BULLYING AND VIOLENCE AMONG ADOLESCENTS IN BULGARIA: THE IMPACT OF POSITIVE YOUTH DEVELOPMENT

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Abstract

Objectives. Bullying and physical fighting are prevalent among adolescents and have negative health and psychosocial effects for both perpetrators and victims. Risk and protective factors for bullying and violence have been identified, including the protective role of the characteristics of Positive Youth Development. According to Lerner's 5Cs model these include Competence, Confidence, Connection, Character, and Caring. The aim of the study was to explore the impact of Positive Youth Development characteristics on adolescent bullying and cyberbullying perpetration and participation in physical fighting.

Material and methods. Data from the 2017/2018 Bulgarian Health Behaviour in School-Aged Children [HBSC] study were used. The national representative sample comprised 1517 adolescents aged 15 years. Measures included the Positive Youth Development Scale – short form and single-item measures of bullying, cyberbullying and physical fighting.

Results. Bullying, cyberbullying, and physical fighting were prevalent among Bulgarian adolescents, more often in boys. The proportion of explained variance by the 5 Positive Youth Development characteristics was 3% for bullying, 11% for cyberbullying and 4% for fighting. Bullying and cyberbullying were both significantly negatively associated with Character, with bullying also significantly negatively associated with Confidence. Physical fighting was significantly negatively associated with Confidence and Caring and positively associated with Competence. These associations remained significant after being adjusted for gender and socioeconomic status, except for the association between fighting and Caring.

Conclusions. Findings suggest the development of the characteristics of Positive Youth Development (especially Character and Confidence) through various youth programs can contribute to the reduction of bullying and violence in young people.

Keywords: bullying perpetration, cyberbullying perpetration, physical fighting, Positive Youth Development, adolescents.

Introduction

       Bullying is defined as negative physical or verbal actions that are hostile, cause distress or harm (physical, psychological, social, or educational) to victims, and are repeated over time, including a real or perceived power imbalance between bullies and their victims (Craig & Pepler, 1998; National Academies of Sciences, Engineering, and Medicine, 2016; Olweus & Dan, 1997). Bullying is one of the most common forms of violence among young people worldwide. According to the National Center for Education Statistics (2019) in the United States of America [USA], 20,2% of the students aged 12-18 years reported being bullied. In an international study conducted

in 83 countries with young people aged 12-17 the pooled prevalence of bullying victimization was 30,5% with a large variation in prevalence, which was highest in the Eastern Mediterranean (45,1%) and the African Region (43,5%) and lowest in the European region (8.4%) (Biswas et al., 2020). A deeper insight of the phenomenon of bullying in the European region is provided by the Bulgarian Health Behaviour in School-Aged Children [HBSC] cross-national survey conducted in over 40 countries across Europe (Inchley et al., 2020a, 2020b). Though the average bullying victimization (at least twice in the past couple of months) for all HBSC countries was 11% for 11- and 13-year-olds and 8% for 15-year-olds, there was large variation in prevalence, ranging from 32% among Lithuanian 13-year-old boys to 0.5% among 13-year-old girls in Iceland. Reported bullying perpetration was lower, at average being 6% among 11-year-olds and 7% among 13- and 15-year-olds, ranging from 30% among 15-year-old Lithuanian boys to 0.3% among 11-year-old girls in Portugal.

Historically bullying has occurred at school, but at recent years technological development allows for a new type of digital electronic aggression – cyberbullying. Instead in the physical space of school, cyberbullying takes place through social media, instant messaging, and other forms of digital electronic communication. In the USA 15% of the students aged 12-18 years who reported being bullied at school were bullied online or by text (National Center for Educational Statistics, 2019). According to a recent systematic review including schoolchildren under 18 years of age the prevalence rates of global cyberbullying victimization ranged from 13.99 to 57.5%, while the rates of global cyberbullying perpetration ranged from 6.0 to 46.3%, based on 63 references (Zhu, Huang, Evans, & Zhang, 2021). Within the HBSC cross-national survey an average of 12-14% prevalence for cyberbullying victimization and 8-11% of cyberbullying perpetration (at least once in the past couple of months) was found for all HBSC countries (Inchley et al., 2020a, 2020b). The prevalence rates varied greatly across countries. The proportion of cyberbullying victimization ranged from 3% among 15-year-old boys in Spain to 29% among 15-year-old boys in Lithuania, and the proportion for cyberbullying perpetration ranged from 0.6% among 11-year-old girls in Greece to 31% among 15-year-old boys in Latvia.

