

Bullying and Its Association with Depression, Anxiety and Stress Among Adolescents Aged 12-18 Years Old of a Public High School in Quezon City*

Elizabeth L Romano, M.D.¹

INTRODUCTION

Bullying is a form of aggression characterized by negative behavior intended to harm or distress others occurring repeatedly and involving an imbalance in the strength and power of the parties involved. It has become increasingly recognized in the pediatric age group because of the implications it has on the psychosocial health of children. Involvement in bullying be it a victim, a bully and a bully-victim has been associated with depression, anxiety and psychosomatic symptoms in the pediatric age group. Adolescents being a vulnerable stage, when afflicted with depression can have long-term serious effects on their mental health and functioning.

There are numerous studies on bullying in Western countries. However, in the Philippines, there are few studies on bullying and its psychological effects on children. Bullying being a culture-based phenomenon, studies conducted in the Philippine setting is warranted.

The aim of the study is to provide data on the prevalence of bullying and its associated psychological effects of depression, anxiety and stress on adolescents. It aims to investigate the association between being a victim of bullying to depression, anxiety and stress in adolescents.

Review of Related Literature:

Bullying

Bullying is an aggressive behavior characterized by negative or malicious behavior intended to harm or distress others which is repeated over a time period and involves an imbalance in the strength or power between the parties involved.¹ Bullying can be physical acts, verbal utterances or other discrete behaviors including social isolation and exclusion.

Children and adolescents who are victims of bullying have both physical and mental health problems. Mental health problems include depression, anxiety and suicide ideation.³ Victims of bullying have negative peer relations including rejection and lack of acceptance in the peer group.

The advancement in communication and information technology has expanded the phenomenon of bullying to cyberbullying. Cyberbullying is defined as the repeated harassment of peers by using information and communication technology thru the Internet and cellphones.⁶ As in traditional bullying, the goal of cyberbullies is to harm their victims through repeated disturbance to gain control over them. However, in cyberbullying, the power of the bullies does not come from their physical advantage over their victims but from their competence in using technology and their ability to hide their identity.⁶

Depression in Children and Adolescents

Traditionally, depression was seen as an adult disorder. Children were considered developmentally immature to experience depression. An adolescent's low mood was seen as part of normal teenage mood swings. However, in a meta-analysis done by Costello in 2006, the prevalence of depression among children is 3% and among adolescents is 6%. Levels begin to rise in the early teens and by the midteens the prevalence of depression reaches 4-5%.⁹ The greatest prevalence of depression in children occurs in the adolescence stage specifically starting in the early teens hence, adolescent students aged 12 to 18 years old are the subjects of this study.

There are a variety of risk factors implicated for the cause of depression in children. In a study by Thapar in 2010, adults, adolescents, children and

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¹From the Capitol Medical Center

pre-schoolers all point to a family history of depression and exposure to stressful life events as the most robust risk factors for depression.¹² Psychosocial risks include family conflict, maltreatment, neglect, and peer conflict and bullying.¹² Among these, chronic stressors affecting relationships appear to have a greater impact than isolated acute events. Bullying being a chronic stressor to children and adolescents is an emerging risk factor warranting further investigation.

Victims of Bullying and Depression, Anxiety and Stress

Adolescents involved in bullying are at a significant risk of experiencing psychiatric symptoms and suicidal ideation or acts¹². During adolescence when peer relationships are of great importance, traumatic events such as being a victim of bullying could cause trauma severe enough to lead to depression. Emotional instability and lowered self-esteem caused by being a victim of bullying has significant effects on the adolescent's school performance and peer relationships. A meta-analysis published in 2014 stated that involvement in bullying among children and adolescents is associated with suicidal ideation and behavior¹³.

In study done by Turner in 2010 among adolescents aged 10-17 years old, victimization from bullying increased the risk of depression through lowered self-esteem¹⁴. Studies have shown that victims of school bullying have physical and mental health problems such as depression, anxiety, suicide ideation, hyperactivity and conduct problems¹. Victims of bullying have also been found to show social difficulties such as social anxiety, loneliness, avoidance of social situations and social skills deficits. Furthermore, adolescents who exhibit social difficulties as a result of being a victim of bullying makes them vulnerable to more bullying.

