identified as having anxiety, increased feelings of tension, negative mood, and ineffectiveness.

As suggested by **Pörhölä, Almonkari & Kunttu, (2019)** that bullying is unacceptable behavior, and they are instructed to actively seek help from their parents and teachers if they are experiencing bullying. Aggression by others must be addressed so that the victimization can be halted.

Nurses had an important role not only for physical healing but also through a nurturing role provided to support the children to adjust to the chock of burns and the painful hospital procedures e.g. (dressing) and reassuring the child. The nurse can provide more attention to children with disability or wound scars and ameliorate the effect of bullying behaviors immediately against children with burn scars. nurses also provide psychological support to the bullied children, to improve their self-esteem, and minimize their anger and self-pity after a bullying incident. (**Khasawneh, 2020**). Moreover, **Wu et al, (2018)**, added that burn camps and pediatric burn support groups can be conducted and children should be encouraged to participate to share their bullying/victimization experiences and receive advice after participating in a class that directly addressed the issue. These venues can provide a safe place for burn-injured children to share their experiences and provide resources and methods for getting assistance with stopping the bullying and consequently protect themselves and their future well-being. As suggested by **Rosenberg, et al. (2018)**, burn survival children need to be protected from peer bullying by both parents and teachers at school, they need to be reassured during their back-to-school time as returning the burn survival children to an environment where can experience bullying or being laughed at or mocked could lead to development of social isolation, social anxiety, and phobia.

In addition, burn survival children should be offered practical advice and steps to ease their return through minimizing obvious scars

or covering them with cloth or dressing, if possible, while teachers and school principals would act against bullying by following up on complaints, advocating for others on the child's behavior, and educating the general school population and parents regarding the consequences of burn injury on the physical, psychological and social aspects of the victims (Coyle, Malecki, & Emmons, 2021).

### Significance of the Study:

Experience with bullying has been linked negatively to adverse psychosocial and behavioral outcomes including children's loneliness suicidal ideations, substance abuse, depression, lower self-esteem, social anxiety, and social isolation. Although, bullying can occur among children and adolescents in schools (Jayasinghe, 2021). It affects a large proportion of school-age children. **National Center for Educational Statistics 2019** reported that one out of every five students report being bullied, A higher percentage of male than female students report being physically bullied, whereas a higher percentage of female than male students reported being the subjects of rumors and being excluded from activities on purpose. According to **Avşar & Alkaya, (2017)** that an accurate portrayal of bullying might help in the development of effective intervention and prevention strategies and minimize the adverse psychological and social consequences of bullying among burn victims after recovery particularly in school, clubs, and other social circumstances.

Despite these findings, the extent of literature on the relationship between bullying and social anxiety among burn survival children is not extensive, and this is an area in need of additional study, to develop counseling programs aim to provide psychosocial support to the pediatric burn survivors to improve their coping skills and ameliorate or prevent adverse psychological experiences. To be able to provide support to burn survival school-age children and ease their feelings of anxiety, it is important to examine the correlation between exposure to different types of bullying, and the development of social avoidance, fear, and anxiety, which adversely affect the children's psychological, physical and academic status.

### Aim of the Study:

The present study aimed to assess the correlation between bullying and social anxiety among burn survival school-age children.

### This aim was achieved by answering the following questions:

- 1) What are the types of bullying experienced by burn survival school-age children?
- 2) What are the levels of social fear, avoidance, and anxiety among burn survival school-age children?
- 3) Is there a correlation between the experience of bullying due to burning injury and the development of social fear, avoidance, and anxiety among school-age children?

### Subjects and Methods:

**Research design:** A descriptive correlational design was used to assess the correlation between bullying and social anxiety among burn survival school-age children. In addition, this design helps to establish a database for future research.

**Sample Technique:** A purposive sample of 96 out of 117 school-age children who survived burn injury who met the study inclusion criteria and were approved to participate in the current study was obtained from pediatric plastic research outpatient clinics, plastic surgery department, at Ain Shams university hospitals. This sample size represents approximately 25% of the annual number of burn survival children receiving their treatment, rehabilitation, and follow-up services in the previously mentioned setting ranging between 350-to 400 burn survival children annually.

Sample size has been calculated for the number of patients according to the equation developed by **Goodhue, Lewis & Thompson (2012)** as the following:

### Sample size equation:

- $(n) = [N-1(\frac{d^2}{2})] + p(1-p)$
- $(n)$  = Sample size
- $\$ N$ =population size
- $\$ d$ =the error rate is 0.05
- $\$ z$ = the standard score corresponding to the significance level is 0.95 and is equal to 1.96

- § p=availability of property and neutral =0.50

#### **Inclusion criteria:**

- Age Range: 10-18 years
- Sex: Both Sexes
- Preparatory/secondary or technical schools
- Written consent for participation in the study (from parents or caregivers).
- Child had a visible wound scar at any area of his body
- Child returned to school after surviving a burn injury
- Exposure to bullying due to burning scars at least once.