Another form of violence that is prevalent among schoolchildren is physical fighting. Involvement in physical fights includes both individuals who initiated the fight (aggressors) and unwilling participants (victims). According to the National Center for Education Statistics (2021) in 2019 in the USA the percentage of students in grades 9–12 who reported having been in a physical fight during the previous 12 months was about 22%. The data of the HBSC study were based on involvement in physical fighting at least 3 times in the past 12 months and indicated an overall prevalence of 8-11% among adolescents in all HBSC countries. There was substantial variation between countries with the rates of fighting ranging from 2% among 11-year-old girls in Armenia to 34% among 11-year-old boys in Belgium (Inchley et al., 2020a, 2020b).

Aggression and violence among schoolchildren in the forms of bullying, cyberbullying and physical fighting have short- and long-term consequences for their development. Negative health and psychosocial effects have been found for all participants in bullying – victims, perpetrators, victims who are also bullies, and bystanders (National Academies of Sciences, Engineering, and Medicine, 2016). So far, most research has been focused on victims. The following negative health and psychosocial effects have been found: effects on physical health (worse health than their non-bullied peers; psychosomatic complaints such as headache, stomachache, dizziness; sleep disturbances), changes in the brain function, effects on mental health (internalizing problems: low self-esteem, loneliness, depression, suicidal ideation and suicidal attempts, self-harm), problem behaviour (externalizing problems: aggression, violence, criminal

actions, alcohol and drug abuse), development of psychotic symptoms later in life, lower academic achievement, truancy. The National Academies of Sciences, Engineering, and Medicine (2016, p.6) conclude that "although the effects of being bullied on the brain are not yet fully understood, there are changes in the stress response systems and in the brain that are associated with increased risk for mental health problems, cognitive function, self-regulation, and other physical health problems". According to a study with over 3000 adolescents in Britain victims of bullying reported it had negative impact on their self-esteem (87%), their social life (83%), their optimism (79%), their studies (68%), their home life (61%), and their ambitions for the future (60%) (Ditch the Label, 2015). As a direct result of bullying students reported they had suicidal thoughts (30%), they self-harmed (29%), truanted from school (27%), abused alcohol and drugs (14%), developed an eating disorder (14%), developed antisocial behaviours (13%), ran away from home (12%), and engaged in risky, unprotected sex (6%).

Research on perpetrators of bullying is limited, but it seems they are a heterogeneous group (National Academies of Sciences, Engineering, and Medicine, 2016). Some of the perpetrators were more likely to be depressed, to engage in high-risk activities (e.g., theft and vandalism), and have adverse outcomes later in life. Another part of the bullies was motivated by establishing their status within their peer group and did not evidence negative outcomes. Individuals who both bullied others and were themselves bullied appeared to be at greatest risk for poor psychosocial outcomes and were especially at risk for suicidal behaviour due to increased mental health problems. Individuals who were involved in bullying as perpetrators, victims, or both were at higher risk for suicidal ideation and suicidal attempts (National Academies of Sciences, Engineering, and Medicine, 2016). It has also been found that observing bullying at school is associated with adverse mental health outcomes (Rivers, Poteat, Noret, & Ashurst, 2009). Schoolchildren who have observed bullying report more feelings of helplessness and less sense of connectedness and support from responsible adults (Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2014).

Studies specifically focused on cyberbullying proved that it had negative impact on schoolchildren's psychosocial well-being like traditional bullying. Cyberbullying victimization has been associated with internalizing behaviour problems (anxiety, depression, social problems, somatic complaints) as well as with externalizing problems (aggressive and delinquent behaviour) (Athanasiou et al., 2018). Internalizing problems such as depression and suicidal ideation have been found both in victims and perpetrators of cyberbullying (Bonanno & Hymel, 2013). According to a study with over 1000 tweens, victims of cyberbullying reported it negatively impacted their feelings about themselves (69.1%), their friendships (31.9%), their physical health (13.1%), and their schoolwork (6.5%) (Patchin & Hinduja, 2020).

A number of risk and protective individual and social/contextual factors for bullying and violence have been identified. It can be summarized that children who are perceived as being different in any way are at greater risk of bullying victimization (Armitage, 2021). According to research, individual risk factors for bullying included gender (boys were more likely to be a victim or perpetrator of direct physical bullying; girls were more likely to be a victim or perpetrator of direct verbal and indirect bullying) and age (being bullied by peers decreased with age; the same tendency existed for perpetration). Risk factors for bullying victimization were not conforming to gender norms, physical appearance (e.g., overweight/obesity), physical and learning disability, race, nationality or colour, religion, socioeconomic status (low), migration status (Armitage, 2021). At the social level, youth are embedded in multiple contexts, ranging from peer and family to school, community, and macrosystem, and all of them have been found to play a role in bullying

victimization and perpetration (National Academies of Sciences, Engineering, and Medicine, 2016). E.g., a family pattern of women and children being victims of domestic, physical, verbal, or psychological violence and the absence of therapy and long-term support can be a risk factor for youth violent behaviours (Alexandru, Kozma, & Baciu, 2021). Positive school environment, educational attainment and peer and family support have been identified as important protective factors against bullying (Armitage, 2021).

