Effect of School Bullying on Physical Health, Psychological Wellbeing and self-esteem among Adolescents

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Abstract

Background: Bullying, a global public health issue, predominantly affects adolescents during their transition from elementary school, involving repeated aggressive behavior with a power imbalance, and can manifest as physical, verbal, relational, or social aggression. **Aim:** assess the effect of school bullying on physical health, psychological wellbeing and self-esteem among adolescents. **Subjects and Methods: Design:** Descriptive cross-sectional study. **Setting:** It was conducted in four public schools (two schools for boys and two for girls from preparatory and secondary schools) affiliated to Minia City, Egypt, **Subjects:** Involving 400 students where one hundred school students were selected randomly from each school. **Tools:** Data collected through socio demographic tool, the Olweus Bully/Victim Questionnaire, Physical Health Questionnaire (PHQ), Ryff's psychological well-being scale, and The Rosenberg Self-Esteem Scale (RSES). **Results:** More than three quarters of the students studied were bullying victims. Additionally, more than half of the students had low levels of psychological wellbeing and self-esteem. There was a negative correlation between bullying victimization and both psychological wellbeing and self-esteem. Furthermore, there was a positive correlation between bullying victimization and various physical symptoms, including headache, sleep disturbance, bed wetting, inability to concentrate on studies, and vomiting. **Conclusion**: The study reveals that bullying victimization, particularly verbal and cyber bullying, is prevalent among students and is strongly associated with adverse physical symptoms, low self-esteem, and diminished psychological wellbeing. **Recommendations**: Schools should implement comprehensive anti-bullying policies that include education, support, and prevention strategies to create a safe and inclusive learning environment.

Keywords: Adolescents; Physical Health; Psychological Wellbeing; School Bullying; Self-esteem.

Introduction

Bullying is a widespread problem for public health worldwide (**WHO, 2022**). This type of aggressive conduct is most common in early adolescence in middle schools. A critical stage in the development of young adolescents is the change from elementary to middle school. During this critical phase, adolescents are adjusting to new peer groups and can turn to bullying as a form of social control (**Allen & Waterman, 2022**). According to **Tarafa et al., (2022)**, bullying is described as intentional, violent action that is repeated over time and occurs when there is a power differential between the victim and the abuser. Bully victimization (BV) is the process by which an adolescent is subjected to intentionally negative acts by their peers on a regular basis over time; this can involve relational, physical, verbal, or social aggression control (**Ballarin et al., 2023**).

There has been an extraordinary increase in bullying that occurs in elementary and secondary schools among children and adolescents over the past few years (**Stubbs-Richardson & May, 2020)**. In the same line **Abd Elhamid, Mourad, & Ahmed (2021)** stated that, In the past twenty years, bullying has become to be one of the most significant issues in schools as violence has taken on new forms and ways to frighten schoolchildren and revealed that "one of the most significant types of interpersonal violence among adolescents worldwide is bullying." In another Egyptian study which indicated that there are more forms of violence, such as psychological, social, or sexual bullying, in addition to the three main types of bullying physical, verbal, and cyber **(Ahmed, Metwaly, Khaled, Galal, & Shaaban, 2022)**.

The following are some detrimental effects of bullying and the health problems that persons who are involved in bullying encounter: (1) Poor psychological well-being (includes usually unpleasant mental states such as general frustration, poor self-esteem, and emotions of anger and grief). (2) Inadequate social adjustment: This typically entails a negative attitude toward one's social surroundings, which manifests as aversion, loneliness, and isolation. (3) Psychological distress: This includes extreme depression, anxiety, and even thoughts of suicide. It is regarded as more severe than the previous two categories. (4) Physical illness (bullied children are more prone than non-bullied children to have physical illness) **(Khadka, Ram, Marahatta, & Mahotra 2018)**.

For physical effects, **Zhang, (2024)** reported that, a cross-sectional study of nearly 2,000 students in more than 30 schools. Revealed that there were a direct correlation between bullies and health problems among elementary school students, also health professionals indicated that recurring sore throats, colds, nausea, and respiratory problems among children should be considered contributing factors to bullying. More intuitively, the physical injuries caused by school bullying

will be directly visible such as bruises and contusions caused by beatings which are serious enough to directly affect the life, health and safety of the victim.

Furthermore, bullying victims are more likely than their peers who are not bullied to have pain in several bodily areas, such as headaches, stomachaches, backaches, and neck /shoulder pain. Approximately 8 out of 10 bullied students reported weekly pain (79%), compared with little over half of nonbullied students (57%). Pain can result from a variety of factors affecting the body when suffering from violence in bullying, such as injury, as well as subsequent long-term mental health concerns like stress, ostracism, and depression. Bullied children were far more likely to experience pain than their colleagues who were not bullied, which has a detrimental impact on the physical health of the students **(Garmy, Hansson, Runar, & Kristja ´nsdottir, 2019)**.

The psychological well-being of the individual is considered a crucial indicator of the level of personality that affects resistance and manifests itself in subjectively apparent fulfillment and life satisfaction, making it one of the most relevant factors influencing the formation of the future professional (**Pavliuk, Shopsha, Tkachuk, 2018)**. Psychological health is "a state of mind in which an individual is able to develop their potential, work productively and creatively, and is able to cope with the normal stresses of life," according to the World Health Organization (WHO) (**WHO, 2021**). This definition emphasizes the multifaceted character of psychological wellness, which includes positive emotions, psychological processes, and a feeling of significance and purpose in life.

In the same context **Dhanabhakyam and Sarath, (2023**) mentioned that the psychological state of a person is a vital component of their general health and well-being. It describes the individual's subjective perception of good psychological emotions including satisfaction, happiness, and a feeling of purpose in life. Psychological well-being is a broad term that refers to a variety of characteristics of a person's mental and emotional health, such as fulfilling relationships, personal development, high self-esteem, and a sense of control over one's life. Life satisfaction, pleasant emotions, low levels of adverse feelings, autonomy, healthy relationships, a sense of purpose in life, and personal development are all aspects of psychological well-being. Because of their interdependence and potential effects on one another, these elements can enhance general wellbeing. In addition, a satisfying existence and the promotion of general health and happiness depend on sustaining high levels of psychological well-being.