#### **Study Setting:**

The present study was conducted in the pediatric plastic outpatient clinics, plastic surgery department, at Ain shams university hospitals from March to May 2021. The researchers met the study population in the plastic outpatient clinics' waiting area that accommodate 50 chairs for children with burn and their caregivers, while receiving their treatment and follow up services in the above-mentioned setting. The researchers visited the selected area 2 days per week (every Sunday and Thursday), from 8 am to 2 pm. Plastic outpatient clinics consists of 6 daytime examination clinics divided into two buildings for providing treatment, rehabilitative and palliative care for children with burn scar through a highly qualified multidisciplinary team.

#### **Data Collection Tools:**

**The data was collected using a self-administered questionnaire that included three sections as the following:**

- 1) **The first Section: The Children's Interviewing Questionnaire:** It consists of two parts; A) contains data pertinent to children's age, sex, level of education, order of the child among his siblings, family monthly income, type of school. B) it contains data related to the children's medical history involving the duration of burn injury, area of the burn, history of chronic physical illness, disability due to burning injury, and location where the burn occurred.

- 2) **The Second Section: The Child's and Adolescent Bullying Scale (CABS):** It has been originally developed by **Strout et al., 2018** in English language and translated to the Arabic language by the researchers to assess the children's problems with bullying. **CABS** has 40 items rated on a 5 Likert scale where strongly agree=5, agree= 4, neither agree nor disagree = 3, agree= 2, strongly disagree 5. The total score ranged from (40-160) where the higher score indicates higher exposure to the bullying problem.

**The reliability** of CABS ranged from 0.856 to 0.891, and **the validity** of the CABS was 0.98 as rated by burn survival school-age children under study, which is considered significantly high, the coefficient given was 0.912.

- 3) **The Third Section: Liebowitz Social Anxiety Scale (LSAS):** It has been originally developed by **Liebowitz M,1987** in the English language and validated for measurement of social anxiety and fear among children by **Leigh & Clark, 2021**. This Scale has been translated into the Arabic language by the researchers. LSAS has 24 items that measure both fear & anxiety (internal feeling) and avoidance (external behaviors).

**It's rated on 8 points Likert scale divided into two domains like the following:**

**First Domain:** Fear & Anxiety which ranged from:

- 0= None
- 1 = Mild
- 2= Moderately
- 3= Severe

**Second Domain:** Avoidance behaviors ranged from:

- 0= Never
- 1 = Occasionally
- 2 = Often
- 3 = Usually

**The number of items that refer to fear and avoidance in LSAS was distributed as the following:**

- Fear of relationship subscale: (12 Items)

- Avoidance of relationship subscale: (12 items)
- Fear of performance subscale: (12 items)
- Avoidance of performance subscale: (12 items)
- Total fear subscale: 0 – 72
- Total avoidance subscale: 0 – 72

**The total score ranged from (0-to 144), and the level of social anxiety (for both fear and avoidance domains) was categorized into the following scoring scale:**

- 0-29 No social anxiety Reported
- 30-49 Mild social anxiety
- 65-79 Marked social anxiety
- 80-94 Severe social anxiety
- > 95 Very severe social anxiety

**The reliability** of LSAS ranged from 0.920 to 0.922, and **the validity** of the scale was 0.97 as rated by burn survival school-age children understudy which is considered significantly high, the coefficient given was 0.910.

**4) The Fourth Section: Effects of bullying behavior on the student Scale:** It was originally developed by **Mohamed, in 2021** to assess the effects of bullying behavior on school students. This scale consisted of three domains includes:

1. Physical effect (7 items)
2. Psychological effect (8 items)
3. Social and academic achievement effect (6 items).

This scale consists of 21 items rated on 3 points Likert scale where never=0, sometime=1, always =2.

**The total mean score of physical effects of bullying was calculated as**

- Mild: score from 0 – 7
- Moderate: score from 7.1– 10
- Severe: score from 10.1-14

**The total mean score of psychological effects of bullying was calculated as.**

- Mild: score from 0 – 8
- Moderate: score from 8.1– 12
- Severe: score from 12.1-16

**The total mean score of the scoring system for academic effects of bullying was calculated as**

- Mild: score from 0 – 6.

- Moderate: score from 6.1– 9.
- Severe: score from 9.1-12.

**The reliability** of this scale ranged from 0.820 to 0.899 and **the validity** of the scale was 0.92 as rated by burn survival school-age children understudy which is considered significantly high, the coefficient given was 0.901.

### Operational Design

The operational design for this study included the preparatory phase, pilot study, fieldwork, and ethical considerations.

### Preparatory phase:

It included reviewing past, current, local, and international related literature, and theoretical knowledge of various aspects of bullying and social anxiety among children with burn injury.