A systematic review of global research on cyberbullying has identified personal and situational risk and protective factors. The risk factors for cyberbullying victimization at the personal level included age (older children), gender (being a female), online behaviour (spending more time on the internet), race, and health conditions, while the risk factors for cyberbullying perpetration included age (older adolescents – 15+ years), gender (boys), online behaviour, past experiences of victimization, and impulsiveness. Situational risk factors for both victimization and perpetration included (poor) parent-child relationship, interpersonal relationships, and geographical location (city vs. suburban/rural locations). Personal protective factors against cyberbullying victimization were empathy and emotional intelligence, and situational protective factors against cyberbullying were (good) parent-child relationship, and (positive) school climate (Zhu et al., 2021).

A systematic review of meta-analyses on protective factors against bullying and cyberbullying found that self-oriented personal competencies were the strongest protector against victimization. Good academic performance and other-oriented social competencies were the strongest protective factors against perpetration. Low frequency of technology use protected from involvement in cyberbullying. Positive peer interaction was the strongest protective factor against being a bully/victim (Zych, Farrington, & Ttofi, 2019).

A factor, corresponding with self-oriented personal competencies and other-oriented social competencies, that could have protective role against bullying and violence both at the personal and social level, is Positive Youth Development [PYD]. PYD is a positive approach toward adolescent development, focusing on strengths and positive qualities and outcomes. PYD can be understood in at least three ways: as a development process, as a philosophy or approach to developing programs for young people, and as examples of programs and organizations focused on promoting healthy or positive development of young people (Lerner et al., 2011). Key features of the PYD approach are the developmental plasticity of development, or the potential of individuals for systematic change within the life cycle and the environmental perspective in which social contexts (family, friends, school, community) are seen as resources for positive youth development (Lerner et al., 2011). The adaptive combination of the strengths of the plastic, developing individual with the characteristics of social contexts increases the likelihood of positive development and flourishing of young people. Lerner's 5Cs model (Lerner et al., 2013) is one of the influential PYD theoretical models (Shek, Dou, Zhu, & Chai, 2019) which defines positive youth development by five aspects:

✓ *Competence:* positive view of one's actions in domain specific areas,
✓ *Confidence:* a sense of overall positive self-worth and self-efficacy,
✓ *Connection:* positive bonds with people and institutions,
✓ *Character:* respect for societal and cultural rules, morality, and integrity,
✓ *Caring:* a sense of sympathy and empathy for others.

According to the 5Cs model the presence of these five characteristics in the lives of young people contributes to the formation of the sixth C - *Contribution* - to self, family, community, and the institutions of civil society. Research has found that the 5Cs are associated with better mental

health and well-being, with healthy lifestyles, *fewer risk and problem behaviours* (*bullying, fighting,* substance use, delinquency), and academic achievement (Lerner et al., 2013). The 5Cs have been found to be significantly associated with bullying perpetration in 12-19-year-old Indonesian boys, with Character and Connection having a protective role against bullying (Latifa, Solicha, Subchi, Nahartini, & Rosyada, 2018). Also, intervention programs leading to community contribution and reduction in problem behaviours have been based on the 5Cs model for Positive Youth Development (Lerner et al., 2013; Shek, et al., 2019).

The aim of the present study is to explore the impact of the 5 Positive Youth Development characteristics on adolescent bullying and cyberbullying perpetration and participation in physical fighting. It is expected that high values of the 5Cs of Positive Youth Development will be negatively associated with bullying and cyberbullying perpetration and participation in physical fighting, suggesting a protective role of the 5Cs against adolescent aggression and violence.

Material and methods

The study employs data from the Bulgarian dataset of the 2017/2018 HBSC study. The HBSC study is a World Health Organization school-based collaborative cross-national survey, conducted every 4 years in 50 countries in Europe and North America. Bulgaria has participated in three waves of the study: 2005/2006, 2013/2014, and 2017/2018. HBSC aims to study young people's well-being, health behaviours and their social context. It uses its findings to inform policy and practice to improve the lives of young people across the world. Data were collected in all participating countries through self-report school-based surveys using a standard methodology described in detail in the HBSC 2017/2018 international study protocol (Inchley, Currie, Cosma, & Samdal, 2018).

