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Family and societal factors associated with school bullying among teenagers within the Greater Cairo, Egypt

Alyaa AL- HUSSEIN and Mohamed SHAHBA

ABSTRACT

Overall family stability factors in addition to the societal factors are affecting children's development and personality which may or may not result in bullying behavior. The objective of this work was to investigate family and societal factors in creating bullies to prevent and/or reduce bullying behavior among school teenagers within the Greater Cairo area, Egypt. A total of 500 teenagers (388 males and 112 females) were selected from public schools in the Greater Cairo area. A self-administered questionnaire was used to collect sociodemographic characteristics correlated with bullying. Pre-coded data were used in the statistical analyses. Differences among groups were tested. Logistic regression analysis was done to identify the significant predictors of bullying behavior among students. Violence in the family and other societal factors were associated with teenagers' tendency to be involved in bullying. Younger teenagers were more likely to be associated with being victim or being bully-victim while older age was significantly associated with being bully. The independent predictors for being bully-victims were age, gender, watching violent movies, fights in the family, witnessing fights and insulting words among family members, insulting words in streets and physical violence in the streets. Social and governmental organizations' programs should focus on promoting happy family life and preventing domestic violence by striking a balance between work and home so that parents can show their love for one another, as well as take part in their adolescent children's problems, take care of them, plan their lives, set limits and regulations, communicate with them, spend quality time with them, and share opinions when making decisions. Family therapy programs focusing on the relationship between parents and kids will have a positive effect on vulnerable teenagers.

KEY TERMS: bullying, bully-victims, family dynamics, teenagers, peer relationship, physical abuse, domestic violence.

KEY TERMS: qualitative research methods, social work studies, Egypt, social work research

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INTRODUCTION

Bullying is a form of violence common among young people mainly, teenagers. It is a recurring negative behavior directed towards specific individual or individuals where there is no equivalence in physical strength between the bully and the victim. It causes physical or psychological damage. Intentional bullying behavior is troublesome for both victims and bullies. It hurts physically and psychologically and leaves the bullied scared and suffering with no self-esteem or confidence. In most cases, communities consider such behaviors as normal behaviors, simply teasing, or unplanned innocent acts among children or teenagers, and as a result pay less attention to the problem which result in maximizing the negative impact of the problem. Bullying behavior among teenagers is an unsolved problem that requires attention. Parents' income, education, relations, marital status, how they treat each other, how they treat their kids, and overall family stability and ties among family members in addition to the surrounding societal factors are the key factors that affect kids' development and personality. The study aimed to investigate the family and societal factors creating bullies to prevent and/or reduce bullying behavior among school teenagers. Other objectives of the study were to present the causes of bullying from different point of view, evaluate the gender differences and bullying development reasons of male and female bullies, and discuss the different types of bullying from the real bullies' points of view.

BACKGROUND

The context

Because bullying has so many negative side effects that have wider social repercussions, it is a worldwide problem. Bullying is a widespread issue in the majority of nations. In their 2017 report, *School Violence and Bullying: Global Status Report*, UNESCO affirmed this. An estimated 246 million children worldwide are victims of bullying and hostility in general, with slightly over one in three students between the ages of 13 and 15 experiencing bullying. Although teenage bullying is not a recent occurrence, it has lately gained international attention as a public health concern (Masiello and Schroeder 2014). According to a representative study conducted in the USA among adolescents aged 12 to 18, 21% reported experiencing bullying at school in the 2015–16 academic year (Musu-Gillette et al., 2018).

Although there are many different origins for bullies, their social and familial roots are the most common ones. Bullying was predicted by the World Health Organisation (WHO) to occur 8–30% of the time, and in particular areas, it may even approach 50% (Espelage and De La Rue, 2011). Bullying was reported to be quite prevalent throughout the Arab world (Fleming and Jacobsen 2010). According to NCCM and UNICEF (2015), bullying affected 77.8% of adolescents in Egypt, with bullies making up 57.8% of the victim population. According to a different study (Galal et al., 2019), the prevalence of physical violence was found to be the greatest at 69% for victimisation and 82.8% for witnessing violence. Students were asked about their experiences with various bullying behaviors and types using a semi-structured questionnaire. Khalil et al. (2021) discovered that 6% of the students in the study were bullies, 22% were victims, 7% were bully-victims, and 55% were witnesses. An earlier study on school violence in Egypt discovered that 11.7 % of students in middle and secondary schools were violently inclined, and 51% of boys and 20% of girls had initiated violent attacks at school. Additionally, 35% of middle school students displayed aggressive characteristics (Tohamy et al., 2005). In this context, the purpose of this study was to identify the familial and societal elements that contribute to bullying behaviors and other related situations in adolescent male and female students.

