



VICTIMIZATION OF STUDENTS WITH LEARNING DISABILITIES OR ADHD (ATTENTION DEFICIT HYPERACTIVITY DISORDER)

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Abstract:

The primary research objective of this research has been to investigate the relationship between the victimization of high school students and the existence of learning difficulties and ADHD. 700 students participated (with and without ADHD) who attended Gymnasiums of Western Thessaloniki in which integration departments operated. Participants anonymously completed a questionnaire on bullying. The results we quote here refer to the second part of the questionnaire that is completed only by those students who were victimized. According to the research activity so far, it was expected and finally confirmed that the variable existence of learning difficulties / ADHD is a predictor of the participation of these students in bullying incidents and even with the role of the victim [each increase in the percentage by one point (i.e. by 1 [each increase in the percentage by one point (i.e. by 1%) of the factor of learning disabilities and of the

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dep with a diagnosis the average value of the variable of a person falling victim to bullying increases by 1.21 points ($p < 0.001$).

Keywords: learning difficulties, ADHD, victimization

1. Introduction

1.1 Definition and conceptual definition of bullying

In the middle of the 17th century, the term is used to describe the pseudo-bully or the person who torments and oppresses the powerless (Rigby, 2008). For the first time, therefore, reference is made to the imbalance of power between the perpetrator and the victim.

However, today the extremely negative effects of bullying for all involved perpetrators- victims - observers are internationally accepted (Olweus D. 2013; Olweus, D., & Limber, S. P. 2010; Olweus, 1993). As the "father" of bullying Dan Olweus characteristically says: *"What kind of opinion about the values of society will the students who are constantly bullied or bullied by their classmates without any intervention on the part of adults or the school in general form?"*

Therefore, the non-undertaking of actions to deal with bullying in the context of school on the grounds that the bullying events are not reported by the victims, the both scientifically and morally unsubstantiated view that bullying is an inevitable developmental stage with a positive sign in the mental resilience of young people, makes us jointly responsible- complicit and are in direct contradiction with democratic principles, of equality and the inalienable right of every human being not to suffer his unprovoked and premeditated torture by the strongest (Olweus, 1993; Burger C. S. et al., 2015). Bullying has aroused the research interest of the international scientific community over the last 30 years or so.

2. Literature Review: Research Data on the Relationship between Learning Disabilities - ADHD and Bullying

Most of the researches that have been carried out on learning difficulties and ADHD both at the international level and in Greece focuses more on the cognitive and perceptual difficulties of students and their inability to achieve academic goals (Epstein et al., 1983). There is a relatively small amount of research investigating the relationship between the social-emotional and behavioral deficits of students with learning disabilities and faculty, and even smaller is the number that investigates their relationship with bullying (Epstein et al., 1983).

It is worth noting that students with learning difficulties and teaching should not be taken for granted that they will become victims of bullying while attending school.

On the other hand, however, a survey by Woods & Wolke (2004) conducted on students in the UK found that students with learning difficulties and ADHD are involved

in bullying incidents at a higher frequency than classmates without these difficulties and adopt in greater frequency the role of the victim again than students without learning difficulties and ADHD (Sheard, 2010; Unnever & Cornell, 2003; Whitney et al., 1994). Children with learning difficulties and ADHD have difficulties in establishing and maintaining friendly relationships, a lack of a behavioral nature that is the result of learning difficulties and ADHD, and is responsible for their passive and sometimes aggressive behavior (Rose et al., 2013; Παντελιάδου & Μπότσας, 2004; Grigorenko, 2001; Card & Hodges, 2008; Knox et al., 2003).

In conclusion that the difficulties presented by students with learning disabilities and ADHD in their social interaction (establishing and maintaining friendly relationships), is one of the main causes of their victimization and is one of the reasons that make the same learning group (students learning difficulties and ADHD) as a high-risk group for participation in bullying with the role of mainly the victim, research conducted in the USA (Wiener, 2002; Kuhne & Wiener, 2000). According to Olweus (1993), bullying at school is aggressive behavior that violates human rights, while Pavlidis (2016) very aptly states that bullying is << the rape of dignity >>.

If we want to understand in depth the phenomenon of bullying, in order to become able to effectively prevent or even deal with bullying incidents, we must thoroughly and ecologically study the relationships between the members of the school community, that is, the relations of the victim with the perpetrator, the family - social environment, the educational and economic potential of the families of all those involved (Swearer et al., 2010).