### Pilot Study:

A pilot study was carried out on (10) children with burn injury as resenting around 10% of the total sample before conducting the actual study to ensure clarity of the questions, applicability of data collection tools, and time needed to complete them. All subjects who were involved in the pilot study were excluded from the main study sample. The tool was finalized based on the results of the pilot study.

### Fieldwork:

Data has been collected for the current study from the plastic unit, at Ain shams university Hospital from March to May 2021 from (96) children with burn injuries. Data collection tools were reviewed by a specialized psychiatrist and professor of psychiatric/mental health nursing before the data collection phase. The researchers met each child individually and introduced themselves; explained the purpose and nature of the study; and ensured the confidentiality of data. Children and their caregivers were asked for their approval to allow the children to participate in the study. After that, the questionnaire forms were filled in by the children and the researchers offered help if they needed it. The questionnaires took about 20-30 minutes. The researchers visited the selected setting 2 days per week (Sunday and Thursday) from 8-2 pm to collect the data

from the children who met the study inclusion criteria during their follow-up visit to the previously mentioned setting.

### Ethical Considerations:

At the initial interview, each child and his family caregiver were informed about the aim and nature of the study, and the participation would be voluntary; hence every caregiver had the right to participate or refuse to be included in the work, and they were informed about the right to withdraw at any time without giving any reasons, and without any consequences. The consent for participation was taken written. In addition, the confidentiality of any gathered data was assured.

### Administrative Design:

An official letter was issued from the dean of faculty of nursing, Ain Shams University, to the head of the burn unit at Ain Shams University explaining the aim of the study and requesting their permission for data collection.

### Statistical Analysis:

Data entry and statistical analysis were done using SPSS 23.0 statistical software package. Data were presented using descriptive statistics in the form of frequencies for qualitative variables and means and standard deviations and medians for quantitative variables. Quantitative continuous data were compared using the non-parametric Mann-Whitney. Qualitative categorical variables were compared using the chi-square test. Spearman rank correlation was used for the assessment of the inter-relationships among quantitative variables and ranked ones. Multiple linear regression analysis was used and an analysis of variance for the full regression models was done. Statistical significance was considered at  $p$ -value  $<0.05$ .

### Results:

**Table 1:** Showed the socio-demographic characteristics of burn survival school-age children under study. As indicated in this table, the mean age of children understudy was  $13 \pm 4.93$ , half of them (50%) were aged between 10 -> 12 years, were males and female, most of them (85.5%) in a public school. In addition, more than three-quarters

(76%) of children under study joined the preparatory school. Additionally, more than two-thirds (65.5%) of them had a monthly income of less than 1200L.E.

**Table 2:** Indicated that nearly half of the burn survival school-age children understudy had a duration of burn injury ranging between 3-6 months, representing 57%. Face and arms were the most common areas of burn among around two-thirds (68.7%) of children under study. In addition, around one-quarter of children under study had a positive history of chronic physical illness, representing 24%, and a small minority of them had a disability due to burning injury, representing 14.5%. Moreover, the majority of burn survival children under study experienced bullying at school (schoolyard/cafeteria/ playground/WC/ library) representing 83.5%.

**Table 3:** Illustrated that, the majority of burn survival school-age children understudy had the highest experience on exposure to bullying problems upon the items (verbal bullying, disability bullying, and physical bullying) (mean 91.3%, 90.8%, and 89.6%) respectively. Conversely, they had the least experience with the item (cyberbullying) (mean 32.8%). Finally, noticed that more than three-quarters of them (mean 79.5%) had been exposed to total bullying problems.

**Figure I:** Represents the levels of social fear and anxiety among burn survival school-age children under study. It shows that nearly half of the children under study had a moderate level of social fear and anxiety representing 48%, compared to a small minority of children who had reported an absence of social fear and anxiety, representing 10%. Moreover, more than one-quarter of them (27%) had severe levels of fear and anxiety.

**Figure II:** Showed that more than half (52%) of burn survival school-age children understudy usually reported social avoidance behaviors compared to the small minority of them who had never reported any social avoidance behaviors representing 6%.

**Figure III:** Represents that more than one-third of burn survival school-age children under study reported marked social anxiety, representing 39, % and near a quarter of them reported severe level of social anxiety

representing 20%, compared to the small minority of children who reported no social anxiety representing 8%.

**Table 4:** Showed the effects of bullying behaviors on burn survival school-age children under study. This table illustrated that more than two-thirds of children under study suffer from severe psychological and academic effects of bullying, representing 71.9%, and 69% respectively. Meanwhile, only 10.4% of them suffer from mild academic effects and no one of them had a mild response to psychological effects.

**Table 5:** Presents the correlation between the total level of fear and social anxiety and types of bullying behaviors. This table indicates there is a strong positive correlation between social fear and anxiety and types of bullying behavior among burn survival school-age children under study ( $p < 0.001$ ).

