

IMPACT OF PEER BULLYING ON SCHOOL STUDENTS WITH AND WITHOUT ADHD SYMPTOMS: A CROSS-SECTIONAL STUDY FROM PAKISTAN

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ABSTRACT

The present study aims to identify the impact of peer bullying on school students with and without ADHD symptoms. Sample comprised of one thousand (N=1000) school going children with an age range 9-15 years whom belong to grades 6-10, were selected by using purposive sampling technique, taken from two major cities of Southern Punjab (Multan & Bahawalpur) Pakistan. Two scales were used for data collection; Conners Teacher Rating Scale – (Revised) developed by © Conners (1997), followed by Olweus Bullying Questionnaire by © Olweus (2007). Tools were formally translated by following the guidelines of Eremenco, Cella, and Arnold (2005) into national language of Pakistan (Urdu) and employing pilot study. ANOVA, standard deviation, t-test, and mean were calculated using SPSS (21.0) to process the results. Findings suggest ($t=10.096$, $P\text{-Value}=0.000$) showing that there is significant difference between the mean scores of bullying with ADHD and without ADHD symptoms students. However, results on gender differences indicate ($t=2.260$, $P\text{-Value}=0.024$) there is a significant difference between the impact of bullying on boys and girls. Results also show ($F= 7.783$, $P= 0.000$) there is also noticeable difference in terms of bullying among all students in different grades at 5% level of significance. Limitations of the study and recommendations for future research are also enclosed.

Keywords: Peer Bullying, ADHD Symptoms, School Students, Pakistan

INTRODUCTION

The current study aims to investigate the impact of peer bullying among children with and without ADHD symptoms, with ages ranging from 9 to 15 years (Barkley, 1997a). Bullying among children and adolescents has been recognized as a sensitive and alarming social issues that leads victimized children to harmful and distressing psychological and social effects (Nansel et al., 2004). Bullying is one of the negative relations experienced by the children that developed aggressive behavior among students (Rigby, 2007), and has direct relation to ADHD (Bacchini, Affuso, & Trotta, 2008). ADHD is an abiding, crippling disorder of children and adolescents, in which inattention, impulsivity, and hyperactivity involves symptoms such as over activity, impulsiveness, inattention, and impairment (APA, 1994; APA, 2013; Spencer, Biederman, & Mick, 2007). The ADHD symptoms contribute in aspects of a

child's life such as social relationships and skills, academic performance, and self-esteem (Biederman & Faraone, 2005).

Peer bullying is a private relation among children in schools that varies from person to person and place to place. A student is being bullied or victimized when he or she is exposed, repeatedly and over time. Children, who repeatedly exposed to bullying experience social and personal problems such as isolation, lower sense of self, poor social skills, hostility, avoidant behavior toward school and poor academic performance (Perry, Hodges, & Egan, 2001; Boivin, Hymel, & Bukowski, 1995; Ladd, Kochenderfer, & Coleman, 1997). Yen, Lin, Liu, Hu, and Cheng, (2014) also reported the association of depressive thoughts, sadness and negative actions with bullying. Negative actions include attempted or actual intentional infliction of injury or discomfort perpetrated upon another person. These actions can consist

of physical contact, verbal attack, facial or obscene gestures, or through intentional exclusion from a group. To include these actions in the realm of bullying, a power imbalance must exist between the people harassing and the student being harassed (Olweus, 1991). Bullying does not apply to a conflict between two students of nearly equal physical or mental strength (Olweus, 1993).

School bullying can take various verbal (e.g., name calling), physical (e.g., pushing) (Olweus, 1993), or emotional/behavioral forms (e.g., forcing people to follow the group) (Berkowitz, 1993). Bullying can be carried out by a single individual or by a group, and there is usually an asymmetric connection of authority (physical or psychological) between the bully and the victim. Another feature of bullying refers to its indirect (e.g., social isolation) or direct (open attacks toward the victim) nature. Furthermore, bullying differs in terms of its strength or intensity (from name calling to violent physical attack), period (occasional or regular), and reasons (Newman & Horne, 2004). Studies conducted by Kim and Leventhal, (2008) and Yen et al., (2014) suggested the risk factors of suicidal tendencies, excessive alcohol and drug use and mental distress as the outcome of bullying.