In the USA, in a study by Sabornie (2006), it was found that students attending general school integration classes had a limited number of friends, were socially marginalized, and exhibited passive behavior resulting in them on the one hand being victimized more often and on the other hand exhibiting an unexpected aggressive behavior in relation to typically developing students (A. Alevriadou, S. Giaouri. 2016; E. Theodoridou, et al., 2014; Sabornie et al., 2006). In the event that students with learning difficulties / ADHD manage to enhance their self-perception – self-esteem, enhance their levels of self-perception, disengage from their tendency to seek the help of adults in solving any problems – conflicts, acquire goal-orientedness (score high academically), integrate smoothly into social networks (groups, sports teams), (Sabornie et al., 2006; Flynt & Morton 2004; Dodge et al., 2003).

When students with learning disabilities manage to become independent from the help offered by adults, achieve goals, participate in group activities in the classroom and reduce their chances of being victims of bullying (Flynt & Morton 2004). It would be useful to mention that for students with learning disabilities, while initially being victimized, there is a possibility that in their effort to establish themselves socially and become popular to identify and practice bullying students of lower social power by mimicry and adopting practices behaviors of perpetrators, (Ross, 2009; Nabuzoka & Smith, 1993).

Most of the research on bullying reports that while students with learning disabilities or SEN become victims at twice the rate of students without, on the other hand, they become perpetrators at twice the rate of their typically developing peers (Rose et al., 2013; Monchy et al., 2004; Woods & Wolke, 2004; Kumpulainen et al., 2001; Dawkins, 1996).

3. Material and Methods

3.1 Purpose of the research – Expected possible results

The aim of the present research is to identify the possible relationship of the participation of students with learning disabilities / ADHD in incidents of school bullying due to the behavioral profile of the above students and to compare their participation in relation to the typical population. Based on the aforementioned research data, we list a series of research questions:

3.1.1 Research questions

- Is the frequency of participation of students with learning difficulties and ADHD in school bullying increased compared to the typical population?
- Is there a correlation between learning difficulties/ADHD and students' participation in bullying either as victims or as perpetrators?
- Do the students with learning difficulties as observers in bullying incidents not defend the victim mainly due to fear of their eventual victimization?
- Is there a significant correlation of self-esteem - self-perception with the gender/class of the students and the educational level of the parents?
- Is the effect of self-esteem - self-perception statistically significant on the participation of a student in bullying either in the role of the victim or in the role of the bully?
- Is the correlation of learning difficulties / ADHD with the level of self-esteem - self-perception important?
- Is there a significant correlation between learning difficulties / ADHD and the defensive attitude of a bystander in bullying?

3.2. The sample

A total of 700 high school students attending secondary schools in Western Thessaloniki participated in the survey. Specifically, 339 boys (49.1%) and 351 girls (50.9%) participated, of whom 172 (24.57 %) were students with diagnosed special learning difficulties, 70 students (0.10 %) declared that they have special learning difficulties without a diagnosis, 26.4 % of them declared that they have diagnosed distraction, while 27.7 % of students stated that they do not have a diagnosis of distraction.

Also, 18.1% of the students had a diagnosis of impulsivity, 23.2% of the students were without a diagnosis of impulsivity, 16.1% had a diagnosis of hyperactivity, and 19.6% stated that they did not have a diagnosis of hyperactivity.

3.3. Research tools

To collect the data, the questionnaire of Professor G. Th. Pavlidis for Bullying (2016) was used. The questionnaire on bullying consists of three parts: 1st part: all students answer, 2nd part is answered by: students who are victims of bullying, 3rd part: answered by students who are the perpetrators of bullying. In the 2nd part of the questionnaire, the students who were bullied were asked to answer about the type and form of bullying they experienced, how many - who and what age were the perpetrators, who the observers were and what attitude they took, if they talked about the violence against them and who the perpetrator was, their feelings immediately after their victimization and finally how their past victimization affects them psycho-emotionally in the present. The research was carried out in Secondary Education schools of Western Thessaloniki after first obtaining permission to enter schools from the IEP, the consent of the Principals and the Teachers' Association as well as parental consent. After relevant information on the objectives of the research, the days and hours of employment of the students were determined according to the terms of the approved proposal.

The administration of the questionnaire was group-based, i.e. the questionnaires were administered to all students of the school class during a teaching hour in the presence of the researcher (after the permission of the class teacher).

3.4. Way the research data was analyzed

The statistical package SPSS (version 27) was used for the statistical processing of the data of this study. In the context of the descriptive statistics for the quantitative variables, either the mean and the standard deviation (SD) or the median with the interquartile range (IQR=Q1-Q3) were used, depending on the condition of regularity.