Bullying, regardless of any type or form, can cause traumatic effects on the psychological well-being of the students. A low psychological well-being can cause a student to have less autonomy, their purpose in life also decreases significantly, and they lose environmental mastery. In contrast,

students do not build positive relationships with others, their self-acceptance and confidence also significantly increase. Low psychological well-being due to bullying can impact the day-to-day activities of student lives, can affect their academic performance, break their confidence, and lose trust in the world and in themselves **(Manzoor et al., 2024)**.

Self-esteem is a person's evaluation of their own significance or value and is a key component of happiness. Good self-esteem is crucial for adolescents to have positive social interactions and to believe in themselves. A meta-analytic analysis discovered a correlation between low criminal conduct and low bullying victimization when an individual had a strong sense of self-esteem (**Martinez, et al., 2020**). In a recent study done by **Ibrahim et al., (2024)** reported that, compared to their non-bullied classmates, children who experience bullying have lower levels of self-esteem and more depressive symptoms. Furthermore, several studies have shown a connection between having poor self-esteem and being more likely to be bullied. **(Hutson, 2018; Wu et al., 2021)**.

Bullying-affected adolescents report emotional trauma, a detrimental effect on their school experience, anxiety and depressive symptoms, anxiety spectrum disorders like social phobia and post-traumatic stress disorder, behaviors like psychotic symptoms and somatic symptoms (like headaches, nausea, dizziness, and back pain), and sleep disorders **(Çalışkan et al., 2019)**. Moreover, injuries of all degrees and kinds as well as physical and psychosomatic issues like somatization are frequently mentioned (**Cohen et al., 2022)**.

Moreover, **Brunstein Klomek et al., (2019)** postulated that one of the main predictors for the emergence of mental health problems and psychopathological symptoms, both in childhood and teenage years and later in adulthood, is thought to be bullying victimization. According to study, victims of bullying are more likely to struggle academically, feel anxious, or develop psychosomatic symptoms like headaches or sleep deprivation, depression self-harm behavior, suicide ideation, psychosis, eating disorders and post-traumatic stress symptoms. They also tend to show poorer psychological wellbeing and lower self-esteem, especially in the social sphere **(Lie et al., 2019; Pedreira-Massa, 2019**). Self-esteem problems were reported in 50% of the studies examined, according to an integrated review of qualitative research on the psychological effects of bullying victims (**Hutson, 2018)**.

The **2030 Agenda for Sustainable Development**, which calls for a society free from violence and fear, was accepted by the international community in 2015. **Goal 16.2** of the 2030 Agenda is a specific target that aims to put an end to child abuse, exploitation, trafficking, and all forms of violence and torture by 2030 **(United Nations, 2015)**. The government is also dedicated to carrying out **Egypt Vision 2030**, a Sustainable Development Strategy that includes significant targets for

putting an end to violence, as part of a larger vision of "a world which invests in its children and in which every child grows up safe from violence and exploitation" **(General Assembly, 2015)**.

In order to prevent bullying in schools, nurses play a crucial role in the development and implementation of anti-bullying programs. They raise children's quality of life by teaching, encouraging autonomy, supporting health, helping them accept diversity, and identifying risk factors for bullying issues. The school nurse can support and encourage educational institutions to put violence prevention and reduction approaches against bullying into practice (**Salimi et al., 2019**). Preventing bullying situations requires the cooperation of several parties, government agencies, educators, and health professionals (as counselors). Therefore, having confidence in oneself and receiving social support are crucial for raising self-esteem (**Panday et al., 2018**).

Nurses possess the capacity to support the prevention of bullying in schools by assisting with early detection and gathering data through active listening, which serves as the foundation for evaluation and intervention efforts. In addition to helping to establish anti-bullying programs, nurses may help by offering counseling services to victims, bullies, and those in attendance at a bullying occurrence. They can also be used to educate children about social context-related skills **(Staples, 2016)**.

Significance of the study

Globally, bullying is a common occurrence throughout adolescence. According to UNICEF research from 2018, bullying assumed several forms for more than one-third of adolescents globally **(Fund, 2021)**. The World Health Organization revealed data indicating that almost 100 million children die every year globally as a result of violence, including severe domestic abuse and bullying (**WHO, 2021**). According to the findings of a survey conducted in 40 countries that are developing, 42% of males and 37% of girls, on average, had either experienced or were suffering from bullying (**WHO, 2022**).

Egypt's National Center for Social and Criminal Research has expressed concerns over school-based violence and revealing that 69% of students in a study of elementary and secondary school reported having been bullied or experienced aggressiveness from other students (**Elsayed et al., 2019**). In addition, Egyptian study, done by **Galal et al., (2019)** revealed a high prevalence of bullying behavior (77.8%) among rural school teenagers, of which 57.8% were bully-victims .Another study reported bullying behavior among teens is remarkably common were significantly associated with being bully-victim (73.5%) of the study group, which makes sense given the increased chance that victims may become bullies in order to vent their resentment or exact retribution **(Al-Hussein & Shabba, 2024)**.

According to previous research, victims of bullying are more likely to have headaches, troubles adjusting to class and school, and emotional wellbeing issues. Furthermore,

bullying can harm a person's sense of inadequacy and self-worth over time. Furthermore, low academic achievement is common for both bullies and victims (**Reece, 2017**). Hence this study will be conducted to explore the effect of bullying on psychological wellbeing, physical health and self-esteem of adolescents.

Aim of the study

This study aimed to assess the effect of school bullying on physical health, psychological wellbeing and self-esteem among adolescents.

