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RISK AND PROTECTIVE FACTORS ON PERPETRATION OF BULLYING AND CYBERBULLYING

ABSTRACT. Guarini Annalisa, Passini Stefano, Melotti Giannino, Brighi Antonella, *Risk and Protective Factors on Perpetration of Bullying and Cyberbullying* [Czynniki chroniące i czynniki ryzyka związane z zaangażowaniem w sprawstwo bullyingu i cyberbullyingu]. *Studia Edukacyjne* nr 23, 2012, Poznań 2012, pp. 33-55. Adam Mickiewicz University Press. ISBN 978-83-232-2520-1. ISSN 1233-6688

The aim of this study was to describe the prevalence of bullying and cyberbullying perpetration among adolescents and to test the role of demographic (gender, age) and psychosocial variables (self-esteem, loneliness and school climate) associated with these aggressive behaviours. An anonymous questionnaire was filled in by 2.326 adolescents from Italian middle and high schools. Results showed that cyberbullying appeared to be less frequent as compared with traditional forms of bullying. Logistic regression analyses revealed a strong continuity between traditional bullying and cyberbullying. Loneliness perceived in the relationships with parents was a very relevant predictor of both forms of bullying (traditional and cyber): i.e. the adolescents who perceived parents as distant were more involved in bullying. A negative relationship with teachers and a low self-esteem about school were other significant risk factors for traditional and cyber perpetration. Besides these common predictors, some differences were found among predictors in traditional bullying and cyberbullying. In fact, males and students of high schools declared to be more involved in the role of a traditional bully than female and younger preadolescents, while gender and age had no predictive role for cyberbullying. A high perception of self-esteem in relationships with peers, a low aversion to loneliness and a perception of unsafety at school triggered cyberbullying, while a high perception of self-esteem in sports activities and of a poor support at school increased the probability of becoming a traditional bully. The results have been discussed focussing on the family and school contexts as crucial relational environments to be considered for intervention programs aimed at preventing not only traditional bullying but also forms of aggression in the virtual world.

Key words: cyberbullying, bullying, risk, protective factors, self-esteem, loneliness and school climate

Introduction

Research on bullying has developed, at European level, around the 80's thanks to the research of Olweus¹ and Smith and Sharp.² Several studies have been carried out in the last three decades, confirming the wide diffusion of the phenomenon³, even if a significant decrease in traditional bullying has been reported in most European and North American countries⁴, thanks to the implementation of anti-bullying programs in schools worldwide.⁵ In Italy, the phenomenon of traditional bullying among children in primary schools and adolescents was described for the first time by Fonzi.⁶ Further studies have confirmed that traditional bullying involved a high percentage of Italian students⁷ across different Italian regions.

Beside the description of the incidence, several studies have analyzed risk and protective factors linked to traditional bullying behavior in order to develop targeted interventions. Concerning the role of perpetrator, high levels of moral disengagement were identified, with a profile of egocentric reasoning.⁸ Moreover, bullying behavior was significantly associated with low levels of emphatic responsiveness⁹, the exposure to dangerous and violent situations within the neighborhood and negative relationships with teachers¹⁰. Bullies presented also a high level of externalizing problems

¹ D. Olweus, *Aggression in the schools: bullies and whipping boys*, New York 1978.

² P.K. Smith, S. Sharp, *School Bullying. Insights and perspectives*, New York 1994.

³ A. Brighi, A. Guarini, A. Palermi, M.G. Bartolo, M.L. Genta, *Victimization in traditional bullying and cyberbullying among Italian preadolescents. An investigation in Emilia Romagna, Tuscany and Calabria*, *Giornale di Psicologia dello Sviluppo/Journal of Developmental Psychology*, 2011, nr 100, s. 38-48; M.L. Genta, L. Berdondini, A. Brighi, A. Guarini, *Il fenomeno del bullismo elettronico in adolescenza*, *Rassegna di Psicologia*, 2009, nr XXVI, s. 141-161.

⁴ M. Molcho, W. Craig, P. Due, W. Pickett, Y. Harel-Fisch, M. Overpeck and the HBSC Bullying Writing Group, *Cross-national time trends in bullying behaviour 1994-2006: findings from Europe and North America*, *International Journal of Public Health* 2009, nr 54, s. 1-10.

⁵ K. Rigby, P.K. Smith, *Is school bullying really on the rise?*, *Social Psychology of Education*, 2011, nr 14, s. 441-455.

⁶ A. Fonzi, *Il bullismo in Italia. Il fenomeno delle prepotenze a scuola dal Piemonte alla Sicilia*, Firenze 1997.

⁷ D. Bacchini, G. Esposito, G. Affuso, *Social experience and school bullying*, *Journal of Community and Applied Social Psychology*, 2009, nr 19, s. 17-32; M.L. Genta, *Il bullismo. Bambini aggressivi a scuola*, Roma 2002.

⁸ E. Menesini, V. Sanchez, A. Fonzi, R. Ortega, A. Costabile, G. Lo Feudo, *Moral emotions and bullying: A cross-national comparison of differences between bullies, victims and outsiders*, *Aggressive Behavior*, 2003, nr 29, s. 515-530.

⁹ G. Gini, P. Albiero, B. Benelli, G. Altoè, *Does empathy predict adolescents' bullying and defending behavior?* *Aggressive Behavior*, 2007, nr 33, s. 467-476.

¹⁰ N.G. Guerra, K.R. Williams, S. Sadek, *Understanding bullying and victimization dur-*

(i.e., delinquent or rule-breaking behavior and aggressive behaviours¹¹) and may develop anti-social personality disorder, criminality, suicidality, and depression.¹² Bullies perceived also more stress and expressed less satisfaction with life, while they did not differ significantly from the group of not involved adolescents on self-esteem, depressive symptomatology and perception of loneliness.¹³ Bullying behavior in males was also associated to ADHD symptoms and bullies were less well accepted by peers.¹⁴ Moreover, different bullying profiles were found in relationships to direct and indirect perpetration. In fact, the greatest number of behavioural, emotional and social difficulties were found in students involved in direct bullying or both types of aggressions, while students involved only in indirect aggressions showed weaknesses in self-perception. All bully groups were less socially accepted and more socially rejected by peers compared to the comparison group.¹⁵

The first awareness of cyberbullying emerged in the international literature at the beginning of this century, even if a real definition of the phenomenon occurred was given a bit later¹⁶ and many theoretical and methodological questions are still open.¹⁷ Despite the novelty of the phenomenon, some studies have already shown that it is in rapid increase.

ing childhood and adolescence: A mixed methods study, Child Development, 2011, nr 82 (1), s. 295-310.