Olweus, (1994, 2011) and Olweus, Mattsson, Schalling, and Low, (1988) recognized various outcomes of bullying such as physical and mental disturbances, withdrawal from school, social detachment, lower self efficacy and escape from academic responsibilities and presence in classroom. A variety of studies conducted on bullying outcomes and explored the same consequences of bullying that effect social, personal and academic aspects of bully's life (Boivin, Hymel, & Bukowski, 1995; Olweus, 1991; Perry, Hodges, & Egan, 2001). Similar studies conducted by Juvonen, Graham, and Schuster (2003), and (Saylor, Twyman, & Saia, 2008) concluded that the students who are bullied at school and among peer groups are prone to the social, emotional and behavioral issues. Various consequences have been investigated related to peer bullying such as lower level of self worth, poor sense of social acceptance and specifically the sense of peer rejection and isolation (Demaray & Malecki, 2003). Demaray and Malecki, (2003) further stated that maladjustment and poor

relationships with peers in classroom is also another significant outcome of bullying.

According to Dake, Price and Telljohann (2003) gender differences exist in bullying behaviors among children and adolescents. Boys are more likely than girls to be involved in direct physical bullying, and that boys and girls are equally to become involved in direct verbal bullying (Terranova, Boxer, Morris, 2010). However, little conformity exists within the literature regarding gender discrepancies with indirect bullying such as social exclusion and making the victim subject of rumors. In regard to bully-victim relation, several gender differences exist. Boys generally are bullied by boys but not by girls. Girls reported being bullied by both genders equally (Hodges & Perry, 1999).

As cited by Olweus (1994, 2011) the characteristics involve for the victims of bullying detail as following: (a) Have suffered child abuse, (b) Experience physical health problems, (c) Suffer from psychiatric troubles like ADHD, (d) Have problems with school adjustment, (e) Have problems with school bonding (desire to do well at school, take school seriously, be happy at school,), (f) Have greater rates of absenteeism.

Psychosocial characteristics of bullies and their victims have also been examined in various studies and research. Research found that children caught or held up in bullying are at risk for various mental-health problems, poor psychological well-being, anxiety and ADHD (Olweus, 1994; 2011). As social, psychological and behavioral problems are related to bullying, among the children diagnosed with ADHD, the problematic and maladjusted behavior is more frequent due to already having adjustment and behavioral issues (Chou, Liu, Yang, Yen, & Hu, 2014). Peer bullying and victimization increases the risk for nervousness, sadness, isolation, social withdrawal, low self-esteem, suicidal tendencies, dislike academic performance, and avoidance of school (Boivin, Hymel, & Bukowski, 1995; Olweus, 1991; Perry, Hodges, & Egan, 2001).

Attention Deficit Hyper Activity Disorder (ADHD) is among the most pervasive childhood disorders (Giedd, 2000). Kent and Craddock (2003) considered it as the disorder

diagnosed more frequently among school children. As it is characterized by the poor self control, impulsive and aggressive behavior, attention and concentration problems, depressive and anxious thoughts and behavioral problems (Card & Hodges, 2008) that creates social adjustment problems among the children with ADHD (Taylor, Saylor, Twyman & Macias, 2010). Such interpersonal and behavioral problems have a significant relationship with conflicted peer relationships that lead the children to bullying behavior (Timmermanis & Wiener, 2011). ADHD children also disclose higher rates of dominating and negative behaviors, both verbal such as commanding or teasing and physical such as hitting (Madan-Swain & Zentall, 1990). Peers explain ADHD children, matched with their non-ADHD classmates were noisier, as getting mad when they do not get their way, as causing problems, as being mean and cruel to other children, as being rude to teachers, as being bossy, as troubling others, and as making fun of peoples (Pelham & Bender, 1982). Students with Attention-Deficit Hyperactivity Disorder are present in normal classroom settings, and although they may require some accommodations, do not require special-education services (Barkley, 2006). It is normally linked with social and educational upheavals for affected children and with significant impact on their families (Sayal, Taylor, & Beecham, 2003).