Research questions:

1. What is the prevalence of school bullying victimization among adolescents?
2. What is the effect of school bullying on physical health among adolescents?
3. Is there a relation between school bullying victimization and psychological wellbeing and self-esteem?

Subjects and Methods:

Research design:

Descriptive cross-sectional study was utilized to achieve the aim of the study.

Setting:

This study was conducted in four public schools (two preparatory and two secondary schools) affiliated to Minia City.

Subjects:

A Stratified random sample was used in this study. Minia City includes (141 preparatory schools) and (48 secondary schools). The next step was randomly choosing two schools for boys and two for girls from preparatory and secondary schools. Following that, classes were randomly selected from each of the chosen schools who their age ranged from 12 to 18 years and were free from any physical & psychiatric disease.

To determine the required sample size for the study, the following formula was used for sample size estimation for a single proportion:

$$\mathbf{n=[Z^2 \mathit{p}(1-\mathit{p})]/e^2}$$

Where:

n = required sample size

Z = Z value (1.96 for 95% confidence level)

p = estimated prevalence (70% or 0.70)

e = margin of error (assumed to be 5% or 0.05)

Given that the prevalence of cases is estimated to be 70%, **the sample size was calculated as follows:**

n= 0.8067 / 0.0025= 322.68 ≈ 323

Thus, the total minimum required sample size is approximately 323 students. The sample size was increased to 400 to consider the variability of school students at preparatory and secondary schools and to decrease the sampling error. One hundred school students were selected randomly from each school.

Data collection tools:

The following five tools were utilized to collect the required data from research participants:

Tool I: Socio-demographic data about adolescents

It was developed by researchers and contained items such as age, gender, class, rank in family, student living with, mode of transportation to school, place of residence.

Tool (II): The Olweus Bully/Victim Questionnaire

It is a self-report questionnaire that assesses school victimization and adopted from Olweus Bully/Victim-self-report questionnaire and revised by **Solberg and Olweus, (2003)**. The Olweus Bully/Victim questionnaire was only used to collect data on bullying victims; the part on bullying perpetrators was not utilized. It is composed of 14 items about victimization including physical victim, verbal victim, social victim and cyber victim.

Scoring system:

The students' responses were coded on a five-point scale ranging from 0 to 4 (0 = it hasn't happened to me in the last two months, 1 = it happened to me only once or twice in the last two months, 2 = it happened to me 2 to 3 times a month, 3 = it happened to me once a week, 4 = it happened to me several times a week). In this study, the typical cut-off of at least "two or three times a month" was utilized to categorize victims of bullying. The final score ranges from 14 to 70 and the student is considered as a victim when the total score ≥60% (42-70) and non-victim when the total score <60% (14-41).

Tool (III): Physical Health Questionnaire (PHQ)

It assesses student's physical health and developed by the **Spence et al., (1987)** scale revised by **Schat et al., (2005)**. The modified PHQ consists of 14 items which covers questions about health symptoms (headache, abdominal pain, sleeping problems, feeling tense, feeling tired, dizziness…. etc.). They will be asked to indicate whether they experienced each symptom never, once a month, several times a month, once a week, or almost every day during the previous three months. In order to examine the relationship between health problems and bullying behavior, every health issue was classified as either having a health problem or not (frequencies: 'never' or 'once a month') versus a health problem (frequencies: 'several times a month', 'once a week' and 'almost every day') **(Hansson et al., 2020)**.

Tool (IV): Ryff's psychological well-being scale

Ryff's Psychological Well-Being 18-item version scale **(Ryff & Keyes, 1995)** is a self-report tool with 18 items that assess six aspects of psychological well-being: autonomy, environmental mastery, self-acceptance, personal growth, positive relations with others, and purpose in life. Each dimension has 3 items.

Scoring system:

Each statement had 3-point Likert Scale: (0 = disagree, 1= neutral – 2 = agree). Q1, Q4, Q9, Q10, Q12, Q14, Q18 should be reverse scored. Reverse-scored items are worded in the opposite direction of what the scale is measuring. After adding up all the items, a percentage score was calculated. There are no worldwide cut-offs given by Ryff and colleagues that define what constitutes a "high" or "low" score on these measures. Cut points can thus be determined by separating participants into three equal groups according to their total scores: lower, middle, and upper. Low psychological wellbeing level, if the score was (0-12), moderate

psychological wellbeing level if the score was (13-24) and high psychological wellbeing level, if it (25-36).

Tool (V): The Rosenberg Self-Esteem Scale (RSES)

This tool was developed by **(Rosenberg, 1965)** to measure self-esteem of the students. It consisted of ten statements. The response options used 4-point Likert Scale ranged from very agree, agree, not agree and very not agree. Five of the items (1, 3, 4, 7, and 10) have positively worded statements and five have negatively worded ones (2, 5, 6, 8, and 9). The scores were reversed to a positive point. The final score ranges from 10 to 40 after adding the points assigned to each item on the scale. Students' self-esteem increases as test scores rise. Making three categories out of the results: low self-esteem (10–25), medium self-esteem (26-29), and high self-esteem (30–40) **(García et al., 2019; Spinner & Rudolph. 2019)**.

Validity and Reliability:

The content validity of the study tools was revised by a five-member panel of community health nursing, pediatric health nursing and psychiatric and mental health nursing experts to evaluate the tools' clearness, feasibility, and applicability. Some sentences have been rephrased and rearranged, among other minor adjustments, based on the suggestions and recommendations of experts.

Reliability: The Cronbach's alpha coefficient was used to evaluate the interview questionnaire's internal consistency. Perfect reliability is indicated by Cronbach's alpha coefficient of 1.00, whereas a value of 0.00 shows no reliability at all. But a 0.70 reliability coefficient is sufficient. **(Tavakol & Dennick, 2011)**. The reliability test was conducted using Cronbach's alpha, as shown in the table below.