Classification of bullying

Generally, a social group can include ringleader bully, assistant, rein forcer, defender, victim, and outsider-bystander (Salmivalli, 2001; Smith 2018). Usually, an interaction results in two parties one includes bullies, assistants, and rein forcers and the other includes victims and defenders. The bullies' opportunistic tendency is reflected in another notion. They may be more certain about who they attack and when to use force to deter victims' or their defenders' retaliation. Physical bullying (fighting, pushing, hitting), verbal bullying (teasing, calling names, threatening, spreading rumours), social bullying (ignoring, exclusion, purposeful leaving), sexual bullying (sexual comments, sexual harassment), and cyberbullying (sending bothersome electronic messages through the phone or computer) are some of the forms of bullying behavior (Calaguas, 2011). Bullying behavior can also be related to the victim's personal property (Smith 2018). Physical bullying includes any physical contact that leads to physical harm such as pushing, hitting, kicking, and spitting. Verbal bullying is widespread and involves the use of bad nicknames that harm him or affect his consideration. Social bullying is the exclusion of a specific person from the group on a continuous

and repeated basis, in addition to exchanging funny pictures and information about the victim to harm him. Property bullying includes the destruction, theft, and seizure of victims' belongings by force and violence. Moreover, Berger (2007), Rossen and Cowan (2012), and Smith (2018) concluded that sexual harassment and dating violence are bullying behaviors involving relational and physical bullying (Rossen and Cowan, 2012). Cyberbullying is the type of bullying where digital equipment and connections are used. It causes distress, mistrust, fear, anxiety, and depression (Chandra et al., 2020).

School violence in Egypt

Many factors can create a bully, but the main causes are family and social background. Family factors include the extent to which he or she is mistreated which may lead to exposure to bullying. A variety of factors, including parental abuse, inadequate family supervision, and insufficient listening skills, contribute to the formation of bullies. Also, weak family bonding and relations result in parents' ignorance of their teen's nature. Teenagers from families with divorced or separated parents may develop bad emotions and feel lonely. Teenagers from families with moody parents with bad temper, anger, and aggressiveness have a big chance of being bullies (Dauvergne and Johnson, 2001; Al-Kaltham, 2016). Some families consider that their major job is to meet their kids' material needs of housing, clothing, food, and financial need for better education opportunities without care of watching and evaluating their behavior modification. Causes of bullying may include the tendency of teenagers to prove their strength, personality, ability to control others, enjoy harassing others, releasing emotions, crushing opponents, and feeling successful in an easy way. The prevalence of violent movies and cartoons that contain scenes of violence and describe the most violent character as a hero encourage bullying behavior. Causes may also include the revenge of who were being bullied by turning themselves into bullies. Gender differences also play important role among teenagers. Girls were less likely to act as bullies. These difficulties of acting as bullies are due to girls' socialization, relationship experiences and their perception of different causes of bullying. Social reasons for bullying behavior often occur within a group of peers or friends. Usually, bullies do not have social skills and not able to judge others correctly. Factors such as culture, peers, and the teacher's relationship with students will certainly be a motive to encourage or reduce bullying. Bad friends push towards bad behavior and the teacher's violent behavior may lead to bad relationship between teachers and students and as a result verbal or physical abuse can develop. In some cases, bullying student acts recklessly towards the victim because of psychological disorders. Other causes can be related to the victim nature, behavior, and personality (Naylor and Cowie, 1999).