**Table 6:** This table showed that more than one-third of children aged between 10- <12 years of understudy reported mild social anxiety, representing 37.5%. Near one-third (29%) of males reported marked social anxiety, compared to a small minority of females representing 12.5%. This table also showed

that a quarter (25%) of children in the preparatory school reported severe levels of social anxiety. Also, nearly half of the children understudy with a family monthly income of fewer than 1200 L.E, and they were the first child among their siblings reported mild levels of social anxiety, representing 47.6% and 42% respectively. Moreover, there was only a statistically significant relationship between total levels of social anxiety reported by studied school-children's patients and their age.

**Table 7:** This table illustrated that the higher mean scores ( $88.2 \pm 1.2$ ) regarding bullying behavior levels were reported among children aged between 12 < 14 years, mostly for males ( $92.6 \pm 11.6$ ), in secondary or technical school ( $80.0 \pm 16.6$ ), with monthly family income Less than 1200 L.E ( $87.6 \pm 1.8$ ), mostly for the first child among his siblings ( $90.8 \pm 6.1$ ), and children in public schools ( $76.0 \pm 3.6$ ). Moreover, there are statistically significant relation between burn survival school-age children's levels of bullying behavior and their age and type of school  $p < 0.05^*$ .

**Table (1):** Frequency distribution of burn survival school-age children with bullying experience understudy according to their socio-demographic characteristics (n=96):

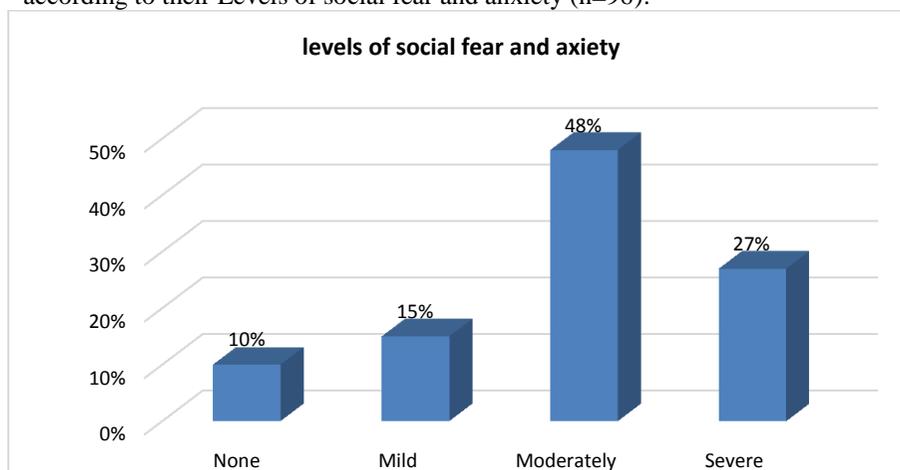
Items	burn survival children with bullying experience	
	No.	%
<b>Age (years):</b>		
10-<12	48	50
12-<14	25	26
14-<18	23	24
<b>Mean <math>\pm</math> SD</b>	<b>13<math>\pm</math>4.93</b>	
<b>Sex:</b>		
Males	48	50
Females	48	50
<b>Level of education:</b>		
Preparatory School	73	76
Secondary/technical school	23	24
<b>Monthly income (L. E):</b>		
Less than 1200	63	65.6
1200 - < 3000	33	34.4
3000-<5000	0	0
<b>Order of the child among his siblings:</b>		
First	31	32
Average	27	28
Latest	38	40
<b>Type of School:</b>		
Public	83	85.5
Private	13	14.5

**Table (2):** Frequency distribution of burn survival school-age children with bullying experience understudy according to their medical history (n=96):