Scale title	Cronbach's Alpha
TheOlweus Bully/Victim Questionnaire	0.81
Physical Health Questionnaire	0.76
Ryff's psychological well-being scale	0.82
The Rosenberg Self-Esteem Scale (RSES)	0.92

Data collection procedure:

Before the study could begin, the director of the Minia governorate's educational administration provided his official consent. Furthermore, formal approval was obtained from administrators of the study's participating schools to describe the study's goal and the start date of data collection.

Oral informed consent was obtained from students after giving them a brief description of the purpose of the study. The data was obtained by visiting the chosen schools from 8:30 a.m. to 1 p.m., five days each week, in rotation. The following sequence was followed throughout the fieldwork: To gain the support and participation of the class teachers, the research objectives and importance were explained to them in each school. Students in each class were given an explanation of the study's objective by the researchers. Each

student in the class received a questionnaire form, which they were instructed to complete on their own. After orally consenting to participate in the study, the students under investigation filled out the questionnaire form, which took around 15 to 20 minutes to complete. Following the students' completion of the questionnaire, the researchers carefully gathered it, asking students to complete any blanks. Lastly, the researchers expressed appreciation to students and their teachers for their assistance. Data collection took about three months (five days/ week) to be completed from the beginning of March to the end of May 2024.

Ethical consideration:

The research proposal received approval from the ethical committee at Minia University's Faculty of Nursing in Egypt (**Approval No:** REC202436). School students who expressed willingness to participate in the study provided oral informed consent after receiving an explanation about the study's purpose and nature. Participants were assured that their involvement was voluntary, and they had the right to withdraw at any time. To safeguard confidentiality and anonymity, all data were appropriately coded.

Pilot study:

A pilot study was conducted on 10% (N = 40 school students) of the total sample. The purpose was to assess the utility and accessibility of the instruments, evaluate the feasibility of field studies, and identify any potential obstacles to data collection. The findings from the pilot study were integrated into the final study results, with no significant modifications to the study tools.

Statistical Analysis:

In the data analysis using SPSS 28, quantitative data were presented as mean (M) ± standard deviation (SD) and range, while qualitative data were reported as absolute frequencies (n) and percentages (%). To assess relationships between variables, Pearson's correlation coefficient was used. Direct correlation is shown by positive values, inverse correlation is indicated by negative values, high correlation is indicated by values near 1, and weak correlation is suggested by values near 0. If the p-value (P) is less than 0.05, a statistically significant difference is considered to be present.

Results

Regarding socio-demographic data of students in current study, **table (1)** shows 40% from total students in all selected schools were in the first class or level in the school and 51% of them their age ranged from 15-17 years old with mean 15.5975+1.7954 years. Concerning child rank in families, it was found that 35.5% from students their rank was the last and 76.7% of them lived with their parents. This table also clarifies that 55.2% of students went to school by walking and 63% of them came from rural areas.

Figure 1 illustrates that 72%, 86% and 79% of students in preparatory, secondary and in four schools respectively were school bullying victims.

Figure 2 illustrates that 88.7% of the students exposed to verbal bullying, 85.2% of them exposed to cyber

bullying, 79% of them exposed to social bullying, and finally 39% of them were victims of physical bullying.

Regarding physical symptoms **table (2)** clarifies that 75.5%, 44% of students had headaches in preparatory and secondary school respectively while the percentage of headache in four schools was 59.7%. The same table shows that 76.5% of students suffered from sleep disturbance, inability to concentrate on studies, nail biting and loss of appetite in Preparatory while 78.5%, 79% 75.5 and 78.5, of them had sleep disturbance and loss of appetite and had inability to concentrate on studies and loss of appetite respectively in Secondary school. While 77.5% of them suffered from sleep disturbance and loss of appetite, 77.7% of them had an inability to concentrate on studies and 76% of them had nail biting in four schools.

Figure 3 illustrates that 63%, 73% had low psychological wellbeing in preparatory, secondary respectively while 68% of total students in all selected schools had low psychological wellbeing level.

Figure 4 illustrates that 68%, 53% had low self-esteem in preparatory, secondary respectively while 61% of total studied students had low self-esteem level.

It was obvious from **table (3),** there were strong negative correlation between Bullying victimization and psychological wellbeing and moderate negative correlation between Bullying victimization and self-esteem.

Table 4 illustrates that bullying victimization has a significant effect on physical symptoms (headache, sleep disturbance, bed wetting, inability to concentrate on studies and vomiting).

Table (1): Frequency distribution of students according to their socio-demographic data (n=400)

Socio-demographic data	n=400	
	No	%
Class		
- First	160	40.0
- Second	120	30.0
- Third	120	30.0
Age		
- 13-<15	135	33.7
- 15-17	204	51.0
- 18	61	15.3
Mean + SD	**15.5975±1.7954**	
Rank in the family		
- First	120	30.0
- Second	103	25.7
- Last	142	35.5
- Only child	35	8.8
Student Living with		
- Parents	307	76.7
- Mother	28	7.0
- Father	27	6.8
- Grandparents	38	9.5
Mode of transportation to school:		
- I walk to school	221	55.2
- I use public transport	56	14.0
- Private car/bus arranged by my parent/ guardian	65	16.3
- My parent(s)/guardian drives me down	58	14.5
Place of residence		
- Urban	148	37.0
- Rural	252	63.0