Each country used random sampling to select a proportion of adolescents aged 11, 13 and 15 years, aiming to achieve representative samples of about 1500 adolescents in each age group. In Bulgaria data were collected in 2018 in randomly selected 124 schools from all 28 regions of the country, following permission from the Ministry of Education and Science. All students who were present and whose parents had given written consent completed the online questionnaire. The response rate for the three age groups was 60.3% for 11-year-olds, 68.1% for 13-year-olds and 65.1% for 15-year-olds. The final sample comprised 4548 students, of whom 48.4% were males and 51.6% were females. As the Positive Youth Development measure was used only in the 15-age group, solely the data for 15-year-old Bulgarian adolescents (N = 1517) were used in the present study. Of them 685 (45,2%) were boys and 832 (54,8%) were girls.

The HBSC questionnaire collects data in multiple areas like health behaviours and health outcomes (e.g., eating, physical activity, overweight and obesity); risk health behaviours (smoking, alcohol and cannabis use, sexual behaviour); bullying, cyberbullying and fighting; health and well-being (e.g., life satisfaction, psychosomatic complaints, depression, perceived stress); family relationships and family support; peer relationships and peer support; perceived school performance, school-related stress, and support from teachers and classmates; socio-economic status.

In line with the present study's aim, the 5C characteristics of Positive Youth Development were explored as independent variables. They were measured through the Positive Youth Development Scale – short form (Geldhof et al., 2014). The scale includes the 5Cs Competence, Confidence, Connection, Character, and Caring, comprising 34 items in total. The Competence and Confidence scales use a 4-point Likert scale. The Competence scale comprises 6 items, e.g. I do very well at my classwork; I am better than others my age at sports. The Confidence scale

comprises 8 items, e.g. I am very happy being the way I am. The other three scales are measured through a 5-point Likert scale. Connection comprises 8 items, e.g. I feel my friends are good friends. Character includes 6 items, e.g. Doing what I believe is right even if my friends make fun of me. Caring also includes 6 items, e.g. When I see someone being taken advantage of, I want to help them.

The outcome variables in the study included bullying and cyberbullying perpetration and participation in physical fighting. All of them were measured by single-item measures, adapted by the HBSC research network from the revised Olweus Bully/Victim Questionnaire (Olweus, 1996) for bullying and cyberbullying and from the Youth Risk Behavior Survey Questionnaire (Brener, Collins, Kann, Warren, & Williams, 1995) for physical fighting. The questions about bullying and cyberbullying explore the frequency with which the student has been engaged in the aggressive behaviour in the past couple of months, including the response categories "I have not bullied another person(s) at school/cyberbullied another person in the past couple of months", "it has happened once or twice", "2 or 3 times a month", "about once a week", "several times a week" (Inchley et al., 2018). In the present study the answers were dichotomized as NO/YES (have not participated/have participated in bullying or cyberbullying perpetration). The questions were preceded by a definition of bullying. Examples of cyberbullying behaviours were included, e.g., sent mean instant messages, E-mail or text messages; wall postings; created a website making fun of someone; posted unflattering or inappropriate pictures online without permission or shared them with others. The question about physical fighting explores the frequency with which the student has participated in fighting in the past 12 months, ranging from "I have not been in a physical fight in the past 12 months", to frequencies of one, two, three, or four or more times. In the present study the answers were dichotomized as NO/YES (have not participated/have participated in physical fight).

The data were processed through IBM SPSS Statistics 22. The statistical methods used included descriptive statistics, chi square test and multiple hierarchical binary logistic regressions. In the regressions two variables were included as statistical controls: gender (male/female) and socioeconomic status of the family. Socioeconomic status was measured through the Family Affluence Scale, [FAS-III] (Torsheim et al., 2016) – a brief assets-based measure developed by the HBSC research network as a suitable indicator for assessing family wealth through child or adolescent self-report. The third revision includes 6 items: number of computers owned by the family, number of cars, number of bathrooms, number of travels/holidays abroad, having an own bedroom, and having a dishwasher. The scale is used in the present analysis as a continuous variable, with higher values indicating higher socioeconomic status. The Family Affluence Scale III had shown high test-retest reliability ($r = 0.90$) and consistency between child and parent report ($r = 0.80$) (Inchley et al., 2018; Torsheim et al., 2016).

Results

Descriptive statistics for the 5Cs of Positive Youth Development are presented in Table 1. The composite scores of the scales have been averaged with the total score being divided by the number of items. The mean for Competence almost equals the theoretical mean of the scale, while the means of the other four factors are relatively higher than the theoretical means of the scales. Although the composite scores of the scales have been averaged, comparisons are difficult to be made as the 5Cs scales not only differ in the number of items, but also in the type of Likert scale being used. Still, it could be seen that among 4-point scales Confidence has higher mean than Competence, and among 5-point scales Caring has the highest and Character has the lowest mean.