In addition, the frequencies with the corresponding percentages (n(%)) were used for the qualitative variables. Bar graphs were used to graphically display the results. Then, for the inductive statistics and the investigation of correlations between the quantitative and qualitative variables of the sample, either the parametric tests t-test for independent samples (Independent Samples t-test) and analysis of variance by one factor (One-way ANOVA) were used or the non-parametric tests Mann-Whitney U test and Kruskal-Wallis H test. In the case of a statistically significant result in the analysis of variance and Kruskal-Wallis tests in order to identify where this came from post-hoc tests were performed according to the Bonferroni correction.

In the present research work, we chose to present mainly the correlations between the factors of self-concept, learning difficulties, ADHD bullying, victims, perpetrators, observers, demographic characteristics, class and gender of the students. Finally, to investigate correlations of a quantitative variable with a multitude of independent variables, linear regression models were used. The normality test was performed with the Shapiro-Wilk test and by making the necessary graphs (Histograms and Q-Q plots). Reliability was assessed with Cronbach's Alpha index. Satisfactory values of Alpha were considered those that were greater than 0.7.

All tests performed were two-sided and relationships with a p-value less than 0.05 (p-value<0.05) were considered statistically significant.

4. Results and Discussion

During the statistical processing of the data, descriptive measures were calculated for the questions answered by all the participants and concerning quantitative variables. Regarding the questions concerning learning difficulties and ED, in the question "Do you have a Diagnosed Learning Difficulty?">> whether with or without a diagnosis, the answer YES was found in 24.57% and 10% respectively, "Do you have a Diagnosed Attention Deficit?" either with or without a diagnosis, the answer YES gathered a percentage of 26.4% and 27.7% respectively.

Moreover, the question "Have you been diagnosed with Impulsivity?" with or without diagnosis was answered positively by 18.1% and 23.2% respectively. Finally, to the question "Have you been diagnosed with Hyperactivity?" 16.1% answered YES with a diagnosis and 19.6% without a diagnosis. Investigating the attitude of the students being present towards the victim, it was found that more than 50% of them have attended as observers in an act of bullying with 315 children (45%) stating that they intervened in favor of the victim with the main aim of stopping and reducing it.

Children who did not intervene stated that they did not do so mainly out of fear of the abuser or involvement in an unknown threatening situation and fear of becoming victims themselves.

From the correlation control that was carried out, a statistically significant series of correlations emerged, of which the most important ones are listed. In the correlation between the demographic characteristics and the self-esteem-self-concept factor, a significant difference emerged regarding gender where girls gathered a higher mean score of the order of one unit compared to boys (t=2.875, df=625, p=0.004), a significant relationship between the factor with the grade of the study was observed (F=(2, 626)=5.237, p=0.006) with the younger children feeling more self-esteem-perception after collecting a higher average score and this happens because the academic demands are less the younger is the class of study.

Furthermore, children of more educated parents score higher levels of self-esteem-perception [mother's educational level(F=(4, 608)=10.192, p<0.001)] [father's educational level(F=(4, 603)=8.782, p< 0.001)].

Table 1 below shows the correlation of the students' self-concept with the perpetrator or victim factor.

Table 1: Correlation of the quantitative variable showing children's self-concept with the questions regarding whether a participant has been a victim of bullying or has become a bully

Independent variables	β coefficient	se	Univariate Analysis	
			95% CI	p-value
You have been a victim of bullying	-0.89	0,11	-0.10,-0.67	<0.001
You have been a perpetrator	0,02	0,20	-0.37,0.42	0,91

The first correlation is statistically significant showing that for each increase in the scale of whether someone has been a victim of bullying by one unit (for example from 1 to 2 on the scale) the mean value of the self-concept factor decreases by 0.89 units ($B=-0.89$, $SE=0.11$, $95\% CI [-0.10, -0.67]$), that is, the more strongly a participant feels that he has been a victim of bullying, the lower his self-concept. On the other hand, whether someone has become a bully is not related to their self-esteem-self-concept since the p-value is greater than 0.05 ($B=0.02$, $SE=0.20$, $95\% CI [-0.37, 0.42]$).

Then the correlation of the quantitative variable examining whether participants' self-concept is affected by the percentage of learning disabilities and ADHD with and without diagnosis is presented (a linear regression model was used, Table 2, below).

The results in both correlations are statistically significant. For the first correlation, it appears that for each increase in the rate of learning difficulties and ADHD diagnosed by one unit (1%) the mean value of the self-concept variable decreases by approximately 1.7 units [$B=-1.65$, $SE=0.40$, $95\% CI [-2.44, -0.86]$]. A decrease in the scale of the self-esteem-self-concept factor means that individuals do not believe highly in themselves. Similar are the results for the undiagnosed factor.