The effects of being a victim of bullying extends well into adulthood¹⁵. Lund in 2010 reported that having been bullied at school was associated with an increased risk of clinical depression in adulthood. Longer and more intensive forms of bullying posed a higher risk for depression among the victims¹⁵. Among adult patients with anxiety disorders, having been bullied at school correlated with depression as well as with social anxiety and functional impairment¹⁵. In a study by Sourander in 2010, being a victim of bullying was shown to predict persistence of depression among adolescent girls. Females who

were victims of bullying in childhood and adolescence were likely to have psychiatric hospitalization and use of antidepressants, anxiolytics and antipsychotics by the age of 25 years¹⁶.

Adolescents who are victims of bullying predicted depression in young adulthood, and more clearly among socio-economically-deprived adolescents than among those with affluent backgrounds¹⁵. The population studied were adolescents from a public high school belonging to the lower-income families posing them to a greater risk of developing depression in young adulthood.

An adolescent suffering from depression may predispose him/her to being a victim of bullying. Bullying predisposes adolescents to depression hence reducing or preventing bullying has an impact on addressing adolescent depression. Likewise, being a victim of bullying is a sign that can help in identifying adolescents who are suffering from depression.

OBJECTIVES

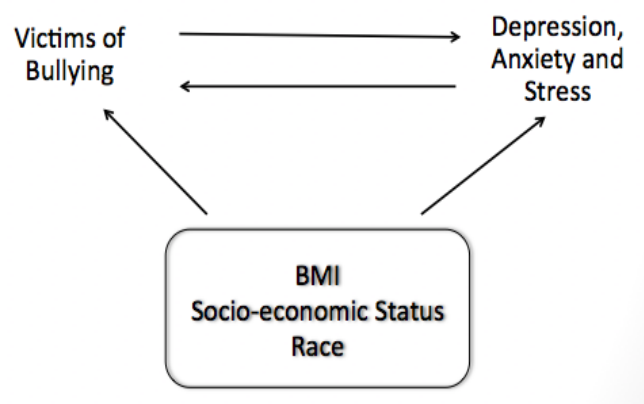
General Objective:

To determine the association between being a victim of bullying with depression, anxiety and stress among adolescents aged 12-18 of a public high school in Quezon City

Specific Objectives:

1. To determine the prevalence of bullying among adolescents aged 12-18 years in a public high school in Quezon City
2. To determine the forms of bullying present among adolescents aged 12-18 years old in a public high school in Quezon City
3. To determine the Depression, Anxiety and Stress Scale scores of students who are victims of bullying according to the form of bullying experienced
4. To determine the Depression, Anxiety and Stress Scale scores of students who are non-victims of bullying
5. To determine the association between being a victim of bullying to the Depression, Anxiety and Stress Scale Scores among victims and non-victims of bullying

Conceptual framework



SIGNIFICANCE OF THE STUDY

The result of this research can serve as additional data on victims of bullying among adolescents in the Philippines, including cyberbullying, a new and emerging type of bullying. Bullying being a culture-based phenomenon, results of the study can establish the association between being a victim of bullying and its psychological effects on adolescents such as depression, anxiety and stress in the Philippine setting. The results of the study will emphasize the need to address bullying in the Philippines. Early identification of the victims of bullying and its associated psychological effects on adolescents is vital to prevent consequences such as suicide. For the primary pediatrician, routinely asking and screening patients and parents about experiences with bullying is fundamental. Upon identification of the victims of bullying with its associated negative effects, proper advice and support can be given and prompt referral to a specialist can be made. For the school officials, programs to address bullying in the school should be instituted. For children and adolescents who were identified as victims of bullying, further evaluation, counseling and therapy is recommended as they may be suffering from its negative psychological effects such as depression, anxiety and stress.