Table 1

Descriptive statistics for the 5Cs of Positive Youth Development (averaged)

	min	max	Mean	SD
Competence	1,00	4,00	2,58	0,56
Confidence	1,00	4,00	2,94	0,53
Connection	1,00	5,00	3,36	0,72
Character	1,00	5,00	3,23	0,79
Caring	1,00	5,00	3,51	0,99

The prevalence of bullying and cyberbullying perpetration and participation in physical fighting, as well as the observed gender differences, are presented in Table 2. The overall prevalence of bullying perpetration and physical fighting in Bulgarian 15-year-old adolescents is about 31-32%, and the prevalence of cyberbullying perpetration is 19%.

Analysis by gender (chi square test) shows that boys more often than girls engage in all three violent behaviours, but gender differences reach the level of < 0.05 statistical significance only for cyberbullying perpetration and physical fighting.

Table 2

Prevalence and gender differences in bullying, cyberbullying and physical fighting

	Total (%)	Boys (%)	Girls (%)	χ^2	p
Bullying perpetration	32,1	35,6	29,2	8,363	.079
Cyberbullying perpetration	19,0	22,9	15,7	18,917	**.001**
Physical fighting	31,0	35,6	27,2	16,085	**.003**

To study the effects of the 5Cs on bullying and cyberbullying perpetration and participation in physical fighting three multiple hierarchical binary logistic regressions were conducted. The results for bullying perpetration are presented in Table 3. In Model 1 the independent variables include the 5Cs of Positive Youth Development.

The proportion of explained variance by the 5Cs (Nagelkerke R^2) is 3% and bullying perpetration is significantly negatively associated with Confidence and Character. In Model 2 gender and socioeconomic status are added.

The associations between bullying perpetration and Confidence and Character remain significant after being adjusted for gender and socioeconomic status.

Table 3

Effects of the 5Cs on bullying perpetration in Bulgarian adolescents

	Independent variables	R^{2}*	χ^2	%**	B	SE	Wald	p	Exp (B)
MODEL 1	Competence				,021	,026	,660	,417	1,021
	Confidence				-,046	,021	5,024	**,025**	**,955**
	Connection	0,027	20,359***	68,8	,021	,017	1,548	,213	1,021
	Character				-,045	,018	6,052	**,014**	**,956**
	Caring				-,011	,014	,616	,433	,989
MODEL 2	Competence				,015	,026	,352	,553	1,015
	Confidence				-,047	,021	5,060	**,024**	**,954**
	Connection				,020	,017	1,400	,237	1,020
	Character	0,032	24,261***	68,5	-,043	,019	5,313	**,021**	**,958**
	Caring				-,007	,014	,239	,625	,993
	Gender				-,262	,137	3,641	,056	,770
	Socioeconomic status (FAS)				,016	,028	,308	,579	1,016

*Nagelkerke R^{2}

**percentage correctly classified cases

The effects of the 5Cs on cyberbullying perpetration are presented in Table 4. In Model 1 the independent variables - the 5Cs of Positive Youth Development – explain 11% of the variance (Nagelkerke R^{2}).

Cyberbullying perpetration is found to be significantly negatively associated with Character. In Model 2 gender and socioeconomic status are added. Lower socioeconomic status is related to higher risk for cyberbullying perpetration.

The association between cyberbullying perpetration and Character remain significant after being adjusted for gender and socioeconomic status.

Table 4

Effects of the 5Cs on cyberbullying perpetration in Bulgarian adolescents

	Independent variables	R^{2}*	χ^2	%**	B	SE	Wald	p	Exp (B)
MODEL 1	Competence				-,012	,033	,131	,717	,988
	Confidence				,005	,026	,042	,839	1,005
	Connection	0,106	69,353***	83,4	-,020	,021	,945	,331	,980
	Character				-,094	,023	16,093	**,000**	**,911**
	Caring				-,032	,018	3,284	,070	,968
MOD	Competence				-,008	,033	,054	,817	,992
	Confidence	0,118	77,608***	83,8	,005	,026	,036	,849	1,005

Independent variables	R²*	χ²	%**	B	SE	Wald	p	Exp (B)
Connection				-,020	,021	,964	,326	,980
Character				-,091	,024	14,921	**,000**	**,913**
Caring				-,030	,018	2,732	,098	,971
Gender				-,274	,175	2,445	,118	,760
Socioeconomic status (FAS)				-,087	,036	5,650	**,017**	**,917**

Nagelkerke R²

**percentage correctly classified cases*

The effects of the 5Cs on participation in physical fighting are presented in Table 5. In Model 1 the independent variables - the 5Cs of Positive Youth Development – explain 4% of the variance (Nagelkerke R^2). Physical fighting is significantly negatively associated with Confidence and Caring, and significantly positively associated with Competence. In Model 2 gender and socioeconomic status are added. Gender/being a male is related to higher risk for participation in physical fighting. The associations between physical fighting and Competence and Confidence remain significant after being adjusted for gender and socioeconomic status, but the association between physical fighting and Caring is 0,06 (non-significant).