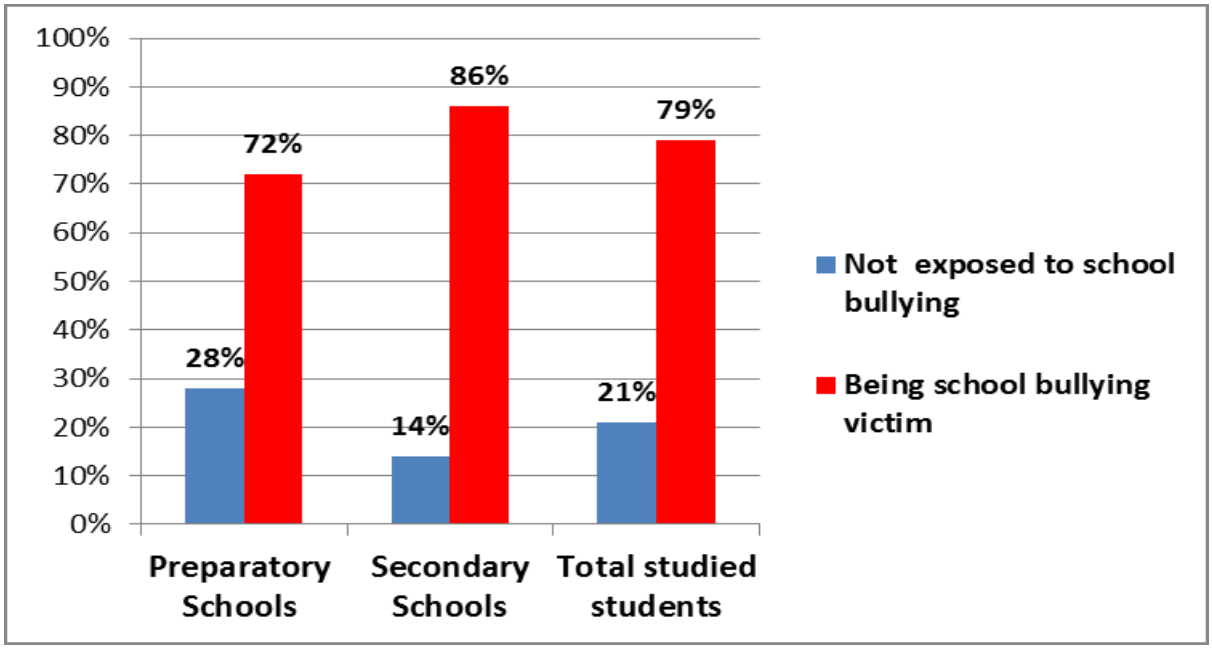

Figure (1): Frequency distribution of the total students who were school bullying victims in the four schools (n= 400)

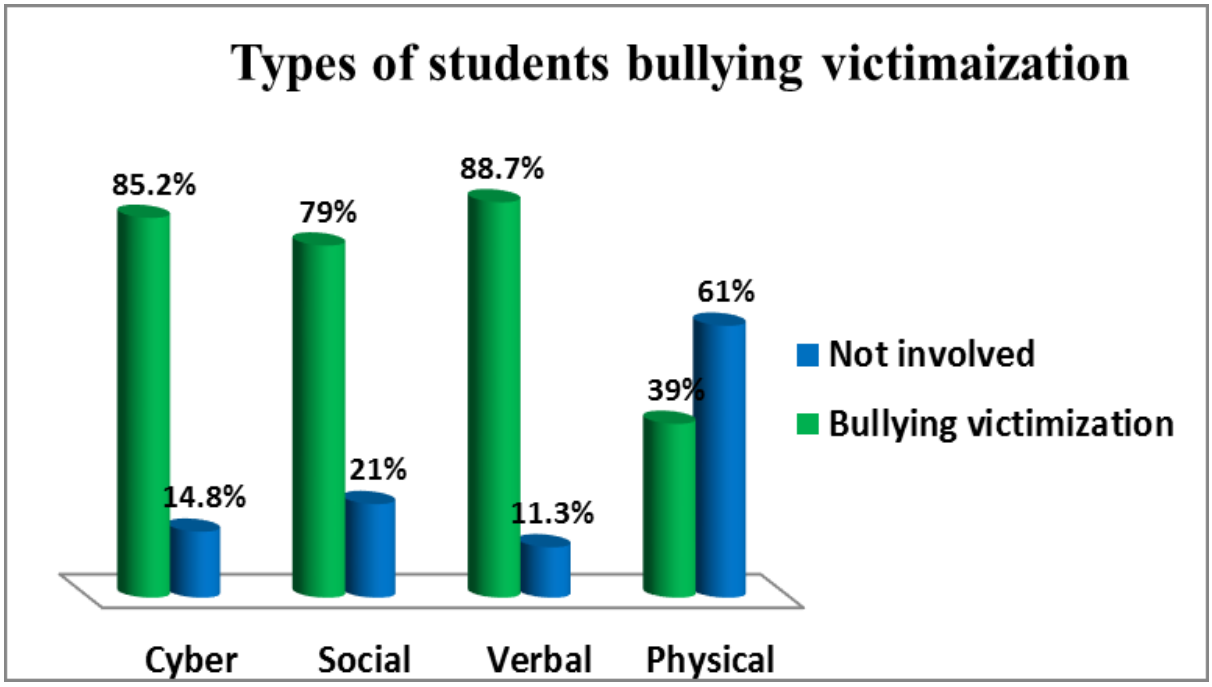

Figure (2): Frequency distribution of type of students bullying victimization in the four schools (n= 400)

Table (2): Frequency distribution of Physical symptoms among students bullying victimization (n= 400)

Physical symptoms	Preparatory school				Secondary school				Two schools			
	No problem		problem		No problem		problem		No problem		problem	
	no.	%	no.	%	no.	%	no.	%	no.	%	no.	%
Headache	49	24.5	151	75.5	112	56	88	44	161	40.3	239	59.7
Abdominal pain	200	100	0	0	198	99	2	1	398	99.5	2	0.5
Body pain	96	48	104	52	143	71.5	57	28.5	239	59.7	161	40.3
Dizziness	200	100	0	0	196	98	4	2	396	99	4	1
Sleep disturbance	47	23.5	153	76.5	43	21.5	157	78.5	90	22.5	310	77.5
Bed wetting	200	100	0	0	200	100	0	0	400	100	0	0
Inability to concentrate on studies	47	23.5	153	76.5	42	21	158	79	89	22.3	311	77.7
Nightmares	128	64	72	36	143	71.5	57	28.5	271	67.7	129	32.3
Nail biting	47	23.5	153	76.5	49	24.5	151	75.5	96	24	304	76
Repeated physical injury	200	100	0	0	196	98	4	2	396	99	4	1
Loss of appetite	47	23.5	153	76.5	43	21.5	157	78.5	90	22.5	310	77.5
Vomiting	200	100	0	0	196	98	4	2	396	99	4	1
Feeling nauseous	200	100	0	0	196	98	4	2	396	99	4	1
Constipation/diarrhea	200	100	0	0	196	98	4	2	396	99	4	1