METHODOLOGY

- A. Study Design:
Cross Sectional Study
- B. Study setting:
Public high school in Quezon City in the academic year 2015-2016

- C. Study Population:
Adolescent high school students aged 12-18 years old from a public high school in Quezon City (Academic Year 2015-2016)

Inclusion Criteria: Adolescents aged 12 to 18 years old enrolled in the academic year 2015-2016 at Roxas High School in Quezon City

Exclusion Criteria: Adolescents who have chronic diseases and other endocrinopathies which could manifest with depression were not included in the study

- D. Definition of Variables:

- 1. Victims of Bullying

This **Personal Experience Checklist (PECK)** was used to identify the victims of bullying. In this questionnaire, there are three domains of bullying, namely: physical, verbal-relational and cyberbullying. The scoring system is as follows:

Scoring:

- 0 – never
- 1 – rarely
- 2 – sometimes
- 3 – most days
- 4 – every day

A respondent who gave a score of 3 in any particular item, indicating that the particular bullying experience happened most days is considered positive for the perception of being a victim of bullying in that domain. A score of 3, indicating that the experience occurred most days was based on the definition of the experience of being bullied that the behavior occurred repeatedly.

The PECK questionnaire was developed by Hunt, Peters and Rapee in 2012. The questionnaire was validated in the Philippines in a study by Ouano in 2013. In the exploratory phase of the validity study, certain words from the original questionnaire were reworded to make it more understandable in the Philippine setting. Three factors were extracted from the original questionnaire, namely: verbal-relational bullying, physical bullying, and cyberbullying. This generated a new 28-item questionnaire.

In the cross-validation phase, questions extracted from this new model were then subjected to a Confirmatory Factor Analysis to test the generalizability and to increase its validity for its use across schools in the Philippines.⁸ The internal consistency of the items in each new factor was established thru this analysis, and was found to be adequately reliable as indicated by their Cronbach alpha coefficients as follows, Factor 1: Verbal-Relational bullying 0.89, Factor 2: Physical bullying 0.79 and Factor 3: Cyber bullying 0.79.⁸ In the validated questionnaire, items 2, 3, 5, 6, 8, 11, 16, 17, 23, 24, 27 and 28 corresponded to the verbal-relational domain of bullying, items 1, 7, 13, 15, 18, 20 and 25 corresponded to the physical domain of bullying and items 4, 9, 10, 12, 14, 19, 21 and 26 corresponded to the domain of cyberbullying.

The Personal Experiences Checklist (PECK) was developed by Hunt, Peters and Rapee in 2012 to provide a multidimensional assessment of a young person's personal experience of being bullied. It can be administered to children aged eight years and older and covers the full range of bullying behaviors, including covert relational forms of bullying and a new and emerging form of bullying which is cyber bullying⁷. The Personal Experiences Checklist (PECK) was seen to be closer to the cases of bullying in Philippine schools and has a relatively acceptable validity evidence of the measure for the experience of being bullied in both private and public schools⁸

2. Depression, Anxiety and Stress Scale

score is the cumulative score of the subject in the 21-item DASS scale multiplied by 2

a. **Low Score** – Score that is below the cut off value for all of the 3 parameters measured in the DASS scale. This means that the respondent is not at risk for depression, anxiety and stress disorder.

1. Depression – score 0-8
2. Anxiety – score 0-6
3. Stress – score 0-13

b. **High Score** - Score greater than the cut off value in any of the 3 parameters measured in the DASS scale:

1. Depression – score ≥ 9
2. Anxiety – score ≥ 7
3. Stress – score ≥ 14

High score means that the respondent is experiencing negative symptoms and at risk for depression, anxiety and stress disorder.

The presence of depression, anxiety and stress in adolescents who were victims of bullying were determined with the Depression, Anxiety, Stress Scale (DASS). The twenty-one item version of the questionnaire was used in the study as recommended by Lovibond for research purposes. This scale has been validated for use in nonclinical populations and in research settings. Reliability is considered excellent with Cronbach's alpha 0.95 for D, 0.90 for A, 0.93 for S and 0.97 for total score. The DASS has adequate convergent and discriminant validity (CFI = 0.93) inter-correlations between the three scales not as indicating conceptual overlap between the constructs of depression, anxiety and stress, but rather shared causes.¹² Scores for Depression, Anxiety and Stress are calculated by summing the scores for the relevant items. As recommended, the obtained scale scores are multiplied by 2, to make them comparable to the 42 item-DASS normative data scores. DASS was designed to measure three related but distinct negative affective states in nonclinical populations: depression (D), anxiety (A), and stress (S). Each of the three DASS-21 scales contains 7 items, divided into subscales with similar content. The depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack of interest / involvement, anhedonia and inertia. These are questions 3, 5, 10, 13, 16, 17 and 21. The anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. These are questions 2, 4, 7, 9, 15, 19 and 20. The stress scale is sensitive to levels of chronic nonspecific arousal, measured in items 1, 6, 8, 11, 12, 14 and 18. It assesses difficulty relaxing, nervous arousal, and being easily upset / agitated, irritable / over-reactive and impatient. Scores for depression, anxiety and stress are calculated by summing the scores for the relevant items. Respondents are asked to use 4-point severity/frequency scales to rate the extent to which they have experienced. Each item is scored on a 4-point scale 0 – Never, 1- Sometimes, 2- Often, 3- Almost always.¹²