¹¹ E. Menesini, M. Modena, F. Tani, *Bullying and victimization in adolescence: concurrent and stable roles and psychological health symptoms*, The Journal of Genetic Psychology, 2009, nr 170, s. 115-133.

¹² R. Kaltiala-Heino, S. Fröjd, M. Marttunen, *Involvement in bullying and depression in a 2-year follow-up in middle adolescence*, European Child and Adolescent Psychiatry, 2010, nr 19 (1), s. 45-55.

¹³ E. Estévez, S. Murgui, G. Musitu, *Psychological adjustment in bullies and victims of school violence*, European Journal of Psychology of Education, 2009, nr 24 (4), s. 473-483.

¹⁴ D. Bacchini, G. Affuso, T. Trotta, *Temperament, ADHD and peer relations among schoolchildren: The mediating role of school bullying*, Aggressive Behavior, 2008, nr 34, s. 447-459.

¹⁵ H. Smith, K. Polenik, S. Nakasita, A.P. Jones, *Profiling social, emotional and behavioural difficulties of children involved in direct and indirect bullying behaviours*, Emotional and Behavioural Difficulties, 2012, nr 17 (3-4), s. 243-257.

¹⁶ P.K. Smith, J. Mahdavi, M. Carvalho, S. Fisher, S. Russell, N. Tippett, *Cyberbullying: its nature and impact in secondary school pupils*, Journal of Child Psychology and Psychiatry, 2008, nr 49, s. 376-85.

¹⁷ E. Menesini, *Cyberbullying: The right value of the phenomenon. Comments on the paper "Cyberbullying: An overrated phenomenon?"*, European Journal of Developmental Psychology, 2012, nr 9 (5), s. 544-552; E. Menesini, A. Nocentini, *Cyberbullying definition and measurement – Some critical considerations*, Zeitschrift für Psychologie/Journal of Psychology, 2009, nr 217 (4), s. 230-232; A. Nocentini, J. Calmaestra, A. Schultze-Krumbholz, H. Scheithauer, R. Ortega, E. Menesini, *Cyberbullying: Labels, behaviours and definition in three european countries*, Australian Journal of Guidance and Counselling, 2010, nr 20 (2), s. 129-142.

In Italy, research on cyberbullying has been developing over the last four years, showing a relevant diffusion of the phenomenon¹⁸ in several Italian regions and with an increase every year, according to national surveys.¹⁹ Moreover, cross-cultural studies revealed that Italian students were more involved in cyberbullying behavior than English and Spanish students, pointing out the need to improve the research on this phenomenon and its characteristics among Italian adolescents.²⁰

Given the relevance of this phenomenon, some recent studies have described which variables may be involved in implementing cyber aggressions: more time spent on the Internet, the variety of on-line activities, the involvement with traditional bullying and several off-line maladaptive behaviours (e.g., school problems, assaultive behaviors, substance use) were related to an increased risk of cyber offending.²¹ Experiences with cyberbullying as an offender were also associated with significantly lower levels of self-esteem, even while controlling for gender, race, and age.²² In contrast to these results, Pyżalski²³ noted in cyberbullies a small but positive correlation with self-esteem, so those who attacked more types of victim reported higher self-esteem values.

¹⁸ M.L. Genta, A. Brighi, A. Guarini, *Bullying and Cyberbullying in Adolescence*. Roma 2009; A. Guarini, A. Brighi, M.L. Genta, *Cyberbullying among Italian adolescents*, [w:] *Cyberbullying: A cross-national comparison*, red. J.A. Mora Merchán, T. Jäger, Landau 2010, s. 114-130; L. Pisano, M.E. Saturno, *Le prepotenze che non terminano mai*, *Psicologia Contemporanea*, 2008, nr 210, s. 40-45.

¹⁹ Eurispes-Telefono Azzurro, *10° Rapporto Nazionale sulla condizione dell'Infanzia e dell'Adolescenza. Sintesi per la stampa*, http://www.azzurro.it/index.php?act=section&metatitle=Rapporto_Nazionale_Eurispes&id=225, [access 01/10/2011]; Eurispes-Telefono Azzurro, *Indagine conoscitiva sulla condizione dell'Infanzia e dell'Adolescenza in Italia 2011. Documento di Sintesi*, http://www.eurispes.it/index.php?option=com_content&view=article&id=2596:sintesi-indagine-conoscitiva-sulla-condizione-dellinfanzia-e-delladolescenza-in-italia-2011&catid=40:comunicati-stampa&Itemid=135, [access 05/10/ 2012].

²⁰ M.L. Genta, P.K. Smith, R. Ortega, A. Brighi, A. Guarini, F. Thompson, N. Tippett, J. Mora-Merchan., J. Calmaestra, *Comparative aspects of cyberbullying in Italy, England and Spain: Findings from a DAPHNE project*, [w:] *Cyberbullying in the global playground: Research from international perspectives*, red. Q. Li, D. Cross, P.K., Smith, Oxford 2012, s. 15-31; R. Ortega, E. Elipe, J.A. Mora-Merchán, M.L. Genta, A. Brighi, A. Guarini, P.K. Smith, F. Thompson, N. Tippett, *The emotional impact of bullying and cyberbullying on victims: a European cross-national study*, *Aggressive Behavior*, 2012, nr 38, s. 342-356.

²¹ S. Hinduja, J.W. Patchin, *Cyberbullying: An exploratory analysis of factors related to offending and victimization*, *Deviant Behavior*, 2008, nr 29 (2), s. 129-156.

²² J.W. Patchin, S. Hinduja, *Cyberbullying and self-esteem*, *Journal of School Health*, 2010, nr 80 (12), s. 614-621.

²³ J. Pyżalski, *From cyberbullying to electronic aggression: typology of the phenomenon Emotional and Behavioural Difficulties*, *Emotional and Behavioural Difficulties*, 2012, nr 17(3-4), s. 305-317.

Some authors analyzed the relationship between cyber aggression and loneliness, this latter assessed by UCLA²⁴, a unidimensional measure of loneliness. For example, Şahin²⁵ found that loneliness was not a meaningful predictor of cyberbullying.