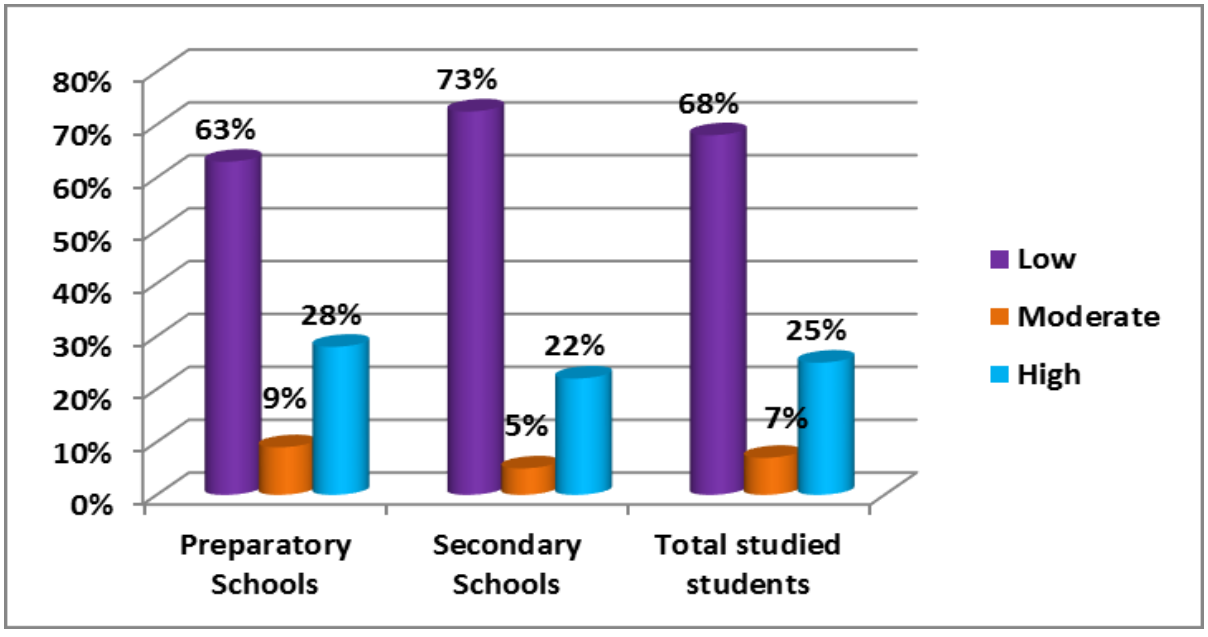

Figure (3): Frequency distribution of student total psychological wellbeing in the four schools (n= 400)

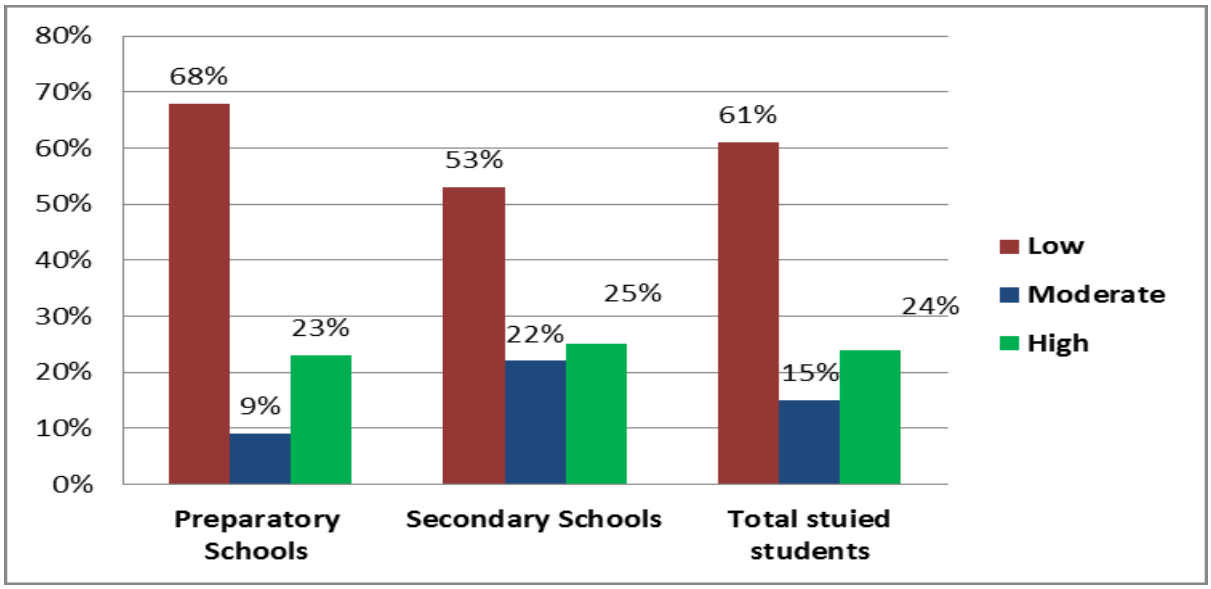

Figure (4): Frequency distribution of student total self-esteem in the four schools (n= 400)