Table 2: Correlation of participants' self-concept with the percentage of LD and ADHD with and without a diagnosis

Independent variables	β coefficient	Univariate Analysis		
		se	95% CI	p-value
Diagnosed learning difficulties and ADHD	-1.65	0.40	-2.44,-0.86	<0.001
No diagnosed learning difficulties and ADHD	-1.20	0.52	-2.22,-0.17	0.022

The correlation of the factors between learning disabilities and ED with and without diagnosis with the questions about whether any of the participants attended as an observer in a bullying act and whether they intervened in favor of the victim (Mann-Whitney test was performed), showed that the factor learning difficulties and ED with a diagnosis ($U=36388.50$, $p<0.001$) has higher values for people who answered YES to the question of whether they have been present as observers in an act of bullying and to the question of whether they intervened on behalf of the victim ($U=20863.50$, $p=0.004$).

The correlation of the learning disabilities and ADHD factors with and without diagnosis with the questions about whether any of the participants attended as an observer in a bullying act and whether they intervened in favor of the victim (Mann-Whitney test was performed), showed that the learning difficulties and ADHD factor with a diagnosis ($U=36388.50$, $p<0.001$) has higher values for people who answered YES to the question of whether they have been present as observers in an act of bullying and to the question of whether they intervened on behalf of the victim ($U=20863.50$, $p=0.004$).

At the same time, the factors Learning difficulties and ADHD without a diagnosis can have the same median value in the YES/NO categories for the questions if one of the participants attended as an observer in an act of bullying ($U=31621$, $p=0.037$) and if they intervened in favor of the victim ($U=15548.50$, $p=0.001$) but the percentage range is greater in the YES category of both questions. Something like this shows that the percentage of

people who declared that they have learning difficulties and undiagnosed ADHD takes higher rates for the people who declared that they have been an observer in an act of bullying and have intervened on behalf of the victim.

Our initial hypothesis that students with learning disabilities or ADHD are a high-risk group for participating in bullying either as victims or as perpetrators is confirmed, since the correlation of the learning difficulties/ADHD factor showed that for every increase in the rate by one unit (i.e. by 1%) of the diagnosed learning disabilities factor, the mean value of the variable of being a victim of bullying increases by 1.21 units ($B=1.21$, $SE=0.15$, 95% CI [0.92, 1.50]).

Furthermore, it was observed that for each percentage increase of one unit (i.e. by 1%) of the factor of learning difficulties/ADHD without a diagnosis the mean value of the variable of being a victim of bullying increases by 0.83 units ($B=0.83$, $SE=0.17$, 95% CI [0.50, 1.17]), while for each percentage increase by one unit (i.e. by 1%) of the factor of learning difficulties/ADHD with a diagnosis the mean value of the variable of becoming a bully participant increases by 0.54 units ($B=0.54$, $SE=0.11$, 95% CI [0.33, 0.75]) and finally for a student with learning disabilities/ADHD without a diagnosis the mean value of the variable of becoming bully increases by 0.63 units ($B=0.63$, $SE=0.11$, 95% CI [0.41, 0.84]).

8. Conclusions and suggestions

Research data prove that the cognitive, perceptual, behavioral deficits of students with learning disabilities/ADHD are a predictability indicator for their possible victimization (Hymel & Swearer, 2015. Card & Hodges, 2008. Knox & Conti-Ramsden, 2003). As dyslexic students do not have confidence in their success, due to a lack of self-confidence and high sensitivity, they tend to present the following as more common problems: sequencing difficulties, slow reading with many accuracy problems, lack of attention, self-concentration with/or without hyperactivity, inability to follow verbal instructions, memory problems, inability to coordinate synchronized actions, stigmatization and marginalization by their peers, inability to control emotions (Παυλίδης, 2013; Bacchini et al., 2008; Lopez & DuBois, 2005; Pavlidis, G. Th., & Giannouli, V., 2003; Nabuzoka, D. 2003; Brown et al., 2001; Sheard, C. et al., 2001).

All the aforementioned problems lead them to overreact and drop out of school while making them easy prey for would-be bullies, a fact that is confirmed in our research by the significant correlation of learning difficulties/dep with victimization ($B=1.21$, $SE=0.15$, 95% CI [0.92, 1.50]).

Also, the class and the gender of the students appeared to be related to their self-concept and their eventual victimization (Andreou E. & Smith, P. K., 2002). Specifically and according to our results, girls were found to have higher levels of self-concept than boys ($t=2.875$, $df=625$, $p=0.004$), and students in the younger classes also scored higher levels of self-concept ($F(2, 626)=5.237$, $p=0.006$).