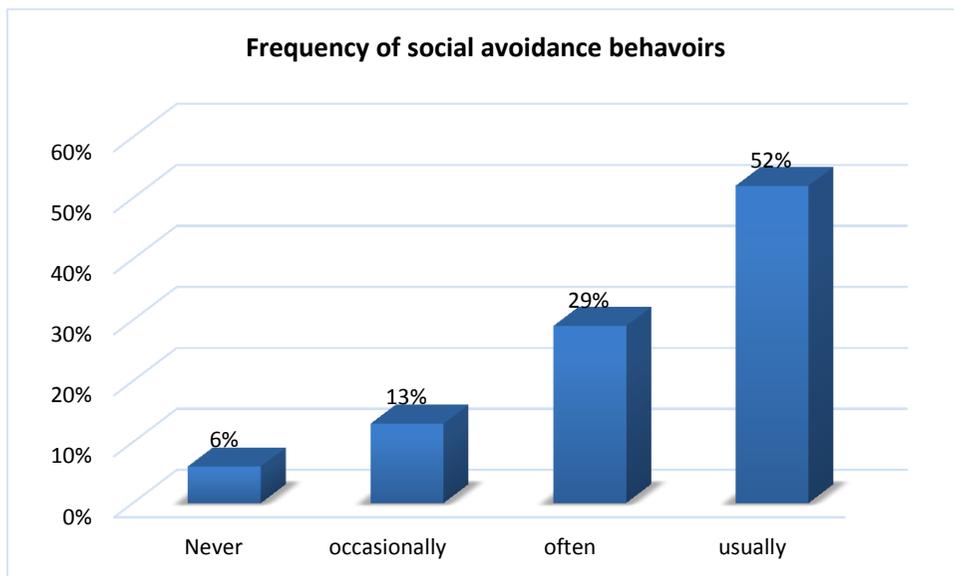
Items	burn survival children with bullying experience	
	No.	%
<b>Duration of Burn Injury:</b>		
Less than 3 months	27	28
From 3-6 months	55	57
More than 6 months	14	11
<b>Area of Burn:</b>		
Face & Arm	66	68.7
Leg & foot	22	23
Abdomen & chest	3	3
The whole body	5	5.3
<b>History of Chronic Physical Illness:</b>		
Positive	23	24
Negative	73	76
<b>Disability due to burning injury:</b>		
Yes	13	14.5
No	83	85.5
<b>The location where bullying occurred:</b>		
The school (schoolyard/Cafeteria/playground/WC/Library)	79	83.5
Club	2	1.5
At Home from neighbors or relatives	2	1.5
All of the above	13	13.5

**Table (3):** Mean score percentage distribution of burn survival school-age children understudy according to types of bullying they experienced (n=96):

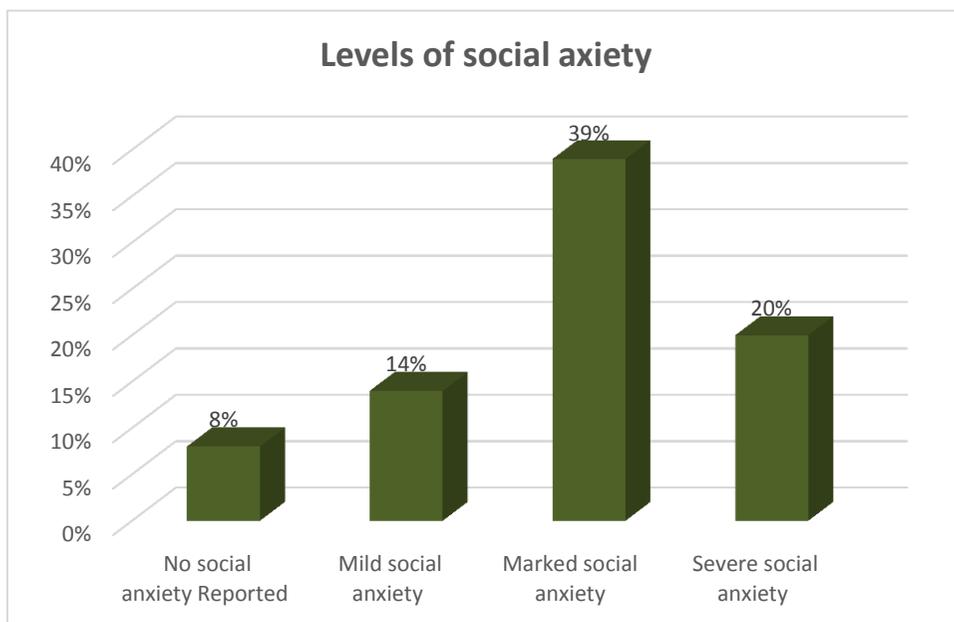
Types of bullying	burn survival children with bullying experience	
	Mean	SD
Verbal bullying	91.3	11.26
Disability bullying	90.8	11.07
Physical bullying	89.6	10.98
Social bullying	86.3	9.82
School connectedness due to bullying	86.7	8.97
Cyber bullying	32.8	4.46
Total bullying experience	79.5	8.78

**Figure I:** Distribution of burn survival school-age children has bullying experience understudy according to their Levels of social fear and anxiety (n=96):

**Figure II:** Distribution of burn survival school-age children has bullying experience understudy according to the frequency of social avoidance behaviors (n=96):



**Figure III:** Distribution of burn survival school-age children with bullying experience understudy according to their total level of social anxiety (n=96):



**Table (4):** Percentage distribution of levels of bullying behavior's effects among burn survival school-age children understudy (n=96).

Effects of bullying behaviors	Burn survival school-age children					
	Mild		Moderate		Severe	
	No.	%	No	%	No	%
Physical Consequences	42	43.7	31	32.3	23	24
Psychological consequences	0	0	30	31	66	69
Academic Consequences	10	10.4	17	17.7	69	71.9

**Table (5):** Correlation between types of bullying behaviors and total level of social anxiety among burn survival school-age children understudy (n=96).