Table 5

Effects of the 5Cs on participation in physical fighting in Bulgarian adolescents

	Independent variables	R²*	χ²	%**	B	SE	Wald	p	Exp (B)
MODEL 1	Competence				,099	,026	14,159	**,000**	**1,104**
	Confidence				-,042	,021	3,903	**,048**	**,959**
	Connection	0,039	30,162***	69,6	-,004	,017	,044	,833	,996
	Character				-,029	,019	2,464	,116	,971
	Caring				-,034	,014	5,514	**,019**	**,967**
MODEL 2	Competence				,092	,027	11,914	**,001**	**1,096**
	Confidence				-,043	,021	4,029	**,045**	**,958**
	Connection				-,005	,017	,088	,767	,995
	Character	0,051	39,358***	69,8	-,025	,019	1,777	,183	,975
	Caring				-,028	,015	3,528	**,060**	**,973**
	Gender				-,415	,138	9,006	**,003**	**,660**
	Socioeconomic status (FAS)				,014	,029	,252	,616	1,015

Nagelkerke R²

**percentage correctly classified cases*

Discussion

The present study focused on three violent behaviours that are common among adolescents and are considered a serious social and public health problem: bullying and cyberbullying perpetration and participation in physical fighting. Results showed that bullying, cyberbullying, and physical fighting were prevalent in the representative sample of 15-year-old Bulgarian adolescents, more often in boys, which is in line with existing research (Armitage, 2021; Zhu et al., 2021). These gender differences were statistically significant for cyberbullying perpetration and participation in physical fighting.

The main aim of the study was to explore the impact of the 5 Positive Youth Development characteristics on adolescent bullying and cyberbullying perpetration and participation in physical fighting. A protective role of the 5Cs against violent and aggressive behaviour in young people was hypothesized based on the literature showing a relationship between the 5Cs of Positive Youth Development and lower risk for engagement in risk and problem behaviours such as bullying and fighting (Lerner et al., 2013; Latifa et al., 2018), as well as on the literature that identified other-oriented social competencies as protective factors against bullying and cyberbullying perpetration (Zych et al., 2019).

As expected, the 5Cs of Positive Youth Development were found to be significant predictors of adolescent bullying and cyberbullying perpetration and participation in physical fighting. The proportion of explained variance by the 5Cs was 3% for bullying perpetration, 11% for cyberbullying perpetration and 4% for physical fighting. The considerable proportion of variance (11%) in cyberbullying perpetration was explained only by Character. It was found that bullying and cyberbullying perpetration were both significantly negatively associated with Character, and bullying and physical fighting were significantly negatively associated with Confidence, with these associations remaining significant after being adjusted for gender and socioeconomic status of the family. Thus, these significant negative associations of the factors Confidence (a sense of overall positive self-worth and self-efficacy) and Character (respect for societal and cultural rules, morality, and integrity) demonstrate their protective role against violent and aggressive behaviour in young people. A protective role of Character against bullying perpetration has been found also in a study with Indonesian boys (Latifa et al., 2018).

In the present study the factor Competence was associated with higher risk for participation in physical fighting and this association remained significant after being adjusted for gender and socioeconomic status of the family. So far, Competence has shown mixed results in our research on the 5Cs of Positive Youth Development and adolescent health and psychosocial outcomes (Alexandrova-Karamanova, 2021a, 2021b). This factor has been found to be associated with physical activity and better psychosomatic health, but also with alcohol abuse and early start of sexual life. These results could be related to the desire of being popular and establishing one's status within their peer group.

Conclusions

The study found that Confidence and Character were significantly negatively associated with bullying and cyberbullying perpetration and participation in physical fighting in a representative sample of Bulgarian adolescents with these associations remaining significant after the inclusion of socio-demographic characteristics such as gender and socioeconomic status. Thus, evidence has been provided for the protective role of Confidence and Character (and, more generally, of the 5Cs of Positive Youth Development) against aggressive and violent behaviour in young people.

Competence was associated with higher risk for participation in physical fighting in this study, with the factor having shown mixed results in further analyses with this sample regarding its effects on adolescent health and psychosocial outcomes.