Table (3): Correlations between student bullying, psychological wellbeing and self-esteem (n= 400)

Variables	Psychological wellbeing		Self-esteem	
	r	P	R	p
Bullying victimization	-.704**	0.001	-.622**	0.001

N.B *Significant is considered highly significant at (p-value <0.01)

Table (4): Binary logistic Regression analysis of student bullying and Physical symptoms (n= 400)

Student bullying	B	S.E.	Wald	*P*-value	*Exp(B)*
Headache	-1.481-	.438	11.440	**0.001****	0.227
Abdominal pain	.000	40192.933	.000	1.000	1.000
Body pain	.052	.424	.015	0.902	1.054
Dizziness	1.596	1.284	1.546	0.214	4.934
Sleep disturbance	-1.338-	.428	9.795	**0.002****	0.262
Bed wetting	-3.365-	.441	58.185	**0.000****	0.035
Inability to concentrate on studies	-2.216-	.564	15.449	**0.000****	0.109
Nightmares	.665	.557	1.428	0.232	1.945
Nail biting	-16.402-	20096.532	.000	0.999	0.000
Repeated physical injury	-.612-	.530	1.333	0.248	0.542
Loss of appetite	-18.609-	28420.696	.000	0.999	0.000
Vomiting	-1.481-	.438	11.440	**0.001****	0.227
Feeling nauseous	.000	40192.933	.000	1.000	1.000

N.B *Significant is considered highly significant at (p-value <0.01)

Discussion

Adolescence is a crucial period for mental and physical maturation, personality development, and acquiring scientific and cultural information. Adolescents who suffer from psychological issues like depression may have a range of detrimental consequences, such as poor educational achievement, alcohol abuse, and suicide **(Xu et al., 2022)**. The causes of undesirable psychological conditions are many and include school, family, and individual issues. Schools allow students to communicate with one another on a regular basis since they are significant spaces for interaction for elementary and secondary school students. These interactions, which include bullying at school, can have a serious negative effect on students' mental health and self-esteem **(Hamel et al., 2021)**.

Regarding socio-demographic data of students in the current study it was shown that the mean age of them was 15.5975+1.7954 years. This revealed that all the students were adolescents and therefore were prone to bullying behavior. This finding was somewhat similar to the findings of **Abd Elhamid et al., (2021)** who concluded that the mean age of studied students was 16.38±1.02 years. This may be related to similarity of culture.

Regarding to persons student living with the present results clarified that the majority of the students lived with both parents. This may be justified as the nature of Egyptian culture and eastern community. This was confirmed with by **Han et al., (2017)**, who conducted research on bullying

in schools in urban China, Prevalence and correlation with school climate included 3777 students in China, it was discovered that the majority of the schoolchildren lived with their parents, while over 25% lived with one or more parents.

Concerning place of residence, the present finding revealed that nearly two thirds of the students studied lived in rural areas. The findings of the present study were agreed with **Saini and Balada, (2019)** who reported that participants in their research came from rural regions comprising greater than half of cases. Meanwhile this finding was in contrast with the finding of **Fenny and Falola, (2020)** which was about "bullying behavior among preparatory school students". The finding showed that more than half sample of study from urban schools.

Regarding total bullying victimization in the studied schools, the present research illustrated that more than three quarters of the students in the four schools were bullying victims with the highest prevalence among secondary students. This implies that actions of aggression increase with adulthood. There's also a greater chance that those who have been bullied would turn into abusers in order to release their anger and frustration.

Studies in Egypt also revealed an elevated prevalence of bullying; **Galal et al., (2019)** concluded that the prevalence of bullying behavior was 77.8%, with the highest frequency for bully-victims among teenage students. Another research in Egypt conducted by **El-Maghawry and El-Shafei, (2021)** had found that more than half of governmental primary school students were bully victims. Additionally, **Elsayed et al., (2019)**, most of the samples were a victim of bullying. The study examined the variables that impact bullying among secondary school students in Sohag city.

In contrast, high-income nations like Canada have a lower prevalence of bullying victims (25.2%) than lower-middle-income nations (such Egypt, Lebanon, and Tunisia) and it is higher compared to upper-middle-income countries, such as Malaysia (16.2%) **(Tan, 2019)**. The observed differences in frequency between countries may be explained by methodological and cultural differences in the problem definition and evaluation tools. It might also be attached to variations in national policy and the preventative intervention strategies used to lessen this social problem.

Concerning the type of students bullying victimization among the students studied, the current study revealed that, most of the students exposed to verbal, cyber bullying, and social bullying, with the lowest prevalence of them were victims of physical bullying. The high frequency of these forms of bullying could be described by the difficulty discovered by schoolteachers. In addition, students frequently understand that it is against the law to physically harm someone else. This was consistent with the findings of **Ghardallou et al., (2024)** whose study revealing that adolescents are most commonly bullied verbally.

Regarding physical symptoms due to bullying, the current study clarified that more than half of the students suffered from headache with the highest percentage among preparatory students. In addition the majority of students have sleep disturbance, inability to concentrate on studies and nail biting in total schools' sample. It may be attributed to the fight-or-flight reaction, which evolved in order to assist individuals escape from danger, is affected by the feelings of fear that arise as a result of bullying. Stress hormones like cortisol and adrenaline are produced in greater amounts by the body, and they cause a variety of physiological changes. In addition, the ongoing stress and emotional trauma of being bullied lead to physical problem overtime that cannot be explained by medical cause.

The previous findings are consistent with the findings of **Sarzosa and Urzúa, (2021)**, in the study about "bullying among adolescents and role of skills", who reported that more than fifty percent of adolescents who experienced bullying experienced physical side effects such as "uncontrolled sleep, difficulty concentrating, and gastrointestinal disorders. Additionally, **Garmy et al., (2019)** reported that bullied school-age children and adolescents most frequently reported headaches as their primary form of discomfort.