The profile of the cyberbully was also described by Calvete, Orue, Estévez, Villardón and Pad²⁶, revealing a strong association with other indicators of violence (justification of violence, use of proactive aggression) and some contextual variables such as less perceived social support of friends and a high exposure to violence. Cyberperpetration was also associated to a low level of empathy, with a relevant role of cognitive components of empathy for boys and affective components of empathy for girls.²⁷ In addition, cyberbullies had a high level of perceived difficulties, of conduct problems, hyperactivity and psychosomatic symptoms like headaches, plus frequent smoking and drunkenness. They also felt unsafe at school and uncared by teachers, showing low prosocial behaviours.²⁸ The risk of cyberoffending increased also when the adolescents were at the same time cybervictim, they approved bullying, they used different online identities and they were frequent Internet users. Moreover, boys were more inclined than girls to cyber perpetration, and the incidence of cyberbullying increased with age.²⁹ Moreover, a recent study revealed more externalising problems (instrumental and reactive aggressions) in cyberbullies than the non-involved group.³⁰

The findings discussed above pointed out the relevance of the research on the correlates and predictors of aggression in offline and online context, in order to describe possible profiles of perpetrators. However, little evi-

²⁴ D. Russel, L.T. Peplau, M.L. Ferguson, *Developing a measure of loneliness*, Journal of Personality Assessment, 1978, nr 42 (3), s. 290-294.

²⁵ M. Şahin, *The relationship between the cyberbullying/cybervictimization and loneliness among adolescents*, Children and Youth Services Review, 2012, nr 34, s. 834-837.

²⁶ E. Calvete, I. Orue, A. Estévez, L. Villardón, P. Padilla, *Cyberbullying in adolescents: Modalities and aggressors' profile*, Computers in Human Behavior, 2010, nr 26 (5), s. 1128-1135.

²⁷ R.P. Ang, D.H. Goh, *Cyberbullying among adolescents: The role of affective and cognitive empathy, and gender*, Child Psychiatry and Human Development, 2010, nr 41 (4), s. 387-397.

²⁸ A. Sourander, A.B. Klomek, M. Ikonen, J. Lindroos, T. Luntamo, M. Koskelainen, T. Ritskari, H. Helenius, *Psychosocial risk factors associated with cyberbullying among adolescents: A population-based study*, Archives of General Psychiatry, 2010, nr 67 (7), s. 720-728.

²⁹ M. Walrave, W. Heirman, *Cyberbullying: Predicting victimisation and perpetration*, Children and Society, 2011, nr 25 (1), s. 59-72.

³⁰ A. Schultze-Krumholz, A. Jäkel, M. Schultze, H. Scheithauer, *Emotional and behavioural problems in the context of cyberbullying: a longitudinal study among German adolescents*, Emotional and Behavioural Difficulties, 2012, nr 17 (3-4), s. 329-345.

dence is available in the literature on possible differential demographic and psychosocial risk factors across traditional bullying and cyberbullying, even if the two forms appear to be strongly associated and frequently concurrent³¹. Wachs³² has described an overlap between the different types of bullying and has reported that students involved in cyberbullying showed greater moral disengagement than traditional bullies.

In sum, the first aim of the present study was to describe the prevalence of perpetration of traditional bullying (direct and indirect) and cyberbullying (carried out through cell phones or via Internet) in Italian secondary schools. The comparison among these forms of aggression will allow to understand whether traditional forms of aggression prevailed on new forms of aggression, if they coexisted or were replaced by the electronic forms. In addition, the second aim was to describe risk and protective effects of demographic (gender and grade of schools) and psychosocial variables (self-esteem, loneliness, school climate) on bullying and cyberbullying behaviour, in order to highlight continuity and discontinuity between the two phenomena. The psychosocial variables considered in this study focus on constructs that are very crucial in the adolescence period and linked to the adolescent's relational network with the family members, the peer groups, and the school. Moreover, in literature there are contrasting results concerning the predictive role of self-esteem and loneliness on cyber aggression. We hypothesised that besides common features, traditional bullying and cyberbullying may be associated with different dimensions of demographic and psychosocial variables. Being a bully of traditional bullying was also analysed as a predictor of cyber perpetration.

Method

Participants. A total of 2326 Italian adolescents (52.6% males and 47.4% females) from middle ($n = 1057$, 45.4%) and high schools ($n = 1269$, 54.6%) were enrolled in the present study. Schools were selected from Emilia Romagna and Tuscany Regions (Center-North of Italy, in particular in the provinces of Bologna, Ferrara and Forlì and Florence). The schools chosen included all possible type of secondary school (middle schools and among high schools: lyceums, technical institutes, professional institutes).

³¹ S. Perren, J. Dooley, T. Shaw, D. Cross, *Bullying in school and cyberspace: Associations with depressive symptoms in Swiss and Australian adolescents*, *Child and Adolescent Psychiatry and Mental Health*, 2010, nr 4 (28), <http://www.capmh0.com/content/4/1/28>.

³² S. Wachs, *Moral disengagement and emotional and social difficulties in bullying and cyberbullying: differences by participant role*, *Emotional and Behavioural Difficulties*, 2012, nr 17 (3-4), s. 347-360.

Three types of age ranges took part: 1,057 pupils (45.4%) were attending the second year of middle schools (year 8 in the English Education System, $M = 12.23$, $SD = 0.55$), 689 pupils (29.6%) were attending the first year of high schools (year 10 in the English Education System, $M = 14.37$, $SD = 0.73$) and 580 pupils (24.9%) were attending the third year of high schools (year 12 in the English Education System, $M = 16.50$, $SD = 0.85$).

The main nationality was Italian ($n = 2,027$, 87.9%), of other European countries ($n = 140$, 6.1%), Asian ($n = 67$, 2.9%), African ($n = 45$, 2%), South American ($n = 26$, 1.1%), and North American ($n = 2$, 0.1%). These figures are representative of the nationalities present in Center-North Italy. Regarding parents' education levels, 25.5% ($n = 582$) of the fathers and 27.9% of the mothers ($n = 621$) did not study beyond primary school; 47.4% of the fathers ($n = 1,083$) and 46.4% of the mothers ($n = 1,033$) finished secondary schools, and 27.1% of the fathers ($n = 619$) and 25.7% of the mothers ($n = 572$) had university degrees.