Strengths of the study are the large, nationally representative sample, and the use of standardized methodology, validated internationally through the long-standing experience of the HBSC network. Also, the study added valuable knowledge to the new and still insufficiently explored topic of the associations between the characteristics of Positive Youth Development and aggressive and violent behaviour in adolescence. Confidence and Character have been identified as important internal developmental assets specifically related to the domain of externalizing problem behaviours in adolescence. Therefore, the development of the characteristics of Positive Youth Development (especially Character and Confidence) through various youth programs can contribute to the reduction of bullying (especially cyberbullying) and violence in young people and to Contribution (active and positive engagement) to their peer community. More generally, such outcomes will ensure positive and supportive social environment providing opportunities for health, productivity and thriving of adolescents.

Limitations of the study are its cross-sectional design which does not allow conclusions about the direction of causality to be made, as well as all studied variables not being measured by objective indicators but by self-report, which can be affected by social desirability. Among the limitations of the study is that it does not investigate the role of potential confounders in the 5Cs – violent behaviours associations such as individual characteristics of the perpetrators and the victims, social contexts (positive and supportive or negative and non-supportive), situational factors, etc. Future research could focus on deeper investigation of the potential of the individual internal strengths of adolescents to change negative developmental trajectories impacted by negative social contexts such as adolescent victimization in their families, neighborhoods, or larger communities.

Acknowledgements

References
1. Alexandrova-Karamanova, A. (2021a). Positive Youth Development: Effects on adolescent health behaviour. *Bulgarian Journal of Psychology, 3(4),* 35-43.
2. Alexandrova-Karamanova, A. (2021b). Positive youth development and mental health of Bulgarian adolescents. *Poster, presented at the 35th Annual Conference of the European Health Psychology Society, August 23-27, 2021, online.*
3. Alexandru, M., Kozma, A., & Baciu, A. (2021). Aspects of the socio-medical situation of victims of domestic violence from Romania in the context of the COVID-19 pandemic. *Romanian Journal of Legal Medicine, 29(2),* 186-191. Doi: 10.4323/rjlm.2021.186.
4. Armitage, R. (2021). Bullying in children: impact on child health. *BMJ Paediatrics Open, 5,* e000939. Doi:10.1136/bmjpo-2020-000939.
5. Athanasiou, K., Melegkovits, E., Andrie, E. K., Magoulas, C., Tzavara, C. K., Richardson, C., …Tsitsika, A.K. (2018). Cross-national aspects of cyberbullying victimization among 14–17-year-old adolescents across seven European countries. *BMC Public Health, 18,* 800. Doi:

https://doi.org/10.1186/s12889-018-5682-4

6. Biswas, T., Scott, J. G., Munir, K., Thomas, H. J., Huda, M. M., Hasan, M. M., …Mamun, A. A. (2020). Global variation in the prevalence of bullying victimisation amongst adolescents: Role of peer and parental supports. *EClinicalMedicine, 20,* 100276. Doi: https://doi.org/10.1016/j.eclinm.2020.100276

7. Bonanno, R. A., & Hymel, S. (2013). Cyber bullying and internalizing difficulties: above and beyond the impact of traditional forms of bullying. Journal of Youth and Adolescence, 42(5), 685-697. Doi: 10.1007/s10964-013-9937-1.

8. Brener, N. D., Collins, J. L., Kann, L., Warren, C. W., & Williams, B. I. (1995). Reliability of the Youth Risk Behavior Survey questionnaire. *American Journal of Epidemiology, 141*, 575-580. Doi: 10.1093/oxfordjournals.aje.a117473.

9. Craig, W. M., & Pepler, D. J. (1998). Observations of bullying and victimization in the school yard. *Canadian Journal of School Psychology*, *13,* 41–59. Doi: https://doi.org/10.1177/082957359801300205

10. Ditch the Label (2015). *The annual bullying survey 2015.* Retrieved September 1, 2021, from https://www.ditchthelabel.org/research-papers/the-annual-bullying-survey-2015/

11. Geldhof, G. J., Bowers, E. P., Boyd, M. J., Mueller, M. K., Napolitano, C. M., Schmid, K. L., …Lerner, R. M. (2014). Creation of short and very short measures of the five Cs of Positive Youth Development. *Journal of Research on Adolescence, 24(1),* 163-176. Doi: https://doi.org/10.1111/jora.12039

12. Inchley, J., Currie, D., Budisavljevic, S., Torsheim, T., Jåstad, A., Cosma, A., …Arnarsson, A. M. (Eds.) (2020a). *Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Volume 1. Key findings.* Copenhagen: WHO Regional Office for Europe. Retrieved in 2021, from www.euro.who.int/en/hbsc-spotlight-vol1

13. Inchley, J., Currie, D., Budisavljevic, S., Torsheim, T., Jåstad, A., Cosma, A., …Samdal, O. (Eds.) (2020b). *Spotlight on adolescent health and well-being. Findings from the 2017/2018 Health Behaviour in School-aged Children (HBSC) survey in Europe and Canada. International report. Volume 2. Key data.* Copenhagen: WHO Regional Office for Europe. Retrieved in 2021, from www.euro.who.int/en/hbsc-spotlight-vol2

14. Inchley, J., Currie, D., Cosma, A., & Samdal, O. (eds). (2018). *Health Behaviour in School-aged Children (HBSC) Study Protocol: background, methodology and mandatory items for the 2017/18 survey.* CAHRU, St. Andrews.