METHODOLOGY

The study was carried out in the Greater Cairo Area. The total area of the Greater Cairo Region is almost 3.3 thousand square kilometers of which 48% is in the Cairo Governorate, 47% in Giza Governorate and 5% in Qalyubia Governorate (GOPP, 2012). The Greater Cairo Region represents 0.33% of the total Egyptian area which is about 1 million square kilometers. About 25% of the Egyptian population is in the Greater Cairo area (United Nations, 2016). The Greater Cairo Area has the greatest population density in the country. It is well known that higher density populations could have higher rates of conflicts among individuals. Data were collected in the academic year 2021–2022 between February 2022 and June 2022 after obtaining the required administrative permissions from the school directors. Informed consent was obtained from all subjects involved in the study survey or from their guardians. Participants were selected based on a short interview questionnaire to collect simple information through which researchers were able to decide if they had been involved in some form of bullying in their life. A sample of five hundred teenagers from those who reported previous involvement in bullying (388 males and 112 females) was selected from different middle and high schools. Four hundred were selected from both Cairo and Giza Governorates and one hundred from Qalyubia Governorate based on relative population density in each Governorate. An interview questionnaire was used to collect information related to sociodemographic characteristics including gender, age, parents' education and working status, family size, parents' marital status and household's monthly income (US dollars). Measuring risk factors that trigger bullying/victimization. First: there are aspects of adolescent personality and behavior that need to be considered, like the addiction to violent movies, the propensity to carry a weapon, the likelihood of having companions who are violent or drug addicts, the addiction to smoking and drugs, and exposure to sexual abuse. Second: factors related to family which include continuous fighting, obscene language (curse words), physical punishment, and threatening by family members. Third: factors related to community and social factors that include physical and/or verbal abuse at school or threats in the streets.

The study was carried out using two ways, namely interview questionnaire and observation. During interviews, students responded directly to the study questions. The second method was the observation of their feelings, their

thoughts, and their facial expressions. Teenagers were invited to a personal interview to complete the questionnaire under our guidance through a 20-30 min period. Students were instructed to provide truthful responses for the sake of scientific investigation. To complete the selected sample, the two researchers completed a data collection process over three consecutive days each week, with each person accountable for around 8–12 students per day for a total of 16 weeks. The data gathering procedure was conducted in a calm, welcoming, and safe setting. Partitions between students were made to ensure privacy. Researchers helped students to understand questions. Notes were taken according to what was heard from them and/or noticed on them. Expert opinions were used to validate the questionnaire, and their input was used to improve it. The questionnaire was given to the chosen teens after it had been improved in terms of language, style, format, and content. Questions were open-ended and respondents were given enough time to express their ideas and feelings while answering questions.

The statistical analyses were conducted using pre-coded data and the Statistical Package for Social Science (SPSS) version 20 (SPSS, 2013). For quantitative variables, the data were summarised using the mean and standard deviation; for qualitative variables, frequency and percentages were employed. The independent sample t-test was utilised for quantitative data and the chi-square test was employed for qualitative variables to determine any statistical differences among the groups. The study employed logistic regression analysis to determine the significant factors of bullying behavior in student populations. Significance was considered at a P value of ≤ 0.05 .

RESULTS

Because all the questions were asked in person, the biographical data analysis showed that 100% of the participants responded to the questions. The biographical data in the first section of the questionnaire served to illustrate the demographic makeup of the sample, which consisted of teens in various grades who were both male and female. A statistical analysis revealed a noteworthy correlation between bullying conduct and variables linked to adolescents' engagement in bullying to varying degrees, taking into account parental financial, educational, and marital status. The findings indicated that bullying behavior by teens was linked to a higher chance of becoming bullies or victims. Teenagers' propensity to engage in bullying was linked to familial violence and other sociocultural factors, according to univariate analyses. Teenagers who experience domestic abuse are nonetheless more likely to engage in bullying. Most family variables continued to be linked to teenage bullying. When combined with other factors, teens who experience severe treatment from their parents are more likely to become bullies or become victims of bullying. After adjusting for other variables, the results indicated that having a larger family increased the likelihood of becoming the target of bullying (Table 1). Teenagers who were badly treated were more likely to be victims of bullying. Results also indicated that low parent care was associated with bullying involvement.

Association tests between reported bullying behaviors and each of the socio-demographic characteristics (Table 1) indicated a positive significant association between bullying behavior and the age of the teenagers. Younger teenagers (middle school age) were more likely to be associated with being victim (14.8 ± 1.6 , $P = 0.03$) or being bully-victim (14.4 ± 1.4 , $P < 0.001$) while older age (High school) was significantly associated with being bully (15.3 ± 1.2 , $P = 0.04$). Also, teenagers in middle school were significantly associated with being bully-victim compared to those in high school (73.5% $P = 0.001$ vs. 58.2% , $P = 0.003$). Gender's great effect was obvious on bullying behavior. The proportion of being a bully for males versus females was found to be 20.1% ($P = 0.009$) vs. 8.0% , ($P = 0.004$). The proportions of females being victims or bully-victims versus males were found to be 17.0% ($P = 0.09$) vs 12.1% ($p = 0.1$), and 75% ($P = 0.001$) vs 67.8% ($P < 0.001$). Females were more victimized than males (Table 1). Mothers' educational attainment and bullying behavior showed a strong inverse relationship ($P = 0.006$); adolescents whose mothers had higher educational attainment had lower bullying prevalence (Table 1).