There is an increasing area of research that investigated the connection between childhood ADHD signs and academic performance in community-based samples such as Merrell and Tymms (2001) suggested that children who display symptoms of ADHD perform considerably worse than those who did not on Key Stage 1 test of reading and mathematics. Similarly, Diamantopoulou and colleagues (2007) found out that, in a community or society sample, children's ADHD signs were associated with poor school performance. ADHD disorder negatively affects the academic performance of the children adolescents and adults as well. Adolescent studies investigated that persons with ADHD are probably to perform poorly at school, (Barkley et al., 1990; Biederman et al., 1998; McGee et al., 2002). Genders differences exist in beginning of ADHD and vary within both genders In the ADHD inhabitants, females reported to be more lacking concentration and

to have greater overall cognitive obliteration and language dysfunction. They concluded that males exhibited high motor activity, and aggressiveness and antisocial behavior (Gaub & Carlson, 1997). Whereas, in non-ADHD groups, female had fewer attention problems and less hyperactivity as compared with males (Bauermeister, Alegría, Rubio-Stipec & Canino, 1992). Johnston, Pelham, and Murphy (1985) found that hyperactive boys are observed by their peers as showing more irritating and disturbing behaviors than hyperactive girls.

The association of ADHD and bullying is significantly related with poor relationships with peers at schools (Bacchini, Affuso, & Trotta, 2008). Children with ADHD are bullied as well as the victims of bullying and peer victimization is positively associated with ADHD, anxiety, depression, loneliness, and is negatively related to the self-esteem and positive self-concept in the social domain (Olweus, 1993). Study conducted by Rigby (2003), Olweus, (1995) and Card and Hodges, (2008) showed that the children who bullied their peers and also suffer the victimization of being bullied have more tendency to problematic and aggressive behavior than the children without bullying. Card and Hodges (2008) emphasized that the problematic consequences of bullying among ADHD children lead them to a conflicted and maladjusted personality even in their adult age (Kumpulainen, Rasanen, & Puura, 2001). Therefore, Wiener and Mak (2009), Holmberg and Herjn (2008) asserted in that the children with ADHD are two times more at risk of bullying as compare to children without ADHD. Different studies conducted by (Tymann et al., 2010; Wiener & Mak, 2009; Unnever & Cornell, 2003) reported that children with ADHD are more exposed to bullying than normal school children (Chou, Liu, Yang, Yen, & Hu, 2014).

Their parents' description of ADHD appears to moderate the relationship between bullying and autism. Conclusively, children with attention-deficit/hyperactivity disorder appear to be at greater risk for bullying behaviors. Children who are bullies quite often exhibit characteristics of behavior disorder, oppositional defiant disorder, and ADHD (Coolidge, DenBoer, & Segal, 2002; Salmon,

James, Cassidy, & Javaloyes, 2000). Taylor, Saylor, Twyman and Macias, (2010) and (Saylor, Twyman, & Saia, 2008) asserted that the children with a diagnosis of ADHD have more risks to be bullied frequently in any social and educational environment. They further explained that bullying increased the risk factors of deviant behavior among the children with ADHD. Montes and Halterman (2007) stated that ADHD increases occurrence of bullying among children.

Rationale of the study

As revealed by the review of literature and researchers' observation that peer bullying is an influencer in the development of symptoms of ADHD. Current research aims to dig out the impact of bullying, especially peer bullying, on ADHD and without ADHD students. It has been concluded that bullying among students with ADHD and without ADHD symptoms can make significant difference in its prevalence and consequences, especially in the academic cultural context of Southern-Punjab, Pakistan.

Objectives of the Present Study

1. To investigate impact of peer bullying as significant contributor in development of symptoms of ADHD.
2. To compare influence of bullying on the both sexes (boys & girls).
3. To explore the differences in impact of peer bullying from 6th to 10th grade students of Bahawalpur and Multan regions.

Hypotheses

1. The impact of peer bullying would significantly contribute to the development of ADHD symptoms in students.
2. Peer bullying could not influence the both sexes (boys & girls) equally; boys would be more vulnerable to be bullied by the peer group.
3. There would be a noticeable difference in impact of peer bullying from 6th to 10th grade students of Bahawalpur and Multan regions.