Types of bullying behaviors	Total Level of Social fear & Anxiety		p-value
	t- test	r- value	
Verbal bullying	27.626	0.192	<0.001**
Disability bullying	24.162	0.184	<0.001**
Physical bullying	22.235	0.180	<0.001**
Social bullying	19.471	0.167	<0.001**
School connectedness due to bullying	17.112	0.150	<0.001**
Cyberbullying	15.312	0.137	<0.001**

(\*) Statistically significant at  $p < 0.05$ , (\*\*) Statistically highly significant at  $p < 0.001$ , non-Significant at  $p > 0.05$

**Table (6):** Relationship between socio-demographic characteristics of burn survival school-age children's understudy and their levels of social anxiety level (n=96).

Items	No anxiety	Mild anxiety	Marked anxiety	Severe anxiety	X <sup>2</sup>	P-value
	%	%	%	%		
<b>Age (years):</b>						
10-<12	31	37.5	21	10.5	1.54	0.05*
12<14	64	20	12	12		
14 ≤18	30	17	34.7	18.3		
<b>Sex:</b>						
Males	37.5	20.8	29	12.5	1.23	0.63
Females	27	41.6	12.5	18.7		
<b>Level of education:</b>						
Preparatory School	41	22	12	25	0.03	0.53
Secondary/technical school	35	35	17	13		
<b>Monthly family income (L. E):</b>						
Less than 1200	19	47.6	27	6.4	0.28	0.67
1200 - < 3000	15	18	39	28		
<b>Order of the child among his siblings:</b>						
First	16	42	35.5	6.5	0.34	0.24
Average	44	7.4	9.6	39		
Latest	36.8	5	26.2	31.5		
<b>Type of School:</b>						
Public	44.5	24	11	20.5	0.23	0.73
Private	30.7	30.7	15.3	23.3		

(\*) Statistically significant at  $p < 0.05$ , (\*\*) Statistically highly significant at  $p < 0.001$ , non-Significant at  $p > 0.05$

**Table (7):** Relationship between socio-demographic characteristics of studied school-age children's patients and their levels of bullying behavior (n=96).

Socio-demographic characteristics	Mean percent (Max=100)		Mann Whitney test	p-value
	Mean $\pm$ SD	Median		
<b>Age (years):</b>				
10-<12	75.7 $\pm$ 8.5	86.00	1.54	0.05*
12<14	88.2 $\pm$ 1.2	57.30		
14 $\leq$ 18	80.1 $\pm$ 2.6	36.00		
<b>Sex:</b>				
Males	92.6 $\pm$ 11.6	83.53	0.34	0.63
Females	82.6 $\pm$ 3.1	83.15		
<b>Level of education:</b>				
Preparatory School	80.0 $\pm$ 16.6	87.30	1.32	0.24
Secondary/technical school	83.7 $\pm$ 2.5	86.00		
<b>Monthly family income (L. E):</b>				
Less than 1200	87.6 $\pm$ 1.8	81.00	0.28	0.63
1200 - < 3000	80.1 $\pm$ 8.2	83.30		
<b>Order of the child among his siblings:</b>				
First	90.8 $\pm$ 6.1	82.00	0.03	0.72
Average	83.8 $\pm$ 3.1	81.00		
Latest	88.5 $\pm$ 2.1	81.12		
<b>Type of School:</b>				
Public	76.0 $\pm$ 3.6	87.30	0.42	0.05*
Private	48.7 $\pm$ 2.5	83.13		

(\*) Statistically significant at  $p < 0.05$ , (\*\*) Statistically highly significant at  $p < 0.001$ , non-Significant at  $p > 0.05$

## Discussion:

Bullying among school-age children is known to be prevalent and conversely influences children's wellbeing and social functioning. The present study aimed to assess the correlation between bullying and social anxiety among burn survival school-age children.

The result of the present study showed that most of burn survival children exposed to bullying were in public preparatory schools. This study results may be due to the fact that most of parents register their children in public schools because of their low income and the raised expanses of private schools. This study result was similar to the findings of **Hassan et al. (2020)**, in their study who revealed that more than half of the sample were students who experience bullying from governmental schools. Also, these study findings are incongruence with the findings of **Harris et al. (2019)**, about "differences between types of bullying behavior in public and private schools". Their finding showed that most of the study sample was in private schools.

Regarding the location where bullying occurred, this study showed that most of the

bullying behavior occurred in the school facilities including the schoolyard, cafeteria, playground, WC, and /or library. This may be due to children gathering and absence of teacher's supervision where the attention given to the children in these locations was low, and the burn survival children become alone without protection from the parents or the school supervisor. These study results were supported by **Van et al, (2018)**, who found that most of the bullying behavior occurred in school (hallway) and outside of school where adult supervision is limited.