The analysis of personal and family factors associated with bullying behavior among teenagers indicated a significant association between bullying behavior and those factors in different ways (Table 2). Results indicated a significant difference between males and females in bullying ability and tendency. Males are more capable to do the physical bullying. Girls are more likely to be victims. Gender, failure in school, and watching violent movies were significantly associated with being a bully (Tables 2 and 3). There were significant associations between age, gender, smoking, watching violent movies, fights in family, insulting words among family members, insulting words in streets, physical violence in street, drug abuse, exposure to physical abuse, in addition to the exposure to verbal abuse and being bully-victims (Tables 2 and 3). The proportion of being a bully-victim was higher among those exposed to physical abuse (75.5% , $P = 0.004$), those exposed to insulting words in streets (75.5% , $P = 0.001$), smokers (75.0% , $P = 0.05$), and those who received punishment in school (73.0% , $P = 0.001$). Surprisingly, being a victim was only associated with those who were exposed to insulting words in the family (Table 2). There was a significant association between bullying behavior and age, gender, failure in previous school years, and those who watch violent movies (Tables 2 and 3).

The predictors of several categories of bullying behavior were investigated using a backward stepwise logistic regression model (Table 4). The significant factors identified through univariate analysis were the variables entered in the first phase. The final step showed that the two most significant predictors of bullying were gender ($P = 0.027$) and prior academic failure ($P = 0.033$). Table (4) shows that age ($P = 0.001$), gender ($P = 0.001$), watching violent films ($P = 0.008$), family fights ($P = 0.001$), witnessing fights and insulting words among family members ($P = 0.007$), insulting words in streets ($P = 0.010$), and physical violence in streets ($P = 0.031$) were the independent predictors for being bully-victims. Table (4) shows that there was, however, no significant predictor for victimisation.

DISCUSSION

According to our findings, bullying behavior among teens in the study area is remarkably common. The group with the highest prevalence among them was bully-victims, which makes sense given the increased chance that victims may become bullies in order to vent their resentment or exact retribution. Studies carried out on Egyptian elementary school students also revealed high rates of violence. According to one of these (Ez-Elarab et al., 2007), the percentages of physical violence were 69%, 82.8%, and 29% for victimisation, witnessing violence, and initiating violent act, respectively. Another study 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. It was clear that the prevalence of being bully-victims was significantly associated with younger age and middle school grade, which indicated the protection of older age from involvement in bullying activity. Some related studies indicated that bullying is more common among students ranging from 11 to 13 years old (Nansel et al., 2001). Age effect can be a result of different physiological, biological, and psychological changes that are age specific.

Gender was found to be highly associated with bullying activities. Male teenagers were more prone to be bullies and bully-victims. The dominance of male bullying activities can be related to cultural factors where boys are spoiled and mostly not punished for misbehavior compared to girls. In agreement with our results, Galal et al. (2019) concluded that bullying is more common in males. Meanwhile, females can get involved in some other forms of bullying rather than physical bullying such as gossiping, teasing, or verbal insulting (Bulach et al., 2003).

It was found that teenagers watching violent movies are more involved in bullying behavior as bullies and bully-victims, respectively. Galal et al. (2019) and Gentile et al. (2010) reported similar results as exposure to violent media considered a risk factor for bullying behavior. On the other hand, some reports indicated that peers have less effect on bullying behaviors because the bully has an aggressive nature (Larsen et al., 2010).

Responses indicated that victim could act as a bully when gets a chance to play dominant role by involving himself in bullying activity with gender differences in this regard. These answers were consistent with the findings of Naylor and Cowie (1999), who linked a person's capacity for bullying to his/her socialisation, experiences in relationships, and opinions about the benefits and drawbacks of bullying. Bad family living standards such as living separated parents, violent parents, and physical aggression among family members are significantly associated with teenagers bullying behaviors (Cook et al., 2010). Family problems lead to behavioral disorders and bullying (Laeheem, 2013). Societal relations of the bullies are usually troubled, so they do not have sincere relationships or connections with peers to keep or to worry about rather they prefer to practice bullying behavior on weak peers to feel powerful and dominant (Hamza, 2022). Parents with hot temper, serious anger, aggressiveness abusiveness, may help their kids to acquire similar behavior and attitude (Laeheem, 2013). Supportive families and reasonable tides among family members have positive effects on kids' behavior. Furthermore, information about or examples of violence from relatives are more influential on kids because they imitate this behavior considering it a normal lifestyle (Laeheem, 2013).