The DASS is a 21-item questionnaire which includes three self-report scales designed to measure the negative emotional states of depression, anxiety and stress¹². Each of the three scales contains 14 items, divided into subscales of 2-5 items with similar content. The Depression scale assesses dysphoria, hopelessness, devaluation of life, self-deprecation, lack

of interest/involvement, anhedonia, and inertia. The Anxiety scale assesses autonomic arousal, skeletal muscle effects, situational anxiety, and subjective experience of anxious affect. The Stress scale (items) is sensitive to levels of chronic non-specific arousal. It assesses difficulty relaxing, nervous arousal, and being easily upset/agitated, irritable/over-reactive and impatient. Respondents are asked to use 4-point severity/frequency scales to rate the extent to which they have experienced each state over the past week. This questionnaire was developed by Lovibond to identify individuals who are likely to be undergoing a psychological problem. The DASS questionnaire has undergone extensive evaluation and has been found to be a reliable and valid method for assessing changes in depressive mood and anxiety.¹²

3. Study Period 2015-2016

$$\begin{aligned} \text{Sample Size: } SS &= 1.96^2 \times (0.5) \times (0.5)/0.01 \\ SS &= 96/1 + (95/284) \\ SS &= 72 \end{aligned}$$

$$SS = Z^2 \times P \times (1-P)$$

$$C^2$$

SS= sample size

Z= Z value (1.96 for CI 95%)

P= percentage of population picking a choice

P= 0.5 (prevalence of bullying according to PLAN international study)

PLAN- study on violence against children.Towards a child friendly school environment. A Baseline study on violence against children in schools(2008)

4. Conduct of Study

Prior to the conduct of the study, research proposal passed through the research and ethics committee of the department. Adolescents aged 12 to 18 years old currently enrolled in the academic year 2015-2016 who satisfied the inclusion criteria were randomly selected and recruited in the study. Consent forms were given and were signed by all parents or guardians. A written assent form was secured from the adolescent respondents. After consent and assent forms were secured, subjects were given the Personal Experience Checklist to identify victims of bullying. Respondents who were identified as victims of bullying were then be given the DASS questionnaire.

5. Materials

To identify victims of bullying the Personal Experience Checklist questionnaire was used. To determine the presence of depression, anxiety and stress in adolescents, the Depression, Anxiety, Stress Scale (DASS) Questionnaire was used.

Data Analysis:

Chi-Square test was used to associate the DASS scores of victims and non-victims of bullying. A p-value of equal to or less than 0.05 was considered statistically significant.

Results

Table 1 shows the demographic data of the adolescent respondents aged 12-18 years old.

Table 1. Demographic Data of Adolescent Respondents Aged 12-18 years old

n = 150	Victims of Bullying 129 (86%)	Non-Victims of Bullying 21 (14%)
Gender		
Male	87 (67%)	11 (52.4%)
Female	42 (33%)	10 (47.6%)
BMI		
Normal	77 (60%)	16 (76%)
Overweight	45 (35%)	5 (24%)
Obese	7 (5%)	0

Out of the 150 high school students given the PECK questionnaire to identify victims of bullying, 129 students responded that they have been victims of bullying. Only 21 responded that they were not victims of bullying. The prevalence of bullying in the public high school is 86%. Among the victims of bullying, eighty-seven of the respondents were male (67%) and 42 were female (33%). Among the victims of bullying, majority had normal BMI seen in 77 subjects (60%). Only seven victims of bullying were obese comprising 5%.