Measures. Bullying and cyberbullying. Brief definitions of bullying and of cyberbullying were given at the beginning of the questionnaire so that students had a clear understanding of the behaviours classified as bullying and cyberbullying and did not confuse them with other aggressive behaviours (the questionnaire is available at the website www.bullyingandcyber.net). Then, four questions concerning the experiences as a student who bullied others were presented: (1) "have you directly bullied anyone else in the last two months?" (direct bullying) (2) "have you indirectly bullied anyone else in the last two months?" (indirect bullying) (3) "have you bullied anyone else using your mobile phone in the last two months?" (mobile bullying) and (4) "have you bullied anyone else using the Internet in the last two months?" (internet bullying). The response options for each question was on a 5 point scale (scored 1 to 5): 1 = I have not bullied anyone; 2 = it has only happened once or twice; 3 = two or three times a month; 4 = about once a week; and 5 = several times a week. Responses "it has only happened once or twice" were defined as being "occasional"; "two or three times a month" or more frequently were defined as being "severe".

Self-Esteem Questionnaire (SEQ). Adolescents' self-esteem was assessed using a validated reduction³³ of the multidimensional Self-Esteem Questionnaire (SEQ³⁴) previously validated in Italian in the full form by

³³ A. Brighi, G. Melotti, A. Guarini, M.L. Genta, R. Ortega, J. Mora-Merchán, P.K. Smith, F. Thompson, *Self-esteem and loneliness in relation to cyberbullying in three European countries*, [w:] *Cyberbullying*, s. 32-56.

³⁴ D.L. Dubois, N. Felner, S. Brand, R.S.C. Phillips, A.M. Lease, *Early adolescent self-esteem: A developmental-ecological framework and assessment strategy*, *Journal of Research on Adolescence*, 1996, nr 6, s. 543-579.

Melotti and Passini³⁵. The reduction consists of 24 items, each of which is rated on a 4-point scale ranging from “strongly disagree” to “strongly agree”. Each item is scored 1 to 4, with higher values indicating higher self-esteem. The SEQ is divided into six subscales (4 items for each dimension). The first dimension contains items directly assessing adolescents’ global self-worth (e.g. “I am happy with myself as a person,” $\alpha = .74$). The remaining subscales assess adolescents’ self-evaluations related to: peers (e.g. “I am as popular with kids my own age as I want to be,” $\alpha = .75$), school (e.g. “I am good enough at math,” $\alpha = .89$), family (e.g. “I am happy with how much my family loves me,” $\alpha = .86$), sports/athletics (e.g. “I am as good at sports/physical activities as I want to be,” $\alpha = .83$) and body image (e.g. “I like my body just the way it is,” $\alpha = .84$).

Loneliness. A reduction to 16 items of the Louvain Loneliness Scale for Children and Adolescents (LLCA) by Marcoen and Goossens³⁶ in its Italian version³⁷ was used. Participants responded on a four-point frequency scale (1 = never, 2 = seldom, 3 = sometimes, and 4 = often). The LLCA includes four subscales: (1) *loneliness in relationships with peers* (e.g., “I feel left out by my friends”, $\alpha = .83$); (2) *loneliness in relationships with parents* (e.g. “My parents are ready to listen to me or to help me”, $\alpha = .83$, reverse code); (3) *aversion for aloneness* (e.g., “When I am lonely, I don’t know what to do”, $\alpha = .76$), a negative attitude toward loneliness leading the person to try to avoid feeling alone; (4) *affinity for aloneness* (e.g., “At home I am looking for moments to be alone, so that I can do things on my own”, $\alpha = .77$), a positive attitude to loneliness connected to seeking time to be alone. Higher scores indicate higher levels of loneliness in the relationships with parents or peers, and more negative *vs.* more positive attitudes for aloneness.

School climate. Participants responded to eight items referred to their school and to relationship with teachers and schoolmates on a three-point scale (1 = No, 2 = Yes, sometimes, 3 = Yes, usually). A Factor Analysis (FA: maximum likelihood method with oblimin rotation) yielded four dimensions. The first factor (*school safety*, variance = 22.7%) is identified by the items “Do you feel safe at school?” and “Do you think there is a pleasant and protective atmosphere in your school?”. The second factor (*school support*, variance = 22.5%) is defined by the items “Does your school supports

³⁵ G. Melotti, S. Passini, *L'applicazione ad un gruppo di adolescenti italiani del Self Esteem Questionnaire (SEQ)*, *Bollettino di Psicologia Applicata*, 2002, nr 238, s. 59-70.

³⁶ A. Marcoen, L. Goossens, *Loneliness, attitude towards aloneness, and solitude: Age differences and developmental significance during adolescence*, [w:] *Adolescence and its Social Worlds*, red. S. Jackson H. Rodriguez-Tomé, Hove, U.K. 1993, s. 197-228.

³⁷ G. Melotti, P. Corsano, M. Majorano, P. Scarpuzzi, *An Italian application of the Louvain Loneliness Scale for Children and Adolescents (LLCA)*, *TPM-Testing, Psychometrics, Methodology in Applied Psychology*, 2006, nr 13, s. 237-255.

students who feel worried, sad or have some problems?” and “Does your school ask and listen students’ views?”. The third factor (*relationship with teachers*, variance = 22.7%) is identified by the items “Do you have good relations with the most teachers in your school?” and “Do you trust the most adults in your school?”. The fourth factor (*relationship with classmates*, variance = 19.7%) is defined by the items “Have you good relationships with the other students of your school?” and “Have you good relationships with the other students of your class?”. All the factor loadings were higher than .79.

Results

About traditional bullying, as shown in Table 1, 85.3% of adolescents declared that they were not involved as bullies in direct aggressions and 78.4% in indirect aggressions. Notwithstanding, 10.5% of adolescents declared to have acted occasionally direct bullying (one/two times at months) and 16% indirect bullying. Severe bullies (two/three times at month or more) were 96 (4.2%) for direct bullying and 130 (5.6%) for indirect bullying. As regard cyberbullying, the frequencies were very much lower than for traditional forms. Indeed, 6.1% (mobile bullying) and 4.5% (internet bullying) of adolescents declared to have acted occasionally cyberbullying. Moreover, severe cyber-bullies were relatively few: 59 (2.5%) for mobile and 41 (1.8%) for internet bullying. Concerning gender and grade differences (see Table 1), traditional bullying and cyberbullying were more acted by males than females and more in high than in middle schools.