The results of the current study showed that being a bully-victim was significantly more likely to result in fights and to be exposed to verbal and physical abuse at home. This finding may be explained by the stressful environments these kids grow up in as well as the likelihood that they will mimic such aggressive behavior at school. This is consistent with a different Egyptian study (Elmasry et al., 2016) that found a strong positive connection between students' verbal hostility and a history of physical abuse. Bullying and academic failure in prior years appear to be significantly correlated. This could be because kids who experience academic failure experience suppression, which has a negative impact on their behavior. According to research by Nansel et al. (2003), kids who engage in bullying and victimisation do not perform as well academically.

The hypothesis that exposure to hostile interactions in the neighbourhood encourages kids to emulate such behaviors, especially among their peers, could account for the considerable link between being bully-victims and students' exposure to physical violence in the street (Bowes et al., 2009). In a similar vein, Cook et al. (2010) found that neighbourhood features negatively impact bullying behavior, with living in a safe neighbourhood being associated with a lower incidence of bullying and victimisation.

Failure in prior school years was the strongest predictive indicator for bullying, followed by seeing family members use weapons. The likelihood of being a bully was 2.3 times higher in male students. The least reliable predictor of bullying, however, was moms' level of education—university or above. Additionally, exposure to physical violence on the street, gender, and watching disputes among family members were the most significant predictors of being bullied and becoming victims of bullying, in order of significance. According to studies conducted by Éz-Elarab et al. (2007) and Méndez et al. (2017), living with a single parent, manner of delivery, the absence of an attachment figure such as a father, mother, or teacher, low academic standing, and corporal punishment are risk factors for violence in schools. Moreover, social and governmental organizations and programs should cooperate to promote happy family life and prevent domestic violence. According to Bowes et al. (2009), family therapy programmes that emphasise the bond between parents and children and counsel parents to become more involved in their children's lives may influence the likelihood that their children will engage in bullying.

IMPLICATIONS

Teenage bullying must be brought to the attention of decision-makers, educators, religious groups, parents, and other community organizations. School counsellors can offer strategies to support teachers in schools. Teachers need to be aware of the importance of the interaction between them and their students. They need to understand the differences in their cultures and how classroom dynamics have interacted with education. Family support offers the comfort that permits independence and shuts the door on tensions and anxieties. In addition to spending enjoyable times with their teens, parents should also engage in their problems as well as express their love and concern for one another. Policymakers must provide teenagers access to qualified educators, principals, and other resources. Also, they need to put in place efficient intervention programs to stop bullying, with an emphasis on identifying students who have personal and social risk factors. It is important to motivate teens to take an active role in monitoring and stopping bullying themselves. Parents should control their behavior and refrain from having violent arguments with one other at their teens' watch.

CONCLUSION

In conclusion, the high frequency of bullying behaviors highlights the significance of putting in place efficient intervention programmes in schools. These programmes should concentrate on identifying students who have personal and social risk factors in addition to family, school, and community. It is advised that students and teachers communicate better. It is advised that a bullying prevention committee be formed at the school, with participation from parents and other staff members. It is important to motivate students to take an active role in monitoring and stopping bullying. The high conduct problems scale among bullied children requires more student follow-up to identify those who are more likely to exhibit deviant behavior. Professionals who work with schoolchildren and other social and athletic groups must undergo training to identify bullying, know when to step in and act appropriately, and emphasise the value of bullying prevention and response initiatives in both indoor and outdoor environments (e.g., playgrounds, canteens, bus stops). The highest education authority ought to periodically advise principals of schools on how to track bullying rates and identify students who may be at risk using survey questions. Additionally, parent-teacher conferences are a good way for instructors to stay in touch. The most important recommendation is related to parents' behavior in front of their kids and avoid violently solving their arguments in front of their kids and completely avoid physical contact or punishment.