As regards total psychological wellbeing, the current study research illustrated that more than two thirds of the students in the four-schools had low psychological wellbeing with the high percent among secondary students. It may be explained by that bullied students may encounter persistently negative peer behaviors, which will lead to increased psychological stress and a higher likelihood of social isolation. This social isolation will raise the probability of psychological symptoms such as anxiety, depression, and poor psychological wellbeing in these students. In addition, students who are the targets of bullying at school may suffer from low self-esteem and confidence as a result of ongoing exposure to unfavorable peer behaviors. This can have a detrimental effect on the students' psychological well-being.

This was agreed with the results of **Stewart-Tufescu et al., (2021)** showed that bullying may lead to mental health issues in both boys and girls, and the likelihood of developing mental health disorders increases with the frequency of bullying. Also, other support results were reported by **Jackson et al., (2019)** who declared that Bullying victims may have severe psychological issues, such as grief, anxiety disorders, anger, excessive stress, helplessness in the face of learning, a sharp decline in academic performance, or even suicidal thoughts. Long-term effects might include lack of trust, hypervigilance, high sensitivity, insecurity, mental disease like psychopathy or avoidant personality disorder, further health issues, or PTSD. Moreover, similar findings were reported by **Arslan, (2021)** who reported that when compared to their non-bullied peers, adolescents who experienced bullying reported poorer levels of psychological wellness, emotional

competence, belief in others, and belief in themselves.

Regarding total self-esteem among the samples studied, the present results clarified that more than half of students in the total schools' students had low self-esteem**.** It may be attributed to the shame, guilt, frustration, fear, and negative self-view that victims of bullying often feel leads to lower self-esteem. This finding was similar to the findings of **Mazzone et al., (2017)** who reported that Because peer interactions have a significant impact on self-esteem during adolescence, bullying and cyberbullying have a substantial negative impact on both the victims and perpetrators. In the same line **Peker, (2017**) founded that bullying victims often experience feelings of weakness, rejection, loneliness, and worthlessness. However, those who engage in bullying claim to lack the resources necessary to resolve conflicts, as well as inadequate self-control and communication skills, all of which have a negative effect on a person's self-esteem (**Garcés et al., 2020; Kurki-Kangas et al., 2019)**.

Concerning correlations between student bullying, psychological wellbeing and self-esteem, the current results revealed that there was negative correlation between bullying victimization with psychological wellbeing and self-esteem. This may be justified as Adolescents who had been bullied repeatedly experienced the unpleasant and destructive aspects of bullying, such as physical and/or verbal abuse, social isolation, and humiliation, which contributed to their poor self-esteem. These encounters have the potential to negatively impact a person's sense of value, which might lead to reduced self-esteem. Meanwhile, adolescents who have been bullied typically have poor psychological wellness because bullying can cause long-term stress and trauma that can negatively impact a person's mental health. In other words, current results indicate that experiencing bullying impairs self-esteem and well-being.

The previous research findings were in agreement with the findings of **Mungala and Nabuzoka, (2020)** who postulated that there was a negative and significant correlation between bullying and self-esteem, the more bullied learners were, the less self-esteem they exhibited. Moreover, similar results were documented by **Stephen and Soni, (2023)** demonstrate that Bullying experiences will have an impact on psychological wellness both directly and indirectly, according to the substantial negative correlation shown between bullying and psychological wellbeing. Additionally, the results indicated a clear correlation between bullying and self-esteem. This suggests that persistent bullying might damage one's sense of self-worth if it is not dealt with right away. While, the present results were inconsistent with the consequences of **Bokhari et al., (2022)** who reported that, there was no association between the two variables, as evidenced by the p-value of 0.844, which is insignificant, between the victimization scale and the WHO positive wellbeing index.

Regarding the correlation between bullying and physical symptoms, the

present study clarified that there were positive correlation between bullying victimization and headache, sleep disturbance, bed wetting, inability to concentrate on studies as well as vomiting. This may be attributed to the great connection between mind and body so the negative emotional condition the resulting from continuous exposure to bullying behavior were manifested physically in the form of the previous mentioned symptoms especially if the student can't disclose these feelings to others verbally, so it expressed nonverbally in the form of physical symptoms.

These results were consistent with a resent Egyptian study conducted by **Metwally et al., (2023)** who revealed that Psycho-somatic symptoms were present in more than three quarters of bullied children in preparatory schools. Additionally, this conclusion was consistent with the study's findings about the "Incidence, risk factors, and psycho-somatic symptoms for traditional bullying.", in China" by **Li et al., (2019)** who reported that victims of bullying have a substantial correlation with symptoms of psychosomatic disorders. According to the author, there was a minimum of 1.5 times greater likelihood of headache, gastrointestinal discomfort, and sleep disturbances among both traditional and cyber victims. This might be because there is a strong correlation between psycho-somatic symptoms and bullying.

Conclusion

The findings from this study provide significant insights into the impact of bullying victimization on students' psychological and physical health. The data revealed that a substantial majority of students across both preparatory and secondary schools reported experiences of bullying, with verbal and cyber bullying being the most prevalent forms. Furthermore, the analysis indicates a strong correlation between bullying victimization and adverse physical symptoms, such as headaches and sleep disturbances, as well as psychological outcomes, including low self-esteem and diminished psychological wellbeing.

Recommendations

Schools should develop and enforce robust anti-bullying policies that include educational programs for students, staff, and parents. These programs should focus on raising awareness about the types of bullying and their impacts, fostering a supportive environment where victims feel safe to report incidents. In addition, regular counseling sessions and workshops aimed at improving self-esteem and psychological wellbeing can help mitigate the negative effects of bullying. Furthermore, schools should encourage activities that build positive peer relationships through team-building exercises and social skills training. To ensure the effectiveness of these initiatives, schools should routinely assess the prevalence of bullying and its impact on student health through surveys and feedback mechanisms. This data can then inform ongoing adjustments to anti-bullying strategies and support services.

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