Concerning to types of bullying experienced by burn survival school-age children understudy, this study illustrated that most children under study were exposed to bullying problems mostly for verbal bullying, nosy questions, teasing in a hurtful way, passing hints, calling mean names targeting the way of behaving, scolding in harsh language. The findings of this study show some similarities with the findings of **Elmasry et al. (2016)**, who reported that the most prevalent type of bullying among children was verbal bullying acts as calling mean names and teasing their study, subjected to humiliation, and using of nicknames. Moreover, **Takami, &**

**Haruno, (2019)** clarified that preparatory school students sometimes perform verbal bullying behaviors, e.g., laughing, giving bad words, frightened and threatening. they clarified that verbal bullying often happens to the student in the school at this age due to their fear of punishment by teachers. So, they showed their aggressive behavior toward their peer by verbal bullying because it is not seen by their teacher and easily denied if they are confronted with wrong behavior. However, the current study findings are opposed to the findings of **Amu, (2020)**, in their study about "type of bullying behavior". The result of their study reported that verbal bullying was very small and was less than one-third of the sample.

Regarding physical bullying against burn survival school-age children understudy, the current study indicated that physical bullying was common among children understudy in different forms including kicking, shoving, spitting, beating up in the school, staff has taken or damaged on purpose by another student, being hurt by another student on purpose. It can be due to changes in the body and skin integrity, visible burn scar, available disability, and changes in the skin integrity due to burning injury. This study result was agreed by **Ali & Ayuningtyas (2019)**, who explained that most children with burn injury exposed to physical bullying due to visible burn scar that stimulates the curiosity of school mate to touch the scar or exhibit more violent behaviors such as stealing from or vandalizing the property of another, harassing, and mobbing on a repeated basis. bullying behaviors differed according to the location and size of the burn. Disability bullying was also reported among burn survival children under study. It can be attributed to the visible scare of burn injury in many forms including jokes about the child's disability, pushing the child out of his class or excluding him from participation in-class activities, showing panic, or making jokes while looking at the burn scar, such behaviors can be due to lack of school-age children regarding the nature of burn injury, aggressive attitude of bullied peers. These results within harmony with the study conducted by **Liu, et al. (2021)**, who illustrated that children with disability are

more prone to exposure to bullying than healthy children.

Regarding social bullying, the current study results revealed that burn survival school-age children reported exposure to social bullying behaviors including ignorance, turning others against the child, bringing him in trouble, spreading rumors against the child, breaking up the relationship between the child and his classmate, refusal to allow the child to participate in the group activities, show disrespect, etc. This behavior may be used by children to get fun or express aggression and jealousy against the burn survival child, or to achieve mastery and show leadership among the peer group. This result was agreed by **Sayed, (2019)**, who found that more than two-fifths of the school-age children in his study sample were dismissed by the students from the group, they experience neglect of other students without purpose. Such behaviors are usually exhibited to achieve social position, gain attention, alleviate boredom, or act as a response to a perceived threat, feelings of anger, and/or jealousy. The social interactions that occur between students in schools, especially the presence of students in groups, lead to the occurrence of social bullying.

The present study showed that more than half of burn survival children under study reported moderate levels of social avoidance behaviors. It might be explained due to using avoidance coping where children prefer to be socially withdrawn to avoid exposure to bullying behaviors from peers that adversely affect their self-concept and lead to the development of social anxiety and reduce their social initiative. This study result was in a harmony with **Shah, Shah, & Ibupoto, (2021)** who found a positive correlation between youth reports of burning specific problems and their self-concept. They suggest that adolescents with negative self-concept associated with exposure to frequent bullying were at a high risk of social problems such as social fear, avoidance, and social phobia.

This study's results illustrated that nearly half of burn survival children exposed to bullying reported a moderate level of social fear and anxiety. It may be attributed to the fact that exposure to bullying behaviors among

children can lead to adverse psychological experiences, negative self-efficacy, feeling of inferiority, maladjustment, and disrupt the child's sense of self, social skills, and high level of social fear and anxiety. These study results were supported by the results of **Yan, et al. (2019)**, who found that burn survivors particularly during childhood which is a formative period for a child's sense of self suffer from social fear and social anxiety due to increased social difficulty that higher their anxiety and impairs their social skills due to exposure to severe psychosocial stressors.