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Table 1. Sociodemographic characteristics associated with bullying behavior among teenagers within the Greater Cairo Area, Egypt

Sociodemographic characteristics		Bully (n = 87)	P value*	Victim (n = 66)	P value*	Bully-victim (n = 347)	P value*
Age		15.2 ± 1.6	0.040 [#]	14.8 ± 1.6	0.030 [#]	14.4 ± 1.4	< 0.001 [#]
Gender	Male (388) [§]	78 (20.8) [‡]	0.009	47 (12.1) [‡]	0.100	263 (67.8) [‡]	< 0.001
	Female (112)	9 (8.0)	0.04	19 (17.0)	0.09	84 (75.0)	0.001
Household monthly income (\$)	200-300 ((n=294)	43 (14.6)	0.55	30 (10.2)	0.32	221 (75.2)	0.712
	300-400 (n= 156)	24 (15.4)	0.30	19 (12.2)	0.241	113 (72.4)	0.781
	400-500 (n= 33)	13 (39.4)	0.22	11 (33.3)	0.716	9 (27.3)	0.311
	>500 (n=17)	7 (41.2)	0.43	6 (35.3)	0.654	4 (23.5)	0.368
	≥ 6 (n= 44)	17 (38.6)	0.370	15 (34.1)	0.170	12 (27.3)	0.471
Family size	5 (n= 106)	24 (22.6)	0.222	17 (16.1)	0.122	65 (61.3)	0.312
	4 (n= 247)	33 (13.4)	0.121	23 (9.3)	0.211	191 (77.3)	0.232
	3 (n= 103)	13 (12.6)	0.341	11 (10.7)	0.212	79 (76.7)	0.452
	Illiterate (n= 33)	7 (21.2)	0.712	9 (27.3)	0.214	17 (51.5)	0.422
Father education	Some school (n= 167)	28 (16.8)	0.612	22 (13.2)	0.328	117 (70.0)	0.311
	College degree (n= 244)	44 (18.0)	0.322	20 (8.2)	0.322	180 (73.8)	0.617
	Graduate degree (n=56)	8 (14.3)	0.111	15 (26.8)	0.211	33 (58.9)	0.455
	Illiterate (n= 99)	32 (32.3)	0.224	9 (9.1)	0.745	58 (58.6)	0.543
Mother education	Some school (n= 301)	31 (10.3)	0.433	36 (12.0)	0.890	234 (77.7)	0.516
	College degree (n= 83)	22 (26.5)	0.006	17 (20.5)	0.331	44 (53.0)	0.321
	Graduate degree (n=17)	2 (11.8)	0.001	4 (23.5)	0.221	11 (64.7)	0.223
	Middle school (n=366)	57 (15.6)	0.778	40 (10.9)	0.19	269 (73.5)	0.001
Grade	High school (n= 134)	30 (22.4)	0.654	26 (19.4)	0.22	78 (58.2)	0.003
	Working (n= 467)	84 (18.0)	0.106	57 (12.2)	0.226	326 (69.8)	0.241
Father's working status	Not working (n= 33)	3 (9.1)	0.102	9 (27.3)	0.115	21 (63.6)	0.311
	Working (n= 387)	44 (11.4)	0.166	53 (13.7)	0.446	290 (74.9)	0.363
Mother's working status	Housewife (n= 113)	43 (38.1)	0.211	13 (11.5)	0.335	57 (50.4)	0.422
	Married (n=304)	37 (12.2)	0.622	28 (9.2)	0.401	239 (78.6)	0.241
Parents' marital status	Divorced (n=52)	19 (36.5)	0.522	17 (32.7)	0.302	16 (30.8)	0.162

Separated (n= 144)	31 (21.5)	0.321	21 (14.6)	0.101	92 (63.9)	0.165
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*Chi-square test; #Independent sample *t* test.

§Total number of teenagers involved in bullying behavior.

‡percentage of teenagers involved in a specific type of bullying.