The findings of the research so far that report that students with learning disabilities/ADHD have lower levels of self-perception-self-esteem compared to their

peers (Lindsay et al., 2008; Pavlidis, 2016; Pavlidis, G. Th., & Katana, B. 2013) become even more vulnerable to the bullies' bullying behaviors is also confirmed in our own research by the analysis of the correlation between self-concept and learning difficulties/dep ($B=-1.65$, $SE= 0.40$, 95% CI [-2.44, -0.86]).

In addition, the widely accepted research admission that students with learning disabilities or ADHD, when they attend bullying incidents as observers - mainly due to their own fear of future bullying combined with low self-esteem - do not intervene defensively towards the victim (Trach, et al., 2010; Thornberg et al., 2012) is also confirmed in our findings, as shown by the comparison between the clinical sample and typically developing students, with the following values: for students with a diagnosis ($U=20863.50$, $p=0.004$), while for students without ($U=15548.50$, $p=0.001$).

The scientifically confirmed assumption that the economic-social-educational level of the parents is related to the students' self-perception levels and the possibility of student victimization (Pavlidis, G. Th., 2013; Vouidakis, B., 1999), is also evident from our results, as the students who came from what we usually call a "weak" family environment (low economic-educational level), have lower levels of self-concept, their high self-concept is significantly correlated with the mother's high educational level, and they are victims more often [educational mother's level ($F=(4, 608)=10.192$, $p<0.001$), [father's educational level ($F=(4, 603)=8.782$, $p<0.001$].

Having listed some of our most important results, we hope that our research will contribute to further information and inform the educational community about the phenomenon of bullying and its causes. We hope that our research will contribute to informing teachers about school bullying and help them become effective in detecting and dealing with bullying incidents (Andersen et al., 2015). The knowledge of the relationship between learning difficulties and bullying will lead to the improvement in the handling of bullying issues that arise in the school context. Finally, we expect the research findings will contribute to the creation of intervention and prevention programs.

5. Recommendations

The research will contribute to further information and updating of the educational community regarding the phenomenon and the causes of bullying. The knowledge of the relationship between SLD (Special Learning Disabilities) and ADHD (attention deficit hyperactivity disorder), with bullying, will lead to the improvement of the way of handling bullying issues that arise in the school context. Informed teachers will be able to deal with bullying more effectively, identify in advance the groups of students who are more likely to be involved in bullying and act proactively to prevent the occurrence of bullying in the groups of teenagers with Special Learning Disabilities and ADHD. In addition, the knowledge of the existence of learning difficulties by teachers will prevent the stigmatization and marginalization of students and will contribute to the smooth integration of adolescents into the school environment.

Finally, we hope that the research findings will contribute to the creation of intervention and prevention programs. It is estimated that the analysis of the research data will yield useful information that will highlight the importance of the behavioral profile of students with diagnosed ADHD and learning difficulties in the manifestation of bullying and which can be used to propose the development of prevention and intervention programs.

6. Conclusion

Students with learning disabilities are victimized in a statistically significant percentage more than their peers. It was shown by the results of the research that students with learning difficulties or SEN, as they score lower in self-perception-self-esteem levels, become even more vulnerable to the bullying behaviors of the bullies. In addition, students with learning disabilities or special needs, when they attend bullying incidents as observers mainly due to fear and low self-esteem, do not intervene defensively towards the victim. Finally, the strong correlation of the social-economic-educational status of the family was highlighted, with the highest percentage of victimization of students coming from "weak" family environments. In conclusion, we find that the students belonging to ethnic-religious minorities, the students with learning difficulties and ADHD, compared to the typically developing students, did not intervene by being observers in favor of the victim and were victimized in a higher percentage compared to the typically developing students.

We hope that our research contributes to further information and informs the educational community about the phenomenon and causes of bullying. The knowledge of the relationship between MD / ED and bullying will lead to improvement in the handling of bullying issues that arise in the school context. Informed teachers will be able to deal with bullying more effectively, identify in advance the groups of students who are more likely to be involved in bullying and act proactively to prevent the occurrence of bullying in the groups of teenagers with learning difficulties and ADHD.

In addition, the knowledge of the existence of learning difficulties teachers will prevent the stigmatization and marginalization of students and will contribute to the smooth integration of adolescents into the school environment. Finally, we hope that the research findings will contribute to the creation of intervention and prevention programs. It is assessed that the analysis of the research data yielded useful information that highlights the importance of the behavioral profile (existence of ADHD and learning difficulties) in the manifestation of bullying and can be used to propose the development of prevention and intervention programs.

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Conflict of Interest Statement

The authors declare no conflicts of interest.

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