Table 1

Frequencies on Traditional Bullying and Cyberbullying Acted in the Last Two Months and Distribution for Gender and Grade

	Never	Occasional	Severe	χ^2	Cramer's V
1	2	3	4	5	6
Direct bullying	1,975 (85.3%)	244 (10.5%)	96 (4.1%)		
Males	974 (80.8%)	156 (12.9%)	76 (6.3%)	50.38***	.15
Females	986 (90.5%)	86 (7.9%)	18 (1.7%)		
2° middle	923 (87.6%)	99 (9.4%)	22 (3%)	23.21***	.07
1° high	574 (83.7%)	89 (13%)	23 (3.4%)		
3° high	478 (83.1%)	56 (9.7%)	41 (7.1%)		

1	2	3	4	5	6
Indirect bullying	1,818 (78.4%)	370 (16%)	130 (5.6%)		
Males	920 (76.1%)	201 (16.6%)	88 (7.3%)	14.63***	.08
Females	884 (81.1%)	164 (15%)	42 (3.9%)		
2° middle	865 (82%)	143 (13.6%)	47 (4.5%)	15.14**	.06
1° high	521 (76.1%)	121 (17.7%)	43 (6.3%)		
3° high	432 (74.7%)	106 (18.3%)	40 (6.9%)		
Mobile bullying	2,117 (91.4%)	141 (6.1%)	59 (2.5%)		
Males	1,081 (89.6%)	80 (6.6%)	45 (3.7%)	16.52***	.09
Females	1,021 (93.6%)	56 (5.1%)	14 (1.3%)		
2° middle	985 (93.5%)	48 (4.6%)	20 (1.9%)	16.02**	.06
1° high	604 (88%)	57 (8.3%)	25 (3.6%)		
3° high	528 (91.3%)	36 (6.2%)	14 (2.4%)		
Internet bullying	2,161 (93.7%)	104 (4.5%)	41 (1.8%)		
Males	1,111 (92.4%)	70 (5.8%)	22 (1.8%)	10.37**	.07
Females	1,033 (95.3%)	33 (3%)	18 (1.7%)		
2° middle	1,010 (96.2%)	28 (2.7%)	12 (1.1%)	20.87***	.07
1° high	631 (91.8%)	39 (5.7%)	17 (2.5%)		
3° high	520 (91.4%)	37 (6.5%)	12 (2.1%)		

Note: 2° middle = Second year of middle school. 1° high = First year of high school. 3° high = Third year of high school.

** $p < .01$. *** $p < .01$.

Concerning the other variables, general means (see Table 2) showed that adolescents in general had a medium-high score in all self-esteem measures, they felt not isolated in their relationships with both parents and friends and they had both a medium aversion and affinity for aloneness. As regards school, they considered as medium safe their school and they declared to feel a medium support from schools. They also declared to have medium good relationships with both classmates and teachers.

Gender and age differences were analyzed by ANOVAs (see Table 2). Concerning self-esteem, males had always higher scores on global, peers, family, sport and body dimensions. Moreover, significant interactions between gender and age were found in all dimensions (except for family self-esteem). In details, for females all the dimensions of self-esteem decreased from middle to high schools, while for males the scores were more stable across time. Concerning loneliness, females felt more isolated from

Table 2

General Means on Self-esteem, Loneliness and School climate and ANOVA on Gender and Grade

	M	SD	Males			Females			F		
			M 2°middle	M 1° high	M 3° high	M 2°middle	M 1° high	M 3° high	Gender	Grade	Gender x Grade
Self-esteem											
Global	3.02	0.48	3.18	3.20	3.18	3.22	3.00	3.00	32.57**	14.17**	16.85**
Peers	3.02	0.55	3.09	3.07	3.04	3.07	2.92	2.81	32.27**	15.59**	7.39**
School	2.61	0.68	2.63	2.57	2.54	2.82	2.48	2.44	.00	29.23**	12.32**
Family	3.32	0.60	3.44	3.29	3.28	3.42	3.18	3.15	3.97**	33.72**	2.36
Sport	2.98	0.66	3.20	3.06	3.04	3.03	2.68	2.57	161.50**	56.40**	12.63**
Body	2.84	0.71	2.99	2.98	2.98	2.90	2.52	2.46	150.09**	26.26**	25.77**
Loneliness											
Peers	1.57	0.66	1.57	1.44	1.53	1.62	1.59	1.65	13.69**	3.17	1.38
Parents	1.47	0.58	1.41	1.48	1.51	1.40	1.57	1.55	2.83	13.50**	1.81
Aversion	2.24	0.75	2.27	2.15	2.14	2.36	2.28	2.19	7.17*	7.86**	.52
Affinity	2.40	0.73	2.26	2.31	2.45	2.31	2.61	2.73	48.83**	37.26**	8.09**
School climate											
Safety	2.37	0.62	2.25	2.36	2.28	2.37	2.60	2.45	44.41**	15.34**	2.04
Support	2.24	0.60	2.25	2.20	1.91	2.38	2.46	2.18	78.75**	47.11**	4.02
Teachers	2.30	0.61	2.25	2.27	2.11	2.46	2.36	2.27	7.17*	7.86*	.52
Class mates	2.58	0.47	2.54	2.57	2.54	2.59	2.66	2.58	8.90*	2.51	.63

Note: 2°middle = Second year of middle school. 1° high = First year of high school. 3° high = Third year of high school. Self-esteem and loneliness scores extended from 1 to 4. School climate scores extended from 1 to 3.
 * $p < .01$. ** $p < .001$.

friends and they had more affinity and aversion for aloneness. Regarding changes in function of age, apart loneliness with peers that remained constant across age, loneliness perceived in the relationship with parents and affinity for aloneness increased with age (the last one especially for females), while aversion for aloneness decreased in both males and females. Finally, concerning school climate, females perceived schools as

more safe, felt more support from schools and declared to have better relationships with teachers and classmates than males. Furthermore, perception of safety and support and relationship with teacher decreased with age.

Direct and indirect bullying were combined on a “traditional bullying” variable and computed as dichotomous (0 = never acted, $n = 1,681$, 72.3% and 1 = acted at least once in the last two months, $n = 643$, 27.7%). Alike, mobile and internet bullying were combined on a “cyberbullying” variable (0 = never acted, $n = 2,036$, 87.5% and 1 = acted at least once in the last two months, $n = 289$, 12.4%). Then, two logistic regression analyses were performed entering traditional and cyberbullying as dependent variables and gender, grade, self-esteem, loneliness and school environment measures as independent variables.