Table 2 Personal and family factors associated with bullying behavior among teenagers within the Greater Cairo Area, Egypt

<i>Factors</i>	<i>Response</i>	<i>Bully (n = 87)</i>	<i>P value*</i>	<i>Victim (n = 66)</i>	<i>P value *</i>	<i>Bully-victim (n = 347)</i>	<i>P value *</i>
Watching violent movies	Yes (n= 396)§	57 (14.4)‡	0.031	46 (11.6)‡	0.523	293 (74.0)‡	0.001
	No (n= 104)	30 (28.8)	0.022	20 (19.3)	0.234	54 (51.9)	0.005
Smoking	Yes (n= 322)	44 (13.7)	0.087	35 (10.9)	0.331	243 (75.4)	0.050
	No (n= 178)	43 (24.2)	0.111	31 (17.4)	0.222	104 (58.4)	0.073
Drug abuse	Yes (n= 79)	13 (16.5)	0.097	17 (21.5)	0.483	49 (62.0)	0.043
	No (n= 421)	74 (17.6)	0.321	49 (11.6)	0.384	298 (70.8)	0.030
Witnessing fights in family	Yes (n= 422)	59 (14.0)	0.412	54 (12.8)	0.448	309 (73.2)	0.010
	No (n= 78)	28 (35.9)	0.322	12 (15.4)	0.224	38 (48.7)	0.040
Insulting words among family	Yes (n= 230)	43 (18.7)	0.224	32 (13.9)	0.044	155 (67.4)	0.001
	No (n= 270)	44 (16.3)	0.123	34 (12.6)	0.022	192 (71.1)	0.004
Exposure to physical abuse	Yes (n= 147)	11 (7.5)	0.503	25 (17.0)	0.091	111 (75.5)	0.004
	No (n= 353)	76 (21.5)	0.423	41 (11.6)	0.066	236 (66.9)	0.001
Exposure to verbal abuse	Yes (n= 174)	29 (16.7)	0.623	21 (12.0)	0.129	124 (71.3)	0.001
	No (n= 326)	58 (17.8)	0.512	45 (13.8)	0.231	223 (68.4)	0.004

*Chi-square test

§Total number of teenagers involved in bullying behavior.

‡percentage of teenagers involved in a specific type of bullying.

Table 3 School and societal factors associated with bullying behavior among teenagers within the Greater Cairo Area, Egypt

Factors	Response	Bully (n = 87)	P value*	Victim (n = 66)	P value *	Bully-victim (n = 347)	P value *
Punishment in school	Yes (n= 311)§	45 (14.5)‡	0.572	39 (12.5)‡	0.234	227 (73.0)‡	0.001
	No (n= 189)	42 (22.2)	0.422	27 (14.3)	0.333	120 (63.5)	0.004
Absence from school	Yes (n= 164)	39 (23.8)	0.621	21 (12.8)	0.128	104 (63.4)	0.018
	No (n= 336)	48 (14.3)	0.445	45 (13.4)	0.221	243 (72.3)	0.009
Failure in previous years	Yes (n= 82)	26 (31.7)	0.009	9 (11.0)	0.440	47 (57.3)	0.162
	No (n= 418)	61 (14.6)	0.001	57 (13.6)	0.332	300 (71.8)	0.216
Insulting words in street	Yes (n= 220)	33 (15.0)	0.621	21 (9.5)	0.622	166 (75.5)	0.001
	No (n= 280)	54 (19.3)	0.434	45 (16.1)	0.411	181 (64.6)	0.005
Physical violence in street	Yes (n= 122)	25 (20.5)	0.078	12 (9.8)	0.088	85 (69.7)	< 0.001
	No (n= 378)	62 (16.4)	0.092	54 (14.3)	0.091	262 (69.3)	0.001
Threatening by weapons	Yes (n= 104)	29 (27.9)	0.019	11 (10.6)	0.096	64 (61.5)	< 0.001
	No (n= 396)	58 (14.7)	0.022	55 (13.8)	0.077	283 (71.5)	0.002

*Chi-square test

§Total number of teenagers involved in bullying behavior.

‡percentage of teenagers involved in a specific type of bullying.

Table 4 Logistic regression model of factors associated with bullying behavior among teenagers within the Greater Cairo Area, Egypt

Factors	Bully	Victim	Bully-victim
Age			< 0.001*
Gender (M/F)	0.027*		< 0.001
Grade (Prep/secondary)			0.736
Watching violent movies	0.467		0.008
Drug abuse			0.282
Fights in family			< 0.001
Insulting words among family members		0.133	0.007
Physical abuse by parents or other caregivers			0.605
Verbal abuse by parents or other caregivers			0.163
Punishment in school			0.981
Absence from school			0.141
Failure in previous years	0.033		
Insulting words in street			0.010
Physical violence in street			0.031
Threatening by a weapon in the street	0.345		0.245

Sensitivity of bullying model was 76.2%, and sensitivity of victimization model was 69.9%, while sensitivity of bully-victim model was 92%.

* P value