This study illustrated that more than two-thirds of burn survival children under study suffered from severe psychological and academic effects of bullying. It can be due to exposure to peer rejection, stigmatization, and mocking that create a negative effect on the school-age child and lead to loss of interest in learning, social anxiety, school phobia, and feeling of fear that develop because of bullying which conversely affects the body fight-flight response, which developed to help people to escape from danger. The body increases its production of stress hormones such as cortisol and adrenaline, which trigger several changes within the body. This result was agreed by **Huitsing, et al. (2019)**, who mentioned that the physical effects of bullying are obvious and immediate such as being hurt by physical assault. Also, the ongoing stress and trauma of being bullied lead to physical problem overtime student who is bullied developed extreme tiredness or exhaustion, stomachache, pressure on the chest, and difficulty to breathing. Physical symptoms that cannot be attributed to a medical cause. These findings were also consistent with the findings of **Rezaeian, et al. (2020)**, who reported that more than half of students exposed to bullying behavior suffered from physical effects such as "uncontrolled sleep, difficulties in concentration, and gastrointestinal disorders. Moreover, the present study results are also in harmony with the findings of **Hansson et al. (2019)**, in their study about "bullying, health complaints, and self-reported health" in children and adolescents. Their study revealed that bullying also affected students physically badly and negatively.

Regarding psychological effects of bullying on the burn survival children, the results of the present study revealed that nearly two-thirds of children under study reported severe psychological effects of bullying behaviors, such as "worthless, a loss of self-confidence, fear and tension for without cause and feel great angry". This may be because the victim of bullying lacks adequate coping skills, has low self-esteem, or lacks assertiveness. Victims are starting to feel that they deserve the abused and that others are treating the victims badly because of themselves. This result was supported by **Nelson, et al. (2019)** who mentioned that children exposed to bullying internalize negative feelings and suffer through bullying private, without expressing injustice to anyone, and often feel helpless as if there were no escape from bullying. In addition, bullies often have difficulty communicating with their peers, because they are violent, manipulative, and generally unpleasant and have few friends so bullies engage in psychological problems such as extreme anger and self-blame. The results of the present study were supported by the findings of **Ali, & Ayuningtyas, (2019)**, in their study who found that the higher levels of psychological problems among children exposed to bullying behaviors are as shy, social withdrawal, and depressive symptoms.

Regarding academic achievement and social effects, the result of our study indicated that the majority of burn survival children understudy had severe social effects and severe impacts on academic achievements from bullying behaviors. This may be because the bullied students feel fear, and weak and at the same time, it affects the student's personality. Therefore, such a situation makes bullied students unable to follow or pay attention to their studies well and even they might not like to go to school. Moreover, they miss opportunities to participate in their even enjoy school activities. The findings of the present study are consistent with the findings of **Coelho, & Romão, (2018)**, who indicated that bullying prevents concentration and academic achievements since bullying victims lose interest in learning and experience a drop in academic grades because their attention is a distracted from learning. However, the present

study results were inconsistent with the findings of **Estévez, (2019)**, who explained that the effects of bullying victimization on academic achievement were small effect. This contradiction may be because bullying behavior on academic achievement depends on several factors, including the level of adjustment of environmental and the shared rater effect, as well as the length of time exposed to bullying.

This study results also revealed that there was a positive correlation between exposure to bullying behaviors and social anxiety among burn survival children. It can be explained due to lacking personal qualities that ease everyday social interactions and that victims of bullying lack social skills, have no sense of humor, have a serious demeanor, unable to relax in everyday life tasks. in this perspective, **Cañas, et al. (2020)**, has been suggested that victims of school bullying are socially unskilled, due to exposure to various forms of bullying behaviors that conversely make victims tend to display nonassertive behavior. Moreover, **Elmasry, et al. (2016)**, found in his research study that bullying victims demonstrate a higher level of aggression, and depression, and because of this, they score low on measures of academic competency, prosocially behaviors, self-control, social acceptance, and self-esteem.

### Conclusions:

In the light of the current study results, it can be concluded that:

- Burn survival children are exposed to different types of bullying, mostly verbal bullying, disability bullying, and physical bullying.
- Exposure to bullying behaviors among burn survival school-age children leads to social avoidance, fear, and anxiety.
- Exposure to bullying behaviors leading to physical, social, and academic adverse effects among burn survival school-age children.

### Recommendations:

Based upon the results of the current study, the following recommendations were suggested:

- Develop and implement a psychoeducational counseling program to improve coping and psychosocial recovery and approaches to

handle bullying behaviors among school-age children with burn scars.

- Conduct further researches to investigate the impact of bullying behaviors on the children's coping and quality of life.
- Organize campaigns for school age children to improve their knowledge about the harmful effects of bullying behaviors during childhood, in order to minimize bullying toward children with disability or chronic illnesses.

### Limitations of the study:

The present study has certain limitations that can be improved in future researches involve:

- Relatively small sample size of elementary and secondary school age children who survived from burn injury, resulted in reduced statistical power and generalizability of results. Future researches should build up on larger sample of children from early childhood and primary education among burn survival with social anxiety.
- Assessment of social avoidance, fear and anxiety due to exposure to bullying were based on self-report from the study subjects, without any support from medical specialists involve psychometric evaluation, peer review or medical certificates. Thus, Children who reported as socially anxious might undergoing further psychometric assessment from specialized psychiatrists or psychologists.

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