Looking first at predictors for traditional bullying (see Table 3), gender, grade, school self-esteem, sport self-esteem, loneliness in the relationships with parents, school support and relationships with teachers were significant predictors. Thus, the risk of being a traditional bully was greater for males and increased from middle to high school. Moreover, several psychosocial variables contributed in increasing the risk of being a bully: a negative self-esteem for school achievement, a high self-esteem in sport activities, a high perception of loneliness in relationships with parents, a negative perception of school support and bad relationships with teachers.

Table 3 also shows the results of the logistic regression analyses for cyberbullying. Here, being bully in traditional bullying was added as predictor. In fact, being a traditional bully was a very strong predictor of being a bully in cyberbullying: students involved as bully in traditional bullying were about 8 times more likely to be cyberbullies than those who had no involvement in traditional bullying (see e^B values in Table 3). In addition, several components of the psychosocial dimension were significant predictors. In particular, a high perception of peer self-esteem and a negative perception of school self-esteem increased the risk of being a cyberbully. Concerning loneliness, the risk of being a cyberbully was increased by a high perception of loneliness in the relationships with parents, as for traditional bullying, and by a lower aversion for aloneness. With respect to school climate, a negative perception of safety at school and of the relationships with teachers were associated to an increasing risk of being a cyberbully.

Table 3

Logistic Regression Analysis on Traditional and Cyberbullying

		Traditional bullying		Cyberbullying	
		<i>B (SE)</i>	Exp(<i>B</i>)	<i>B (SE)</i>	Exp(<i>B</i>)
Socio-demographic	gender (males vs. females) ^a	.30**(.11)	1.35	.02 (.16)	1.02
	grade (2° middle vs. 3° high) ^b	-.42***(.13)	0.66	-.30 (.19)	.74
	grade (1° high vs. 3° high) ^c	-.05 (.13)	0.95	.11 (.19)	1.12
Self-esteem	global	.02 (.14)	1.02	-.09 (.18)	0.89
	peers	.19 (.13)	1.21	.31*(.18)	1.37
	school	-.23**(.08)	0.79	-.26*(.12)	0.77
	family	.10 (.12)	1.10	.09 (.17)	1.10
	sport	.20*(.09)	1.22	.10 (.13)	1.11
	body	-.14 (.09)	0.87	-.05 (.12)	0.95
Loneliness	peers	.02 (.10)	1.02	.18 (.14)	1.19
	parents	.42***(.12)	1.53	.32*(.16)	1.38
	aversion	.06 (.07)	1.15	-.22*(.10)	0.93
	affinity	.14 (.08)	1.06	-.08 (.11)	0.81
School climate	safety	-.10 (.09)	0.91	-.34**(.13)	0.71
	support	-.25**(.09)	0.78	-.10 (.13)	0.90
	teachers	-.40***(.09)	0.67	-.25*(.13)	0.78
	classmates	.18 (.12)	1.19	.00 (.17)	1.00
Bullying	traditional bullying	–	–	2.07***(.15)	7.95
	χ^2	176.41***		318.30***	
	nagelkerke r^2	.11		.28	

Note: 2° middle = Second year of middle school. 1° high = First year of high school. 3° high = Third year of high school.

^a = Males was codified 1 and females 0. ^b = 2° middle was codified 1 and 3° high 0. ^c = 1° high was codified 1 and 3° high 0.

* $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

The first aim was to describe the prevalence of traditional bullying (direct and indirect) and cyberbullying (carried out through mobile phone or via Internet) in Italian secondary schools. Traditional forms of bullying were prevalent in comparison to cyberbullying, with a particular incidence of indirect aggressions, since one student out of 5 declared to act indirect aggressions at least one/two times in the last two months. These data confirmed the high percentage of Italian students involved in traditional bullying with a prevalence of indirect aggressions, in agreement with the results of a recent cross-cultural study³⁸ which showed that, although relational (one form of indirect aggression) and physical aggression (one form of direct aggression) share a common factor structure, the phenomenon of relational aggression prevailed on physical aggression in Italy, China, and Thailand.

Concerning cyberbullying, despite the novelty of the phenomenon, it is already present and relevant in Italian secondary schools. In details, the present study revealed that mobile phone is the technology most used by Italian adolescents for carrying out acts of electronic aggression among class mates, with a different scenario arising from Italian data compared to other international studies, wherein electronic aggressions result to be more frequent via Internet than via mobile phone.³⁹

The association between gender and perpetration, revealed that boys were more represented in all types of bullying (both traditional and cyber forms), according to Wachs. However, it is necessary to highlight how differences between girls and boys were not particularly high, even if statistically significant, as indicated by the effect sizes, except for direct aggressions where males resulted to be significantly more represented among the aggressors. This can explain why gender was a significant predictor of logistic regression analysis only for traditional bullying, but not for cyberbullying. This trend was in line with the literature which revealed that

³⁸ J.E. Lansford, A.T. Skinner, E. Sorbring, L.D. Giunta, K. Deater-Deckard, K.A. Dodge, P.S. Malone, P. Oburu, C. Pastorelli, S. Tapanya, L.M. Uribe Tirado, A. Zelli, S.M. Al-Hasan, L. Peña Alampay, D. Bacchini, A.S. Bombi, M.H. Bornstein, L. Chang, *Boys' and Girls' Relational and Physical Aggression in Nine Countries*, *Aggressive Behaviour*, 2012, nr 38, s. 298-308.

³⁹ F. Dehue, C. Bolman T. Völlink, *Cyberbullying: youngsters' experiences and parental perception*, *CyberPsychology and Behavior*, 2008, nr 11, s. 217-23; R.M. Kowalski, S.P. Limber, *Electronic bullying among middle school students*, *Journal of Adolescent Health*, 2007, nr 41, s. 822-830; R. Ortega, J. Calmaestra, J.M. Mora-Merchan, *Cyberbullying*, *International Journal of Psychology and Psychological Therapy*, 2008, nr 8, s. 183-192; R. Slonje, P.K. Smith, *Cyberbullying: Another main type of bullying?*, *Scandinavian Journal of Psychology*, 2008, nr 49, s. 147-154.

gender differences are quite inconsistent across studies on cyberbullying, probably due to different sampling methods and different definitions of the phenomenon⁴⁰. In relation to age, adolescents from high school were more represented in the bully role than younger pupils from middle school. However, as already discussed for gender, the effect of age variable was not particularly strong, revealing again a predictive role only on traditional bullying. The effect of age in cyberbullying is still debated in literature: some authors observed a significant increase in the involvement of adolescents in the phenomenon of cyberbullying in function of age. On the other hand, other studies have highlighted a decrease in the percentages of cyberbullying as pupils make the passage from primary schools to middle schools and from middle schools to secondary schools.