Table 2 shows the forms of bullying present in the public high school studied. Among the three forms of bullying, the verbal-relational form of bullying was the most prevalent type of bullying in

84 subjects. This was followed by physical bullying identified in 39 subjects and lastly by cyberbullying identified in 36 subjects.

Forms of Bullying	
Verbal-Relational Bullying	84 (65%)
Physical Bullying	39 (30%)
Cyberbullying	36 (25%)

In this study, most of the students report that they have been victims of more than one type of bullying. Victims of physical bullying and cyberbullying were also victims of verbal-relational type of bullying. This overlap explains the percentages totaling more than 100% in Table 2.

Table 3. DASS Scores of the victims of the three forms of bullying

	High DASS		Low DASS		p value
		Percentage		Percentage	
Verbal-Relational Bullying	75	53.6	9	47.4	0.7471
Physical Bullying	33	23.6	6	31.6	
Cyber-bullying	32	22.7	4	21.1	

Table 3 shows the DASS Scores of the victims of bullying. Based on the p-value of 0.7471, the DASS scores of the victims were not significantly different across the different forms of bullying. However, among the three forms of bullying, the higher percentage of a high DASS score in the verbal-relational type of bullying compared to the Low DASS Score is evident. The verbal-relational type of bullying has a potential to be associated with a high DASS score compared to the other forms of bullying.

Table 4. Chi- Square Analysis of the DASS Scores of Victims and Non-victims of bullying

	High DASS	Low DASS	p-value	Odds Ratio
Victims of Bullying	115 (95.0)	14 (48.3)	0.0001	20.54
Non-Victims of Bullying	6 (5.0)	15 (51.7)		

Table 4 shows the DASS scores of the victims and non-victims of bullying. More victims of bullying have higher DASS scores compared to non-victims of bullying. A p-value of 0.0001 was obtained indicating that a high DASS score is significantly associated with being a victim of bullying. Results also show that subjects with a high DASS Score is 20.54 times more likely be victims of bullying compared to those with Low DASS scores.

Discussion

Bullying is an aggressive behavior intended to harm or distress others. Several studies done in other countries have shown the association between school bullying and depression among children and adolescents¹. In the Philippines, there are few studies done on physical, verbal-relational bullying and cyberbullying, a new and emerging type of bullying.

Out of the 150 high school students given the PECK questionnaire to identify victims of bullying, 129 students responded that they have been victims of bullying. Only 21 responded that they were not victims of bullying. The prevalence of bullying in the public highschool studied was 86%. In the United States, according to data released in 2013, 28% of students ages 12–18 reported being bullied at school, during the school year according to the Bureau of Justice Statistics (BJS) and National Center for Education Statistics Institute of Education Sciences (IES). The majority of bullying still takes place at school. According to the Center for Disease Control in 2013, 28% of U.S. students in grades 6–12 experienced bullying and 20% of U.S. students in grades 9–12 experienced bullying. In European countries, in a report published in 2010, among boys age 11–15 years who report being bullied, in Austria, the prevalence rate is 21%, in Russia 18%, in Belgium and Portugal 17%, in Canada, Switzerland and France, the prevalence is 15%. In Hong Kong, Taiwan and Macau, the prevalence of being a victim of bullying is 9.1%¹⁷. In the Philippines, the Department of Education reported more than 1,700 cases of bullying in schools for the years of 2013 and 2014.

Results of the study showed that males were more involved in bullying than females. This finding was similar to previous studies done showing that boys are more often involved in bullying than girls, both as bullies and victims.¹⁷ Involvement in bullying can be attributed to males showing more aggressive behavior compared to females.

Among the victims of bullying, majority had normal BMI seen in 77 respondents. Only seven victims of bullying were obese comprising only 5%. This is contrast from previous studies done which showed overweight male students were more likely to both physically bully others and be victims of bullying in comparison with normal weight males¹⁹. This could be attributed to the subjects in this study belonging to low-income families. In a study done by Dinsa in 2012 associating socio-economic status and obesity in developing countries, it was found that in low-income countries the more affluent families are more likely to be obese²⁰. Obesity in children appears to be predominantly a problem of the rich in low and middle -income countries.