METHOD

Participants

A sample of one thousand (1000) school going children of ages 9-15 years and grade 6-10, were selected by using purposive sampling from two major cities of Southern Punjab (Multan & Bahawalpur). Each city comprised a sub-sample of five hundred (500) children, equally divided into two categories of two hundred and fifty (250) children having symptoms of ADHD, and the other category was of normal children or without symptoms of ADHD. Furthermore, two categories divided into two sub-categories of both sexes each containing one hundred and twenty five (125) children. All the five hundred (500) children with symptoms of ADHD were screened out by two working clinical psychologists Ms. Shafaq Mehmood and Ansa Ejaz, Bahawalpur Victoria Hospital Bahawalpur to fulfill the APA Ethical Concern of Impartiality.

Two school systems were randomly selected for this study:

1. Beacon House School Systems
Multan & Bahawalpur
2. City School Systems
Multan & Bahawalpur

Inclusion/Exclusion Criteria

This research is based on Southern Punjab having Multan and Bahawalpur as its major cities. Students from all over the region come across in these two schools systems, hence, clearly representing all the students of the area. Hopefully, generalization of findings from the current study is extended on entire population of students in Southern-Punjab, Pakistan.

During pilot study, it emerged that government schools did not cooperate the research. However, private schools and their students sincerely responded. Therefore, only private school systems were included as a final sample of the study at terminal data collection stage.

Materials

The following two scales were employed to collect the data:

Conner’s Teacher Rating Scale – Revised.

Conner’s developed teacher rating scale in (1998) for diagnosing and assessing children having ADHD symptoms. It is 28 item likert type scales with options never seldom (0) to very often (3), tool was administered by two working clinical psychologists Ms. Shafaq Mehmood and Ansa Ejaz to maintain impartiality in diagnosis. Reliability of scale is .764 Cronbach’s Alpha that is good reliability.

Olweus Bullying Questionnaire.

Olweus Bullying Questionnaire developed by © Olweus (2007) for measuring the level and impact of bullying on children to develop tendencies for ADHD symptoms. It consisted of 18 questions related to experience of bullied and tap feelings and reaction of student. It found to be Alpha coefficient 0.781. Reliability that is considers a good reliability.

Translation Protocol

Both instruments were forwardly translated by following the guidelines given by Eremenco, Cella, and Arnold (2005) into Urdu (the national language of Pakistan). Three veteran scholars with the experience of more than ten years of teaching English and Urdu languages were involved in the translation and validation process.

Procedure

Current study comprised of two phases:

Phase I: In the initial phase, the pilot study was conducted by evenly distributing fifty questionnaires among the institutions selected for this study. Results of pilot study proved, research tools are sufficiently reliable for terminal data collection; Cronbach’s Alpha value was .701.

Phase II: In the terminal data collection, The Conners Teacher Rating Scale - Revised was used to assess the children with ADHD symptoms; the children exhibit more than six symptoms were included in the sample. Similarly, the Olweus Bullying Questionnaire was used to assess the level of bullying among students. These tools were administered by two working clinical psychologists with experience of five years.

Ethical Considerations

Permission to use scales/questionnaires is formally obtained from the respective authors. Translation of tools is also completed with the prior permission of copy right authorities. All the participants were inducted voluntarily, and they were properly briefed about the scope of research. Confidentiality and anonymity were also taken care.

Concept Clarification

Usually, the connotation of ‘grade’ indicates the performance level of students such as grade A, B, and C. But according to Pakistani school systems the grade means different class levels i.e. students studying in classes from 6 to 10.

RESULTS

Table 1 Equality of Means with and without symptoms of ADHD

t-test for Equality of Means	t	d.f	P-Value Sig.	Mean Difference	Std. Difference	Error
Equal variances assumed	10.096	998	0.000	12.382	1.226	

Note. Table 1 indicates that the testing of hypothesis for the equality of impact of bullying on the students with ADHD symptoms and without ADHD symptoms. The value of t=10.096 and the P-Value=0.000 which shows Table 2

there is significant difference between the mean score of students with ADHD symptoms and without ADHD symptoms.