Concerning gender differences among psychosocial variables, males had higher scores in almost all the dimensions of self-esteem (global, peer, family, sport and body). Moreover, scores among males were more stable across age levels, while females showed a decrease in scores from middle to high school. These results are consistent with previous literature on gender and age differences in self-esteem.⁴¹ Concerning loneliness, females had higher scores on peer loneliness and affinity for aloneness, confirming the trend described by several studies.⁴² Females also scored higher than males on aversion for aloneness, according to results obtained by Melotti et al. (2006). Moreover, loneliness in relationships with parents and affinity for aloneness increased from middle to high school, according to Marcoen

⁴⁰ T. Aricak, S. Siyahhan, A. Uzunhasanoglu, S. Saribeyoglu, S. Ciplak, N. Yilmaz, *Cyberbullying among Turkish adolescents*, *CyberPsychology and Behavior*, 2008, nr 11, s. 253-261; K.R. Williams, N.G. Guerra, *Prevalence and predictors of internet bullying*, *Journal of Adolescent Health*, 2007, nr 41, s. 814-821; J. Wolak, K.J. Mitchell, D. Finkelhor, *Does online harassment constitute bullying? An exploration of online harassment by know peers and online-only contacts*, *Journal of Adolescent Health*, 2007, nr 41, s. 851-858.

⁴¹ D.L. Dubois, H.D. Tevendale, *Self-esteem in childhood and adolescence: Vaccine or epiphenomenon?*, *Applied and Preventive Psychology*, 1999, nr 8, s. 103-117; C.D. Falci, *Self-esteem and mastery trajectories in high school by social class and gender*, *Social Science Research*, 2011, nr 40, s. 586-601; K.C. Kling, J.S. Hyde, C.J. Showers, B.N. Buswell, *Gender differences in self-esteem: A meta-analysis*, *Psychological Bulletin*, 1999, nr 125, s. 470-500; J.A. McMullin, J. Cairney, *Self-esteem and the intersection of age, class, and gender*, *Journal of Aging Studies*, 2004, nr 18, s. 75-90; U.K. Moksnes, I.E.O. Moljord, G.A. Espnes, D.G. Byrne, *The association between stress and emotional states in adolescents: The role of gender and self-esteem*, *Personality and Individual Differences*, 2010, nr 49, s. 430-435; L.G. Wild, A.J. Flisher, A. Bhana, C. Lombard, *Associations among adolescent risk behaviours and self-esteem in six domains*, *Journal of Child Psychology and Psychiatry*, 2004, nr 45, s. 1454-1467.

⁴² L. Goossens, A. Marcoen, *Relationships during adolescence: Constructive vs. negative themes and relational dissatisfaction*, *Journal of Adolescence*, 1999, nr 22, s. 65-79; M. Prezza, M.G. Pacilli, S. Dinelli, *Loneliness and new technologies in a group of Roman adolescents*, *Computers in Human Behavior*, 2004, nr 20, s. 691-709.

and Goossens, while the aversion for aloneness decreased for both gender groups. Finally, the increase of affinity for aloneness from middle to high school was more evident in females compared to males.

Significant effects of gender and grade were also found in relation to school climate. In fact, males reported a worse perception of their school environment, consistently with Wang and Dishion⁴³, who found that girls reported better academic support, school behaviour management, teacher social support and peer social support than boys.

The second aim was to investigate the role of risk and protective factors on traditional bullying and cyberbullying, taking into consideration psychosocial and contextual variables. Our results showed an important role of the perception of self-esteem, loneliness and school climate in predicting the perpetration behavior.

Concerning self-esteem, our study confirmed the findings obtained by previous research showing an association between lower levels of self-esteem and the experience with traditional bullying and cyberbullying. Nevertheless, our study has added, as a new contribution, a detailed description of multiple dimensions of self-esteem linked to the perpetrator behaviours. In particular, we found that a lower perception of school self-esteem predicted both traditional bullying, according to Estévez, Martínez and Musitu⁴⁴, and cyberbullying, showing that school maladjustment may be an important risk factor. Moreover, a high perception of self-esteem in sport activities and body increased the risk of traditional aggression behaviors. On the other hand, a higher perception of self-esteem in relationships with peers increase the risk of cyber aggressive behaviors. This result may be explained by the Reputation-Enhancement Theory⁴⁵ which highlighted that delinquency and deviance may be assumed as forms of communication, seeking approval from the peer audience through which the adolescent would try to build himself/herself a stable and definitive identity, even if negative. Melotti, Biolcati and Passini⁴⁶ argue that also cyberbullying can be interpreted in the light of the Reputation-Enhancement Theory: *The internet, as a means of communication, becomes therefore*

⁴³ M.T. Wang, T.J. Dishion, *The trajectories of adolescents' perceptions of school climate, deviant peer affiliation, and behavioral problems during the middle school years*, Journal of Research on Adolescence, 2012, nr 22, s. 40-53.

⁴⁴ E. Estévez, B. Martínez, G. Musitu, *La autoestima en adolescentes agresores y víctimas en la escuela: La perspectiva multidimensional*, Psychosocial Intervention, 2006, nr 15 (2), s. 223-232

⁴⁵ N. Emler, S. Reicher, *Adolescence and delinquency: the collective management of reputation*, Oxford 1995.