15. Latifa, R., Solicha, Subchi, I., Nahartini, D., & Rosyada, D. (2018). Influence of Positive Youth Development (PYD) to Bullying Behavior in Indonesian Islamic Boarding School Students. *Proceedings of the 1st International Conference on Recent Innovations, 1,* 1317-1324. Doi: 10.5220/0009927113171324.

16. Lerner, R. M., Lerner, J. V., Lewin-Bizan, S., Bowers, E. P., Boyd, M. J., Mueller, M. K., …Napolitano, C. M. (2011). Positive youth development: processes, programs, and problematics. *Journal of Youth Development, 6(3),* 38-62. Doi: https://doi.org/10.5195/jyd.2011.174

17. Lerner, R. M., Lerner, J. V., and colleagues (2013). *The positive development of youth: Comprehensive findings from the 4-H study of Positive Youth Development.* National 4-H Council, Tufts University, USA, Institute for Applied Research in Youth Development.

18. Olweus, D. (1996). *The revised Olweus Bully/Victim Questionnaire.* Mimeo. HEMIL,

University of Bergen, N-5015 Bergen, Norway.

19. Olweus, D., & Dan, O. (1997). Bully/victim problems in school: Knowledge base and an effective intervention program. *The Irish Journal of Psychology, 18,* 170–190. Doi: https://doi.org/10.1080/03033910.1997.10558138

20. Patchin, J.W., & Hinduja, S. (2020). *Tween Cyberbullying in 2020. Cyberbullying Research Center and Cartoon Network.* Retrieved September 2, 2021, from: https://i.cartoonnetwork.com/stop-bullying/pdfs/CN_Stop_Bullying_Cyber_Bullying_Report_9.30.20.pdf

21. Rivers, I., Poteat, V. P., Noret, N., & Ashurst, N. (2009). Observing bullying at school: The mental health implications of witness status. *School Psychology Quarterly, 24,* 211–223. Doi: https://doi.org/10.1037/a0018164

22. Shek, D. T. L., Dou, D., Zhu, X., & Chai, W. (2019). Positive Youth Development: current perspectives. *Adolescent Health, Medicine and Therapeutics, 10,* 131-141. Doi: https://doi.org/10.2147/AHMT.S179946

23. Torsheim, T., Cavallo, F., Levin, K.A., Schnohr, C., Mazur, J., Niclasen, B., Currie, C., & the FAS Development Study Group. (2016). Psychometric validation of the revised Family Affluence Scale: a latent variable approach. *Child Indicators Research, 9,* 771-784. Doi: https://doi.org/10.1007/s12187-015-9339-x

24. Zhu, C., Huang, S., Evans, R., & Zhang, W. (2021). Cyberbullying among adolescents and children: A comprehensive review of the global situation, risk factors, and preventive measures. *Frontiers in Public Health, 9,* 634909. Doi: 10.3389/fpubh.2021.634909.

25. Zych, I., Farrington, D. P., & Ttofi, M. M. (2019). Protective factors against bullying and cyberbullying: A systematic review of meta-analyses. *Aggression and Violent Behavior, 45,* 4-19. Doi: https://doi.org/10.1016/j.avb.2018.06.008

26. ***Centers for Disease Control and Prevention, National Center for Injury Prevention and Control (2014). *The Relationship Between Bullying and Suicide: What we Know and What it Means for Schools.* Retrieved August 30, 2021, from https://www.cdc.gov/violenceprevention/pdf/bullying-suicide-translation-final-a.pdf

27. ***National Academies of Sciences, Engineering, and Medicine. (2016). *Preventing Bullying Through Science, Policy, and Practice.* Washington, DC: The National Academies Press.

28. ***National Center for Education Statistics (2021). *Physical fights on school property and anywhere.* Retrieved September 2, 2021, from https://nces.ed.gov/programs/coe/pdf/2021/a12_508c.pdf

29. ***National Center for Education Statistics (2019). *Student reports of bullying: Results from the 2017 school crime supplement to the National Crime Victimization Survey.* Retrieved September 2, 2021, from https://nces.ed.gov/pubs2019/2019054.pdf