The forms of bullying identified in the public high school include verbal-relational, physical and cyberbullying. Among the three forms of bullying present, victims of the verbal-relational form of bullying was the most common identified in 84 subjects. This was followed by victims of cyberbullying identified in 36 respondents and lastly victims of physical bullying identified in 39 subjects. The results of the study was similar to a study done in the United States among adolescents in 2009 where the form of bullying which has the highest prevalence rate of being a victim is the verbal-relational type of bullying having a prevalence rate of 53.6%. This was followed by physical bullying with a prevalence rate of 20.8% and cyberbullying at 13.6%.

Results of the study showed that victims of verbal -relational and physical bullying were also victims of cyberbullying. This was similar to studies done in Western countries which showed adolescents who participated in verbal and physical bullying also were involved in cyberbullying (Stoltz,2007). In a study done in Germany, adolescents who were victims of cyberbullying were also victims of traditional forms of bullying (verbal and physical) (Dooley, 2009). Cyberbullying is merely a continuation of traditional bullying executed through new means(Stoltz,2007). Among adolescents, involvement in bullying is associated with engagement in risky behavior and the presence of one form increases the likelihood of engaging in another.

In a study by Perren in 2010 among Swiss and Australian adolescents, victims of cyberbullying reported significantly higher levels of depressive symptoms, even when controlling for being victims of traditional bullying. In traditional bullying which

involves physical or verbal confrontation, victims of cyberbullying may not identify or know the bully personally. As such, according to the National Institute of Child Health, victims of cyberbullying feel more isolated, dehumanized and helpless. In the current study, the DASS scores of the victims were not significantly different across the different forms of bullying. This could be attributed to the study conducted in a public high school where access to the internet or possession of a cellphone may be a limiting factor.

Being a victim of bullying has negative short and long-term consequences. Negative peer relations such as lack of acceptance in the peer group and peer victimization are associated with loneliness, social dissatisfaction and social withdrawal. As evidenced by a study in the United States, peer victimization and exclusion may also increase children's depressive symptoms²¹.

Children and adolescents who are bullied have been found to have mental health problems, such as depression suicide ideation, hyperactivity, conduct and health problems¹. Several studies have been done in Western countries relating bullying and suicidality in adolescents. A meta-analysis done published in 2014 stated that involvement in bullying in any capacity (bully, victim, bully-victim) is associated with suicidal ideation and behavior. However, in the Philippines there are few studies conducted. Results of the present study show that victims of bullying have significantly higher DASS scores compared to non-victims of bullying.

An adolescent suffering from depression may predispose him/her to being a victim of bullying and being a victim of bullying predisposes adolescents to depression. In this study, subjects with a high DASS Score (Odds ratio: 20.54) are more likely to be victims of bullying compared to those with Low DASS scores.

Conclusion

The present study shows that the forms of bullying such as verbal-relational, physical and cyberbullying are present in a public high school setting in the Philippines, with a prevalence of 86%. The verbal-relational form of bullying has the highest prevalence followed by physical bullying then by cyberbullying. Victims of bullying showed high DASS scores compared to non-victims of bullying. Being a victim of bullying was significantly associated with a high risk

for depression, anxiety and stress among adolescents. Subjects with a high DASS Score were more likely (Odds ratio: 20.54) to be victims of bullying compared to those with Low DASS scores.

LIMITATION AND RECOMMENDATIONS

Previous studies have studied the association between victims of bullying and certain risk factors including parental set-up (intact or non-intact two-parent families), exposure to negative parenting behavior such as abuse and neglect, ADHD and autism and substance (alcohol, tobacco and illicit drug) use, school performance. These factors were not included in the present scope of the study.

The present study was conducted in public high school. It is recommended that further studies be also done in private school setting. The questionnaires were explained to address clarifications prior to the subjects answering them. On the victims of bullying identified, the school officials were informed of the prevalence of bullying in their school. The teachers were informed of the forms of bullying present and methods and programs to control bullying were suggested. Participation of the parents, the students, the school officials, the guidance counselor and the local government was encouraged in implementing the programs on bullying. On the victims of bullying identified, follow-up is recommended to evaluate the respondents individually for psychological problems.

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