⁴⁶ G. Melotti, R. Biolcati, S. Passini, *A Psychosocial Reading o Cyberbullying*, [w:] *Bullying and Cyberbullying in Adolescence*, red. M.L. Genta, A. Brighi, A. Guarini, Roma 2009, s. 40-58.

fundamental for “publicising”, divulging acts of bullying and “creating” an audience which contributes to strengthening the bully’s identity (s. 49). As declared by adolescent cyberbullies, online aggressions can be done to become powerful, popular or better than other students or because cyber bullying another person was funny.⁴⁷

Another common predictor for traditional bullying and cyberbullying is the perception of loneliness. Our results differ from those reported by previous research that failed to report differences in loneliness between cyberbullies and non-involved students and which did not find any predictive role of loneliness on cyberbullying. This apparent contradiction could be linked to the use of one-dimensional *versus* multidimensional scales. In fact, using multidimensional scales, as it was done in the present study, it is possible to describe the effect of each specific dimension analyzed. In our study both for traditional bullying and for cyberbullying, a perception of loneliness in the relationships with parents increased the risk of aggressions, i.e. adolescents who perceive parents as distant are more frequently involved in bullying. As it has been reported for victims of cyberaggressions, a high perceived loneliness in family relationships could reflect low levels of reciprocal involvement among family members, which could also imply lower parental monitoring of adolescents’ activity on the Internet and longer periods of time spent online by adolescents, thus increasing the possibility of acting online attacks. An association between positive parenting styles and a ‘healthy’ use of the Internet in adolescence has been demonstrated; lack of emotional involvement, lack of parental monitoring, and an authoritative or neglectful parenting style is associated with online harassment⁴⁸, and Li Lei and Wu⁴⁹ found that a pathological use of the Internet was positively associated with alienation, and negatively with trust and communication in family relationships. In addition, only for cyberbullying was found that adolescents with a lower aversion for aloneness have an increased risk to become cyberbullies. This can be explained by the high investment on virtual interactions reported by cyberbullies, who tend to spend long periods of time online.

⁴⁷ F. Mishna, C. Cook, T. Gadalla, D. Daciuk, S. Solomon, *Cyber bullying behaviors among middle and high school students*, American Journal of Orthopsychiatry, 2010, nr 80 (3), s. 362-274.

⁴⁸ D.M. Law, J.D. Shapka, B.F. Olson, *To control or not to control? Parenting behaviours and adolescent online aggression*, Computers in Human Behavior, 2010, nr 26, s. 1651-1656; M.L. Ybarra, J.K. Mitchell, *Online aggressor/targets, aggressors and targets: A comparison of associated youth characteristics*, Journal of Child Psychology and Psychiatry, 2004, nr 45, s. 1308-1316.

⁴⁹ Y. Li Lei, M.A. Wu, *Adolescents’ paternal attachment and Internet Use*, Cyberpsychology and Behaviour, 2007, nr 10, s. 633-639.

The last common predictor of traditional and cyberperpetration was the perception of school climate. This result was in line with a recent study which highlighted how students perpetrating cyberbullying had more negative attitudes toward school than those not involved in the phenomenon. Moreover, a good perception of school environment was described as a protective factor, since students who were highly satisfied with school were approximately 3 times less likely to be traditional bullies and cyberbullies compared to students who had moderate or low satisfaction with school. Our study added a detailed description of the specific aspects of school environment linked to perpetration. In particular, a perception of a negative relationship with the teachers increases the risk to become an aggressors in both forms of bullying. This effect, in line with a perception of loneliness in relationships with parents, called for the important role of adults in order to prevent these dysfunctional aggressive behaviours both in online and offline contexts. In addition, a negative perception of safety at schools was an index of risk for cyberbullying behaviour, while a negative support perceived from school was predictive for traditional aggressive behavior, pointing out again to some differences between the two forms of perpetration.

Finally, the involvement in traditional bullying increased about 8 times the risk to act also cyberaggressions, showing a very strong continuity between the two forms of aggressions. A strong correlation between traditional bullying and cyberbullying was also described in other studies.⁵⁰

Some limits of the research and suggestion for future research are advanced. First, the data were collected in 2008–2009, and changes over even a few years in information and communication technology (ICT) use may limit generalisations to present-day situations. Secondly, in the regression analyses we have included as bullies also students that acted aggressions only once or twice in the last two months. This choice may have hindered some particular features of real severe bullies, who can be quite different from occasional ones.

In conclusion, the description of the incidence of traditional bullying and cyberbullying calls for interventions to prevent and contrast these phenomenon in Italian secondary schools, underlining how perpetration is a real problem in everyday school reality and revealing the need to plan intensive and evidence-based interventions. A strong relationship between traditional forms of aggressions and cyber-aggressions was revealed, pointing out the central role of the two main interactive contexts

⁵⁰ L. Lester, D. Cross, T. Shaw, *Problem behaviours, traditional bullying and cyberbullying among adolescents: longitudinal analyses*, *Emotional and Behavioural Difficulties*, 2012, nr 17 (3-4), s. 435–447.

of development, i.e. family and school, as potential protective or risk factors in bullying and cyberbullying behaviours. Beside these analogies between the two phenomena, some discontinuity was described, indicating the need to take into account these differences in future research and in implementing interventions, exploring the interaction between online and offline experiences.

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Czynniki chroniące i czynniki ryzyka związane z zaangażowaniem w sprawstwo bullyingu i cyberbullyingu

Streszczenie

Celem tego badania było określenie częstotliwości sprawstwa w zakresie bullyingu i cyberbullyingu wśród adolescentów. Badano związki tego zjawiska z cechami społeczno-demograficznymi (płeć, wiek) oraz zmiennymi psychospołecznymi (tj. samooceną, samotnością, czy klimatem społecznym szkoły).

Anonimowy kwestionariusz został wypełniony przez 2326 adolescentów z włoskich szkół. Cyberbullying okazał się zjawiskiem rzadziej występującym niż bullying, jednak regresja logistyczna wykazała wyraźnie współwystępowanie tych zjawisk.

Samotność doświadczana w relacjach z rodzicami okazała się być predykatorem obu rodzajów przemocy rówieśniczej. Podobnie niska samoocena i złe relacje z nauczycielami korelowały dodatnio z zaangażowaniem w obydwa rodzaje przemocy rówieśniczej.

Pojawiło się także kilka mniej oczywistych zależności. Starsi nastolatkwowie częściej angażowali się jako sprawcy w tradycyjny bullying (w porównaniu z młodszymi chłopcami i dziewczętami). Zmienne te okazały się bez znaczenia przy zaangażowaniu w cyberbullying. Wysoka samoocena w relacji z rówieśnikami, niskie poczucie samotności i postrzeganie szkoły jako niebezpiecznej korelowało z cyberbullyingiem. Z kolei, wysoka samoocena w zakresie kompetencji sportowych i niskie wsparcie w szkole zwiększało prawdopodobieństwo stania się sprawcą tradycyjnej agresji. Wyniki potwierdzają, że kluczowe środowiska – rodzina i szkoła – są istotne nie tylko dla zaangażowania w tradycyjną, ale też wirtualną agresję. Powinny one być zatem uwzględniane w programach profilaktycznych dotyczących obydwu tych zjawisk.

Słowa kluczowe: bullying, cyberbullying, samoocena, klimat szkoły