Table 2 Equality of Means according to Gender

t-test for Equality of Means	t	d.f	P-Value Sig.	Mean Difference	Std. Error Difference
Equal variances assumed	2.260	998	0.024	2.902	1.284

Note. Table 2 shows the testing of hypothesis for the equality of means of the students according to gender (boys and girls). The value of $t=2.260$ and the $P\text{-Value}=0.024$ which shows there is significant difference between the

behavior of boys and girls. The average response of boys and girls is significant at 5% level of significance.

Table 3 Comparison of the Effect of Peer Bullying on Gender (Boys & Girls)

Gender	(ADHD symptoms)			(without ADHD symptoms)		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Boy	250	65.04	22.037	250	57.62	19.183
Girl	250	72.28	14.048	250	54.93	20.648

Note. Table 3 indicates the comparison of the effect of peer bullying on genders (boys and girls). The average score of both boys and girls with ADHD symptoms is greater than the boys and girls without symptoms of ADHD. The

boys and girls with ADHD symptoms are more peers bullied as compared to boys and girls without symptoms of ADHD.

Table 4 ANOVA for the Comparison of Peer Bullying according to Grades

Source of Variation	Sum of Squares	d.f	Mean Square	F	P-Value Sig.
Between Groups	12549.416	4	3137.345	7.783	0.000
Within Groups	401079.495	995	403.095		
Total	413628.911	999			

Note. The ANOVA table 4 shows the comparison of peer bullying of all the students according to their grade. Since $P\text{-Value}$ is 0.00, here is significant difference among the means of all the grades of the students at 5% level of significance.

($t=10.096$, $P\text{-Value}=0.000$) there is significant difference between the mean score of students with and without ADHD symptoms. Similarly, studies conducted by Wiener and Mak (2009) and Chou, Liu, Yang, Yen, and Hu (2014) confirmed that the students with ADHD symptoms are more vulnerable (50%) to be affected by peer bullying than the students without ADHD symptoms.

DISCUSSION

Current study was conducted to analyze the status of peer bullying among children with and without symptoms of ADHD. Consequently, peer bullying was measured, and it was found

Furthermore, results proved that impact of bullying varies on both genders. Findings shows ($t=2.260$, $P\text{-Value}=0.024$) there is significant difference between the impact of bullying on boys and girls. The average

response of boys and girls is significant at 5% level of significance. Another study also depicts, the impact of peer bullying is different on both genders (Silva, Pereira, Mendonca, Nunes, & de Oliveira, 2013).

Importantly, it is also proved that impact of peer bullying differ on different grade students i.e. grade 6 to 10. Results ($F= 7.783$, $P= 0.000$) show significant difference in terms of effect of bullying on various grade students. According to Timmermanis and Wiener (2011) adolescents are more prone to peer bullying than children in terms of developing ADHD symptoms. This is noticeable situation that should be considered by school administrations and policy makers to address peer bullying differently at different grade students.

Finally, the 8th grade students are more affected by peer bullying and they are more vulnerable to develop ADHD symptoms; the reason noted in Pakistan is that 9th and 10th grade students are involved in physical and verbal abuse that causes severe effects in 8th grade students.

CONCLUSION

The present study pointed out that bullying remains a major factor for the onset and development of ADHD symptoms and the impact of peer bullying significantly varies on both genders and students in different grades (classes).

Limitations & Suggestions

As a matter of fact, both Bahawalpur and Multan have the shortage of better schools inspite of major cities; our sample size was far shorter as compared to a study conducted in a larger city like, Lahore, Faisalabad and Rawalpindi. Sample size needs to be increased for the number to have better and more generalized results. The entire work was circled around private school students due to non-cooperation of government schools. Effective measures are to be taken to have a better liaison and cordial interaction with government schools. Meanwhile, due to lack of resources and time restricted our work to a smaller spectrum. However, a country wide study with a super sized sample of students would produce fairly more generalized results. A general

reduced awareness level of identification of students with ADHD symptoms does hamper the overall performance of the students. This research suggests a guideline to segregate these students and to pay a special attention for dissemination of better academic activities.

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